

Higher Education in the World 6.
Towards a Socially Responsible University: Balancing the Global with the Local

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Team Involved in the Preparation of this Publication

EDITORIAL TEAM

Francesc Xavier Grau
John Goddard
Budd L. Hall
Ellen Hazelkorn
Rajesh Tandon

AUTHORS

Khairon Abbas (Tanzania)
Adrián Acosta (Mexico)
Santiago Acosta (Ecuador)
Eduardo Aponte (Puerto Rico)
Bjørn Asheim (Norway)
Rita Axelroth Hodges (USA)
Enric Banda (Spain)
Ahmed Bawa (South Africa)
Paul Benneworth (The Netherlands)
Alicia Betts (Spain)
Sanjay Bhushan (India)
John D. Brewer (United Kingdom)
Matthieu Calame (France)
Francisco Javier Carrillo (Mexico)
Martí Casadesús (Spain)
Maria Casado (Spain)
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Garette Clark (USA)
Laura Corazza (Italy)
Axel Didriksson (Mexico)
Reena Dobson (Australia)
Christopher Duke (Australia)
Peter D. Eckel (USA)
Eva Egron-Polak (Canada)
Cristina Escrigas (Spain)
Yan Fan (China)
Candelaria Ferrara (Argentina)
Emmanuel Jean François (USA)
Chad Gaffield (Canada)
Nadja Gmelch (Spain)
John Goddard (United Kingdom)
Francesc Xavier Grau (Spain)
Budd L. Hall (Canada)

Ira Harkavy (USA)
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Arab Hoballah (Lebanon)
Anna James (South Africa)
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Peter A. Okebukola (Nigeria)
Luis Enrique Orozco (Colombia)
Sheela Patel (India)
Andrew Petter (Canada)
Nelson Piedra (Ecuador)
Nandita Pradhan Bhatt (India)
Jaana Puukka (Finland)
Sally Randles (United Kingdom)
Dzul kifli Abdul Razak (Malaysia)
Liam Roberts (United Kingdom)
Núria Saladié (Spain)
Jamil Salmi (Morocco)
Katya Salmi (Morocco)
Wafa Singh (India)
Morshidi Sirat (Malaysia)
Juan Pablo Suárez (Ecuador)
Sharifah Hapsah Syed Hasan Shahabudin (Malaysia)

Alfred Tan (Hong Kong)
Rajesh Tandon (India)
Nieves Tapia (Argentina)
Crystal Tremblay (Canada)
Stevie Upton (United Kingdom)
Raúl Valdés (Mexico)
Josep M. Vilalta (Spain)
Shirley Walters (South Africa)
Chang Da Wan (Malaysia)
Joann Weeks (USA)
Hans de Wit (USA)
David Wolff (United Kingdom)

GUNi President

Sergi Bonet (UdG rector)

GUNi Non-Executive Director

Francesc Xavier Grau

GUNi Executive Director

Josep M. Vilalta

GUNi SECRETARIAT

Josep M. Vilalta
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Àngels Cortina
Cristina Escrigas
Joan Esculies
Nadja Gmelch
Mariona Miret
Nia Solé

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Associació Catalana d'Universitats
Públiques (ACUP)

HEIW 6 Report Table of Contents

I Team Involved in the Preparation of the Publication	3
II List of Figures and Tables	9
III List of Abbreviations Used in the Publication	11
IV About the Authors	14
V GUNi Presentation	29
VI UNESCO's Introduction UNESCO's Higher Education Chief, P. J. Wells	31
VII UNITED NATIONS UNIVERSITY's Introduction UNU Rector, David M. Malone	33
VIII Catalan Association of Public Universities' Introduction GUNi President, Sergi Bonet	35
IX About the Report	36
X Editors' Introduction. Towards a Socially Responsible Higher Education Institution: Balancing the Global with the Local Francesc Xavier Grau, Cristina Escrigas, John Goddard, Budd Hall, Ellen Hazelkorn and Rajesh Tandon	37
PART I. THE CONTEXT	
1. World Context and Implications for Higher Education Systems and Institutions	53
1.1. Globalization, Trends and Drivers of Change Federico Mayor Zaragoza	53
1.2. Global Pressing Problems and The Sustainable Development Goals Claudia Neubauer and Matthieu Calame	68
Special contribution: Higher Education in Contested Settings: The Global-Local Challenge Barbara Ibrahim	78
1.3. Education: Key to Reaching the Sustainable Development Goals Arab Hoballah, Garrette Clark, Khairon Abbas	85
Box A: Beyond 2015 – Raising the Visibility of Higher Education and Development Liam Roberts	100

1.4. Juxtaposing Economic Progress with Sustainability in Mind: Issues and Way Forward for Universities Dzul Razak, Chang Da Wan and Morshidi Sirat	105
1.5. The Strategic Positioning of Cities in 21st Century Challenges: The Civic University and the City John Goddard	115
Box B: The UNESCO Global Network of Learning Cities Building Sustainable Learning Cities Raúl Valdés and Yan Fan	128
Box C: An Entrepreneurial Learning City. Three cases Raúl Valdés and Yan Fan	130
Box D: The Path to Real Partnerships: Exploring the Relationship between Academics and Social Movements Sheela Patel and Jack Makau	134
Box E: Regional Engagement and Global Positioning. The University of Warwick Christopher Duke	141

PART II. GLOBAL ISSUES

1. Changing the Role of Higher Education Institutions in the Light of Globalization; Trends and Challenges	145
1.1. Local and Global engagement: Balancing needs at Global, National and Local Level Janna Puukka	145
1.2. Social Innovation, Universities and the Quest for Social Transformation Juan Luis Klein	165
Box F: Knowledge Sharing in Latin America and Quebec Juan Luis Klein	175
Box G. From a Technological Push Model to Social Innovation, the Example of Hong Kong Alfred Tan	179
2. Reframing the Curriculum for the 21st Century	181
2.1. Preparing Global Citizenry, Implications for the Curriculum Josep Joan Moreso and Mart Casadesús	181
2.2. Preparing Glocal Citizenry, Implications for the Curriculum Emmanuel Jean François	194
Box H: Queen's University, Belfast John Brewer	209
2.3. Redesigning the Curriculum for the 21st Century Ahmed Bawa	211

2.4. Reimagining the Curriculum for the 21st Century Hans de Witt and Betty Leask	222
2.5. Curriculum, Higher Education, and the Public Good Budd L. Hall, Walter Lepore and Nandita Bhatt	236
Box I: The Example of the University of Western Sidney in Teaching and Learning for Glocal Engagement Reena Dobson and Denise Kirkpatrick	246
3. Global Knowledge and Responsible Research	249
3.1. The role of Research in Shaping Local and Global Engagement Paul Benneworth	249
3.2. Mechanisms for Higher Education Institutions to Develop Responsible Research and Innovation Enric Banda	260
3.3. A New Social Contract, de-facto Responsible Innovation, and Institutional Change: the Case of Arizona State University (ASU) Sally Randles	272
Box J: The Global Knowledge-based Development Network, Tecnológico de Monterey Francisco Javier Carrillo Gamboa	283
Box K: HEIRRI, Integrating Responsible Research and Innovation into Higher Education Institutions Marta Cayetano, Nadja Gmelch, Núria Saladié	286
Box L: A Short Description of the RRI Tools Project Enric Banda	288
4. Institutional Governance, Organization and Management	290
4.1. Institutional Governance for a Shared Glocal Engagement Mission Peter Eckel	290
4.2. Institutional Governance for a Shared Glocal Engagement Mission Sharifah Hapsah Syed Hasan Shahabudin	300
Box M: The case of the University of Torino and the Process of Social Reporting Laura Corazza	312

5. Glocal Higher Education Institutions' Engagement and Ethical Implications	315
5.1. Global Challenges and Value-based Quality Education for Holistic Development in Higher Learning Institutions Anand Mohan and Sanjay Bhushan	315
5.2. The Social Distribution of Knowledge: University Ethical Commitment to the Intelligent Management of the Territory-SmartLand Santiago Acosta, Nelson Piedra and Juan Pablo Suárez	330
5.3. The Role of Universities in Local and Global Engagement Bjorn Asheim	338
Special Contribution. IAU-MCO Guidelines for an Institutional Code of Ethics in Higher Education Eva Egron-Polak	347
Box N: Bioethics and Law Observatory-UNESCO Chair in Bioethics at the University of Barcelona: 'Pushing the glocal bioethics engagement' María Casado and Itziar de Lecuona	348
6. Incentivizing Institutions, Faculty and Students	350
6.1. Recognizing Excellence in Engaged Teaching and Scholarship: The University of Pennsylvania's experience Ira Harkavy, Matthew Hartley, Rita A. Hodges and Joann Weeks	350
6.2. Forging Solidarity 'Glocally': Engaging Institutions, Faculty, Students Shirley Walters and Anna James	362
Box O: The Practical Experience at the University of Brighton to Support the Role of Academia for Community University Partnerships David Wolff	374
6.3. Beyond Rhetoric. Some Obstacles for a Responsible Global University Mircea Miclea	376
Special contribution: What is the Brain Drain? Definition and Scope Jamil Salmi and Katya Salmi	385
7. Mutual Learning and Empowering Support: the Role of Networks in Achieving Glocal Engagement	391
7.1. Mutual Learning and Empowering Support: Networks and Balance between Local and Global Demands Crystal Tremblay, Wafa Singh and Walter Lepore	391
Box P: The Iberian-American Service-Learning Network Nieves Tapia and Candelaria Ferrara	402

7.2. University Networks: from Theory into Action. GUNi and ACUP Practice at Global and Local Scale Josep M. Vilalta, Alicia Betts and Nadja Gmelch	405
8. Impacts, Multi-faceted Accountabilities and Measurements	415
8.1. Impacts, Multi-faceted Accountabilities and Measurements. Making a Difference at Local and Global Levels Stevie Upton	415
8.2. Connecting with Communities vs. Racing for Rankings. Why Community Engagement is a Better Strategy than Seeking Higher Rankings Andrew Petter	429
8.3. Quality Assurance in African Higher Education: Resolving the Blurry Lines Between Local and Global Relevance Peter Okebukola	435
9. Resourcing Change Process, Making a Difference	443
9.1. The Emerging University Integration of Local and Global Engagement: The Canadian Experience at Home and Abroad Chad Gaffield	443
Box Q: How is the University of Eastern Finland (UEF) Developing a Strategy for Mobilizing Resources for Local Engagement? Jouni Kekäle	457
Special Contribution: Towards a Socially Responsible University Vincent Lomotey	459
PART III. A Regional Approach. University Social Engagement: Current trends in Latin America and the Caribbean at Global/Local Universities A collaborative work led by Axel Didriksson	466
PART IV. Research on the role of UNESCO Chairs in Strengthening the Social Responsibility of Higher Education Institutions and their Local and Global Commitment Francisco Michavila and Jorge M. Martínez	487
PART V. Editors' Conclusions and Recommendations Francesc Xavier Grau, John Goddard, Budd Hall, Ellen Hazelkorn and Rajesh Tandon	496
Further Reading GUNi	516

List of figures and tables

Figures

Figure 1. The Sustainable Development Goals [A. Hoballah]

Figure 2. New modes of innovation [J. Goddard]

Figure 3. The 'un-civic' university [J. Goddard]

Figure 4. The civic university [J. Goddard]

Figure 5. The disconnected city region [J. Goddard]

Figure 6. The connected city region [J. Goddard]

Figure 7. Humanities enrolment evolution in Catalonia (only public universities) [J. J. Moreso]

Figure 8. Percentage of student enrolment in humanities degrees, in relation to the total enrolment in the Catalan public university system [J. J. Moreso]

Figure 9. Evolution of PhD graduates' job location [J. J. Moreso]

Figure 10. Assessment of the level of skills acquired [J. J. Moreso]

Figure 11. The six key policy components initially proposed by the European Commission [E. Banda]

Figure 12. Governance as leadership framework [P. Eckel]

Figure 13. Organization of SmartLand: work-packages and strategic objectives [S. Acosta]

Figure 14. The SmartLand challenge: connecting silos of data and disseminating environment information [S. Acosta]

Figure 15. Typology of science, technology and innovation policies [B. Asheim]

Figure 16. The Kellogg logic model [S. Upton]

Figure 17. The evaluation scorecard [S. Upton]

Figure 18. The co-produced pathway to impact [C. Gaffield]

Figure 19. Main activities through which the UNESCO chairs act as a bridge between the local and the global [F. Michavila and J. Martinez]

Figure 20. Main UNESCO chair activities with a local approach [F. Michavila and J. Martínez]

Tables

Table 1. Transactional vs. transformational global and local interventions by universities [J. Puukka]

Table 2. An institutional strategy for universities' global and local engagement: Ten steps to design and implement the strategy [J. Puukka]

Table 3. Erasmus Mundus programmes in Catalan universities [J. J. Moreso]

Table 4. Catalan graduates' job location [J. J. Moreso]

Table 5. Connecting institutional policy with learning outcomes [H. De Witt and B. Leask]

Table 6. How can senior leaders support academic staff? [H. De Witt and B. Leask]

Table 7. Six grand narratives of de-facto responsible innovation [S. Randles]

Table 8. ASU's eight 'design aspirations' [S. Randles]

Table 9. A selected list of RRI projects which are currently in different stages of development [E. Banda]

Table 10. Comparing the different work of boards [P. Eckel]

Table 11. A matrix of board responsibilities and governance modes [P. Eckel]

Table 12. Values education action framework [A. Mohan]

Table 13. Practical examples of networks for global and local engagement of HEIs [C. Tremblay]

Table 14. The main approach taken in UNESCO chair activities [F. Michavila and J. Martinez]

Table 15. The main impact of UNESCO chairs on the Sustainable Development Goals [F. Michavila and J. Martinez]

List of Abbreviations Used in this Publication

- AAU** - Addis Ababa University
- AAU** - American Association of Universities
- AAU** - Association of African Universities
- ACE** - American Council on Education
- ACPC** - Africa Climate Policy Centre
- ACU** - Association of Commonwealth Universities
- ACUP** - Catalan Association of Public Universities
- AECID** - Spanish Agency for International Development Cooperation
- AHEAD** - Alliance for Higher Education and Democracy
- AHRC** - Arts and Humanities Research Council
- AIU** - Albukhary International University
- APEX** - Accelerated Programme for Excellence
- APHERP** - Asia Pacific Higher Education Research Partnership
- ApS(U)** - Spanish Service-Learning University Network
- APUCEN** - Asia-Pacific University-Community Engagement Network
- AQRM** - African Quality Rating Mechanism
- AQU** - Catalan University Quality Assurance Agency
- AR** - Augmented Reality
- ASU** - Arizona State University
- ASUU** - Academic Staff Union of Universities
- AUCC** - Association of Universities and Colleges of Canada
- BEPA** - Board of European Policy Advisors
- BMVSS** - Bhagwan Mahaveer Viklang Sahayata Samiti
- BSU** - Building Stronger Universities in Developing Countries
- CAAT** - Campaign Against the Arms Trade
- CAWR** - Centre for Agroecology, Water and Resilience
- CBR** - Community-Based Research
- CBUB** - Bioethics and Law Observatory at the University of Barcelona
- CCCB** - Barcelona's Contemporary Culture Centre
- CCPH** - Community-Campus Partnerships for Health
- CES** - Centre for Social Studies
- CGHE** - Centre for Global Higher Education
- CIHE** - Center for International Higher Education
- CIQG** - CHEA International Quality Group
- CIRCLE** - Centre for Innovation, Research and Competence in the Learning Economy
- CIRSFID** - Interdepartmental Research Centre in Legal History, Legal, Philosophy and Sociology and Computer Science and Law
- CISC** - Ibero-American Community for Knowledge Systems
- CKS** - Center for Knowledge Systems
- CLAYSS** - Latin American Centre for Service Learning
- CNPq-UFRGS** - Research Study Group Innovation and Evaluation
- COEP** - Committee of Public Entities in the Struggle against Hunger and for a Full Life
- CONACES** - National Commission for Quality Assurance in Higher Education
- CONACYT** - National Council of Science and Technology
- CoP** - Community of Practice
- CORD** - Centre for Organization Research and Design
- CPD** - Continuing Professional Development
- CRISES** - Centre for Research on Social Innovation
- CRUE** - Spanish University Rectors' Conference
- CSIRO** - Commonwealth Scientific and Industrial Research Organisation
- CSO** - Civil Society Organizations
- CSPO** - Consortium for Science, Policy and Outcomes
- CSR** - Corporate Social Responsibility
- CTEF** - Commonwealth Tertiary Education Facility
- CuCeA** - University Centre for Economic and Administrative Sciences
- CUE** - Community-University Engagement
- CUPP** - Community-University Partnership Programme
- DCE** - Department of Continuing Education
- DESD** - Decade of Education for Sustainable Development
- DRUSSA** - Development Research Uptake in Sub-Saharan Africa
- DTIE** - Division of Technology, Industry and Economics
- EAIR** - European Higher Education Society
- ECIU** - European Consortium of Innovative Universities
- ECOWAS** - Economic Community of West African States
- ECTS** - European Credit Transfer and Accumulation System
- EHEA** - European Higher Education Area
- EIT** - European Institute of Innovation and Technology
- ELRU** - European League of Research Universities
- EnRRICH** - Enhancing Responsible Research and Innovation through Curricula in Higher Education
- EPSRC** - Engineering and Physical Sciences Research Council
- ERCEG** - European Research Council Expert Group
- ERIC** - Evaluating Research in Context
- ESD** - Education for Sustainable Development
- ESIF** - European Structural and Investment Funding

E3M - University Third Mission
ETHZ - Federal Institute of Technology in Zurich
FIU - Florida International University
FLACSO - Latin American Social Sciences Institute
GITASP - Research Group on Innovation in Productive Systems
GKBDN - Global Knowledge-Based Development Network
GPS - Global Positioning System
GREP - Research Group in Power Electronics
GRF - General Research Fund
GSSL - Global Survey on Sustainable Lifestyles
GUNI - Global University Network for Innovation
GUPES - Global Universities Partnership on Environment and Sustainability
GWS - Greater Western Sydney
HDI - Human Development Index
HE - Higher Education
HEA - Higher Education Authority
HEBCIS - Higher Education and Business and the Community Interaction Survey
HEFCE - Higher Education Funding Council for England
HEIF - Higher Education Innovation Fund
HEIRRI - Higher Education Institutions and Responsible Research and Innovation
HEIs - Higher Education Institutions
HEIW - Higher Education in the World
HEPRU - Higher Education Policy Research Unit
HKBU - Hong Kong Baptist University
IARSCLE - International Association of Research on Service-Learning and Community Engagement
IAU - International Association of Universities
IAU-MCO - International Association of Universities and the Magna Charta Observatory
ICI - Institute of Science
ICO - Instituto del Conurbano
ICPHR - International Collaboration for Participatory Health Research
ICREA - Catalan Institution for Research and Advanced Studies
IDEI - Industrial Economics Institute
IDPs - Internally-Displaced Persons
IHD - Institute of Human Development
IISUE - UNAM - Institute for University and Education Research, of the National and Autonomous University of Mexico
IMHE - Institutional Management in Higher Education
IPPTN - National Higher Education Research Institute
ISCN - International Sustainable Campus Network
IUPUI - Indiana University-Purdue University Indianapolis
FE - Further Education
GDP - Gross Domestic Product
GMO - Genetically Modified Organisms
GNLC - UNESCO Global Network of Learning Cities
HUD - US Department of Housing and Urban Development
IAU - International Association of Universities
ICLC - International Conference on Learning Cities
IICED - International Institute for Creative Entrepreneurial Development
IIEDG - The Catalan Inter-University Women and Gender Studies Institute
IPPTN - National Higher Education Research Institute
INCREA - Innovation, Creativity and Learning
INP - Toulouse - Institut National Polytechnique de Toulouse
IT - Information Technology
KBD - Knowledge-Based Development
KCWS - Knowledge Cities World Summit
KIP - Key Intangible Performance
KISIP - Kenya Informal Settlements Infrastructure Program
KM - Knowledge Management
KNUST - Kwame Nkrumah University of Science and Technology
KPIs - Key Performance Indicators
KT - Knowledge Transfer
KTO - Knowledge Transfer Office
KTPSD - Knowledge Transfer Partnership Seed Fund
LEAP - Liberal Education and America's Promise
LERU - League of European Research Universities
LKN - Living Knowledge Network
LMS - Learning Management Systems
MAKCi - Most Admired Knowledge Cities Awards
MCO - Magna Charta Observatory
MDGs - Millennium Development Goals
MEI - Mondragon International Education
MESA - Mainstreaming Environment and Sustainability in Africa
MIT - Massachusetts Institute of Technology
MOOCs - Massive Open Online Courses
MSE - Multi-Stakeholder Engagement
MS2E - Microbial Systems Ecology and Evolution
NANS - National Association of Nigerian Students
NASA - National Aeronautics and Space Administration
NAU - New American University
NBM - Normative Business Model
NCCPE - National Co-ordinating Centre for Public Engagement

- NGO** - Non-Governmental Organization
- NSDF** - National Slum-Dwellers Federation
- NUS** - National Union of Students
- NWO** - Netherlands Organisation for Scientific Research
- NYLC** - National Youth Leadership Council
- OBD** - Bioethics and Law Observatory
- PAQAF** - Pan-African Quality Assurance and Accreditation Framework
- PD** - Peritoneal Dialysis
- Penn-AHEAD** - University of Pennsylvania's Graduate School of Education
- PIMA** - Pascal International Member Association
- PRIA** - Society for Participatory Research in India
- P2P** - Peer-to-Peer
- R&D** - Research and Development
- RAE** - Research Assessment Exercise
- RBPC** - Podocarpus Biosphere Reserve - The Condor
- RIBAS** - Iberian-American Service-Learning Network
- RRI** - Responsible Research and Innovation
- SAHECEF** - South African Higher Education Community Engagement Forum
- SAQA** - South African Qualifications Authority
- SARUA** - Southern African Regional Association of Universities
- SCP** - Sustainable Consumption and Production
- SCS-UPF** - Science, Communication and Society Studies Centre at Universitat Pompeu Fabra
- SDGs** - Sustainable Development Goals
- SDI** - Slum Dwellers International
- SFU** - Simon Fraser University
- SIAMPI** - Social Impact Assessment Methods for research and funding instruments through the study of Productive Interactions
- SLCI** - Sustainable Lifestyles, Cities and Industry
- SLUSH** - Student-Led Entrepreneurship
- SMEs** - Small and Medium-sized Enterprises
- SMILE** - Shanghai Municipal Institute for Lifelong Education
- SMS** - Short Message Service
- SPARC** - Society for the Promotion of Area Resource Centers
- SSHRC** - Social Sciences and Humanities Research Council of Canada
- STELLA** - Student Empowerment through Language, Literacy and Arithmetic
- TELS** - Transnational Education and Learning Society
- THE** - Times Higher Education
- TIESS** - Territoires innovants en économie sociale et solidaire
- TQM** - Total Quality Management
- TSEP** - The Student Engagement Partnership
- UAB** - Universitat Autònoma de Barcelona
- UB** - Universitat de Barcelona
- UCL** - University College of London
- UCLA** - University of California, Los Angeles
- UdG** - Universitat de Girona
- UEF** - University of Eastern Finland
- UFRGS** - Universidade Federal do Rio Grande do Sul
- UIL** - UNESCO Institute for Lifelong Learning
- UKM** - Universiti Kebangsaan Malaysia
- UN** - United Nations
- UNDP** - United Nations Development Programme
- UNECA** - United Nations Economic Commission for Africa
- UNEMAT** - Mato Grosso State University
- UNEP** - United Nations Environment Programme
- UNESCO** - United Nations Educational, Scientific and Cultural Organization
- UNICEF** - United Nations International Children's Emergency Fund
- UniTo** - University of Turin
- UNITWIN** - University Twinning and Networking Programme
- UNU** - United Nations University
- UNU-INRA** - United Nations University Institute for Natural Resources in Africa
- UNU - WIDER** - United Nations University World Institute for Development Economics Research
- UPC** - Universitat Politècnica de Catalunya-Barcelona Tech
- UPF** - Universitat Pompeu Fabra
- UPM** - Universidad Politécnica de Madrid
- URV** - Universitat Rovira i Virgili
- US** - United States
- USIM** - Islamic Science University Malaysia
- USM** - Universiti Sains Malaysia
- UTPL** - Universidad Técnica Particular de Loja
- UWC** - University of the Western Cape
- VINNOVA** - The Swedish National Governmental Agency for Innovation System
- WCHE** - World Conference on Higher Education
- WCI** - World Capital Institute

About the authors

- **Khairoon Abbas** is a consultant supporting UN-EP's activities on sustainable lifestyles and education. She has worked on the YouthXchange initiative which promotes sustainable lifestyles among youth, and on education on sustainable consumption and lifestyles policies. Previously, she worked as a writer, developing teaching resources about Africa for a Canadian educational project. She holds a master's degree in journalism and a bachelor's degree in mass communication (Carleton University, Canada).
- **Adrián Acosta Silva** is a sociologist. Doctor in social sciences with specialization in political science (FLACSO-Mexico). Member of the National Research System. Full-time professor in the Government and Public Policy Institute, CUCEA-Universidad de Guadalajara, Mexico. His main research lines are institutional changes in higher education, policy analysis and governance of higher education, with a focus on contemporary Latin American universities. Currently, he is on a research stay (sabbatical) at the sociology department of Universidad Autónoma de Barcelona (Spain), developing the project 'Institutional Power of Latin American University: History, Sociology and Politics' funded by the National Council of Science and Technology (CONACYT). He was academic coordinator of the Mexican case study for the GUNi World Report 2016.
- **Santiago Acosta-Aide** is currently the deputy rector for academic affairs of UTPL (Ecuador). He holds a doctorate in philology from the University of La Laguna (Spain), and his main fields of research are Latin American literature, ethics and literature, and ethics and higher education. He has taught in universities in Spain, Peru, Russia, Bolivia and Ecuador.
- **Eduardo Aponte**. Coordinator of the UNESCO Chair in Innovation in Higher Education. Professor at the University of Puerto Rico (Rio Piedras site).
- **Bjørn Asheim** is a professor at the University of Stavanger Business School/Centre of Innovation Research of Stavanger, Norway, and at the Centre for Innovation, Research and Competence in the Learning Economy (CIRCLE) of Lund University, in Sweden. His main area of research is regional innovation studies. He is one of the most published and cited Nordic innovation scholars with around 13,000 citations in Google Scholar.
- **Rita Axelroth Hodges** is assistant director of the Netter Center for Community Partnerships at the University of Pennsylvania. In her role as assistant director, she supports all aspects of the Netter Center's mission and operations as a university-wide centre working to improve quality of life in the community while simultaneously advancing research, teaching, learning and service at the university.
- **Enric Banda** is doctor of physics (1979) from the University of Barcelona, who did a post-doctorate at the ETH, Zurich. He was a research professor at the Spanish National Research Council in 1987. He is the former secretary of state for universities and research, CEO of the European Science Foundation, director of the Catalan Foundation for Research and Innovation and ICREA, and science director for the "la Caixa" Foundation. He is also the author of 160 reviewed scientific papers, and member of the Academia Europaea. He is fellow of the Royal Astronomical Society, former president of Euroscience, and member of the Reial Acadèmia de Ciències i Arts de Barcelona.

- **Ahmed Bawa** is the CEO of Universities South Africa. Until recently he was vice-chancellor and principal of Durban University of Technology. As the programme officer for higher education in Africa with the Ford Foundation he led the foundation's African Higher Education Initiative. He holds a PhD in Theoretical Physics from the University of Durham, UK. He has published in the areas of higher education, high-energy physics and science and society.

- **Paul Benneworth** is a senior researcher at the Center for Higher Education Policy Studies (University of Twente, the Netherlands) and at Agderforskning, Kristiansand, Norway. His research focuses on relationships between universities and societal development, notably how universities contribute to solving difficult, deep-seated problems afflicting less powerful communities. He has written extensively on this topic, including the book *University engagement with socially excluded communities* (2013, Dordrecht, Springer).

- **Alicia Betts** has been head of projects at the Catalan Association for Public Universities (ACUP) since 2009 and at the Global University Network for Innovation (GUNI) since 2014. Her main interests and expertise are in the fields of internationalization of higher education (strategy development and implementation) and higher education strategy and policies. She has coordinated the drafting of different strategic documents for the Catalan higher education system and reports on various higher education topics. She studied audiovisual communication and international relations at Universitat Autònoma de Barcelona (UAB) and is a graduate of the European Master in Higher Education.

- **Sanjay Bhushan** is an associate professor in the department of management, Dayalbagh Educational Institute, Deemed University. His academic interests span international business and e-content generation. He has authored 10 books and

published over 50 research papers. He is currently coordinating the committee for the promotion of value-based quality education practices.

- **John D. Brewer** is a professor of post conflict studies at Queen's University Belfast. He is a member of the Royal Irish Academy, fellow of the Royal Society of Edinburgh, fellow of the Academy of Social Sciences and a fellow of the Royal Society of Arts. He has held visiting appointments at Yale University, St John's College Oxford, Corpus Christi College Cambridge and the Australia National University. He has an honorary doctorate of social science from the University of Brunel. He was president of the British Sociological Association and is a member of the UN Roster of Global Experts. He is the author/co-author of 15 books and editor/co-editor of a further three.

- **Matthieu Calame** is the director of the Fondation Charles Léopold Mayer pour le Progrès de l'Homme, a Swiss foundation focusing on questions of governance, ethics and transition towards sustainable living modes. He is an agronomist and has planned and managed the conversion of the rural domain of 'La Bergerie de Villarceaux' France (95) into biological farming agriculture. He is the author of numerous articles and has published books on agriculture and science governance.

- **Francisco Javier Carrillo Gamboa** is passionate about knowledge as leverage for the human condition. He is a professor of knowledge management and knowledge-based development (KBD) at Tecnológico de Monterrey, recognized as an international leader in knowledge cities. There, he founded in 1992 the Center for Knowledge Systems, where he led over 150 contracted projects and developed the Capital Systems Framework as a model of KBD. Currently, he heads the research group on knowledge societies and he is president of the World Capital Institute and editor of *the International Journal of KBD*. His research interests

are knowledge cities, capital systems and knowledge markets.

- **Martí Casadesús** is a professor in the department of business management and product development at the University of Girona. He studied industrial engineering (UPC) and holds a doctorate in industrial engineering (UdG). He is currently co-director of the GREP research group in product, process and production at the University of Girona, and director of the GITASP consolidated research group in technological innovations in the productive process. Both these groups are devoted to the design of new planning and management of production systems, as well as quality management. His research is focused on quality management. He has several publications in research journals such as *Total Quality Management*, *International Journal of Quality & Reliability Management*, *The TQM Magazine*, *International Journal of Operations & Management*, etc. He is also one of the Spanish experts on the Technical Committee 176 of ISO, which is dedicated to the creation of new standards of management systems. He has been vice-rector for planning and quality at the University of Girona, and he is currently the director of AQU Catalunya.

- **Maria Casado** is a professor of philosophy of law, morals and politics. She is also holder of the UNESCO Chair in Bioethics at the University of Barcelona. She is the director of the Bioethics and Law Observatory and of the master's in bioethics and law at the University of Barcelona. Additionally, she coordinates the Catalan government's consolidated research group 'Bioethics, Law and Society'. She is a member of the National Commission on DNA Forensic Uses and of the Bioethics Commission at the University of Barcelona. In the past, she has been a member of the Spanish Bioethics Committee and of the Catalan Bioethics Committee; as well as member of the board of directors of the International Bioethics Asso-

ciation. She is a member of the Working Group on Ethics in Horizon 2020, League of European Research Universities (LERU). She received the Narcís Monturiol Medal for her pioneering contribution to scientific and technological progress in the field of bioethics and human rights in Catalonia. Finally, she is also director of the open access electronic journal *Revista de Bioètica y Derecho* (Bioethics and Law Journal).

- **Marta Cayetano** is a graduate in audio-visual communication (UPF) and translation and languages (UVIC) and holds a postgraduate degree in strategic digital communication (IDEC-UPF) and a postgraduate degree in international development and cooperation (SETEM-UPC). Marta is currently working as a communication officer at the Catalan Association of Universities (ACUP)/Global University Network for Innovation (GUNi) on the Higher Education and Responsible Research and Innovation (HEIRRI) European project and has held different positions in the communication field since 2006, such as account executive in a design studio and press analyst. She is also a current editor and contributor at *indienauta.com* and has volunteered at the communication department at the NGO SETEM and the Community Development Project *Kufunda* in Zimbabwe. She was also a trainee at Barcelona's Contemporary Culture Centre, CCCB.

- **Garrette Clark** has a master's degree in public policy (University of California), a certificate in responsible tourism and a bachelor's degree in history (Smith College). She leads UNEP's activities on sustainable lifestyles and education, which cover building a shared vision of what a sustainable lifestyle is, developing tools and related capacity-building and empowering individuals to adopt sustainable lifestyles. She has published widely on sustainable product design and translated various environmental publications for business audiences.

- **Laura Corazza** is a doctor in the department of management of the University of Torino (UniTo), Italy. She is a member of the sustainability reporting group of UniTo, led by vice-rector of public relations Prof. Sergio Scamuzzi, where she is editor of the reporting activities according to GRI international guidelines. She also works for the stakeholder engagement process of UniTo. She is project leader of the Shared Value Living Lab research project. Her teaching and research areas are: social accounting, stakeholder engagement, corporate social responsibility, universities' social responsibility, social entrepreneurship.

- **Axel Didriksson Takayanagui** is full-time researcher at the Institute for University and Education Research, of the National and Autonomous University of Mexico (IISUE-UNAM in Spanish). He is the president of the Global University Network for Innovation (GUNi) in Latin America and the Caribbean, and member by presidential designation of the promoter committee to create the National University of Education in Ecuador. He holds a PhD in economics, a master's in Latin American studies, and a bachelor's in sociology. He has been the general coordinator of the UNESCO Chair in University and Regional Integration since 1995; national researcher (Level III) of the National Researchers System; member of the Mexican Academy of Sciences; special mention of the CLACSO Prize for University Studies 'Pedro Krostch'. He was also councillor for education at Mexico City Hall (2007-2010); director of the University Research Center (2003-2006) of UNAM; member of the advisory academic committee of the University for Latin American Integration (Brazil); regional coordinator of the Public Macro-universities of Latin America and the Caribbean Network (2004-2006); invited researcher of the Swedish Institute (University of Stockholm, Sweden), of the National Institute for Educational Research (Japan); and, Fulbright Scholar at the City University of New York (CUNY, United States). He has written more than 30 books

related to educational policies, higher education and innovation, prospective and assessment of higher education.

- **Reena Dobson** is executive officer to the academic deputy vice-chancellor and vice-president at Western Sydney University. Dobson received her doctorate in 2010. Her thesis uses interdisciplinary theories in cultural studies and social anthropology to present an ethnographic exploration of ethnicity, multiculturalism and nationhood in the island of Mauritius.

- **Cristopher Duke** is an Anglo-Australian with nine Thai and Australian grandchildren. Historian and social scientist of lifelong learning, adult and higher education for development. Secretary-general of Pascal International Member Association (PIMA). He served in similar positions for ASPBAE, ICAE, PASCAL, and European, Australian and European AE/HE associations. Honorary professor, RMIT Australia and Glasgow, Scotland. He is committed to international collaboration, inter-community understanding, participatory and democratic research and management, equity, social justice and civil society. He looks for better local and global governance for balanced and social eco-sustainability. He gardens and enjoys French communalism and patrimoine in Bourgogne.

- **Peter D. Eckel** is senior fellow and director of leadership programmes in the Alliance for Higher Education and Democracy in the University of Pennsylvania's Graduate School of Education (Penn AHEAD). Previously he was vice-president for programmes and research at the Association of Governing Boards and director of the Center for Effective Leadership at the American Council on Education. Eckel has written/edited numerous books, including *Changing Course: Making the Hard Decisions to Eliminate Academic Programs*; *Privatizing the Public University: Perspectives from Across the Academy*. At the American Council on

Education he was the lead author of 'the CAO Census', the national study of chief academic officers. He serves as a trustee at the University of La Verne in California.

- **Eva Egron-Polak** was educated in the Czech Republic, Canada and France and holds a postgraduate degree in international political economy. Prior to joining the IAU in 2002, she held a variety of senior positions including international vice-president at the Association of Universities and Colleges of Canada (AUCC). As secretary general of the IAU, a global association of higher education institutions and associations of universities, she has led the association to focus on higher education internationalization, equitable access and success, higher education's role in sustainable development, as well as promoting academic values, ethics, and higher education's social responsibility to society locally and globally. She represents IAU on committees at UNESCO, the European Commission and OECD among others. She is a member of the Magna Charta Observatory Council and the executive board of the Global Access to Post-Secondary Education initiative. She has taken part in reviews of higher education in Ireland, Romania, Egypt, Spain and Malaysia and has co-authored and co-edited many books on higher education including the IAU's 3rd and 4th Global Survey Reports on Internationalization of Higher Education in 2010 and 2014. In 2014 she was granted an honorary doctorate by the Mykolas Romeris University in Lithuania.

- **Cristina Escrigas** is the former executive director and advisor of the Global University Network for Innovation (GUNi). She was the principal editor for three of the World Reports that GUNi has published. Her background is in strategic management and institutional change, an area in which she has been working for about 20 years for institutions in Spain and Latin America. She has been director of the UNESCO Chair in Higher Education Man-

agement. She has conducted numerous research projects and organized international conferences on emerging issues in higher education. She is a social psychologist and holds master's degrees from UPC, the Autonomous University of Barcelona, and the GR Institute in Israel.

- **Yan Fan** is a member of the coordination team of the UNESCO Global Network of Learning Cities at the UNESCO Institute for Lifelong Learning (UIL). He holds a bachelor of laws in international relations from Fudan University, Shanghai (2015) and is pursuing a master's degree in art at Paul H. Nitze School of Advanced International Studies at Johns Hopkins University, United States. He has been involved in and assisted a series of conceptual development and research on the topic of lifelong learning and learning cities at UIL.

- **Candelaria Ferrara** is an English teacher and English language specialist with extensive work experience in education, having served since 2008 as a student, teacher and consultant representing and advising various professionals in the drafting and implementation of projects for the improvement of educational quality. She has been awarded two Fulbright Scholarships, the 'Foreign language teaching assistant' (2011) and the 'Teachers training course' (2014). She currently coordinates the secretariat of the RIBAS Network.

- **Emmanuel Jean François** is an associate professor of educational studies, coordinator of the doctoral programme in educational administration, as well as the doctoral specialization in comparative and international educational leadership at Ohio University. He is the author of *Perspectives in transnational higher education* (2016), *Building global education with a local perspective: An introduction to glocal higher education* (2015), *Financial sustainability for nonprofit organizations* (2014), *Transcultural blended learning and teaching in postsecondary education* (2012). He is the

current president of the Transnational Education and Learning Society (TELS), and the editor of the peer-reviewed journal *The African Symposium*.

- **Chad Gaffield** is a distinguished university professor of history and university research chair in digital scholarship at the University of Ottawa (Canada). An expert on the sociocultural history of 19th- and 20th-century Canada, Gaffield's research includes studies of university transformation and longitudinal analysis of the impact of university experience on graduates. A fellow of the Royal Society of Canada, he received the RSC's 2004 J.B. Tyrrell Historical. From 2006 to 2014, Gaffield served as president and CEO of the Social Sciences and Humanities Research Council of Canada (SSHRC).

- **Nadja Gmelch** is head of projects at the Catalan Association of Public Universities (ACUP), in charge of, among others, the Commission of Social Responsibility of Universities. She has experience in the fields of global higher education, especially in university development cooperation, as well as in social impact of higher education and the contribution of higher education to sustainable and human development. She is currently mainly working on the role of higher education institutions and the Sustainable Development Goals, Responsible Research and Innovation (RRI) and Education for Sustainable Development (ESD). She holds a degree in international business and cultural studies (University of Passau) and a master's in European development cooperation policies (Universitat Autònoma de Barcelona).

- **John Goddard** is emeritus professor of regional development studies at Newcastle University, UK, where he is leading a programme of policy orientated research on the civic university viewed from both internal and external perspectives. This builds on his experience as deputy vice-chancellor of the university where he was responsible for leading the university's external engagement.

His book *The University and the City* will be complemented by a forthcoming book *The Civic University: The Policy and Leadership Challenges*. John advises the European Commission on universities and development.

- **Francesc Xavier Grau Vidal** is a professor of fluid mechanics in the Department of Mechanical Engineering at Universitat Rovira i Virgili (Tarragona, Spain). He holds a PhD (1986) and a Licence Degree (1981) in Industrial Chemistry, both from the University of Barcelona. His research interests focus on the physics, modelling and control of heat, mass and momentum transfer in industrial flows and in the environment. He is the author of more than 100 research papers and the supervisor of 11 PhD theses. He has been a researcher at the Institute of Fluid Mechanics of the INP-Toulouse (France), at the NASA-Ames Center for Turbulence Research (USA), and at the Department of Mechanical Engineering of Stanford University (USA). He has taken an active part in setting up programmes to educate and inform the general public on scientific issues, and has been involved in university-society and industry-society relations, including coordinating the Dow-Tarragona Community Advisory Panel. Between 1993 and 2000, he was director of the Department of Mechanical Engineering at URV, and from 2000 to 2006 served successively as vice-rector for infrastructure and ICT, vice-rector for academic affairs and personnel, and vice-rector for scientific policy. He was the rector of University Rovira i Virgili from June 2006 until June 2014; within this period he acted as president of the Association of Catalan Public Universities (October 2011-January 2013) and was a member of the board (2010-2014) and first vice-president (2013-2014) of the Spanish Rectors' Conference (CRUE).

- **Budd L. Hall** is the co-chair of the UNESCO Chair in Community-Based Research and Social Responsibility in Higher Education. He is a professor

of community development in the School of Public Administration and the secretary of the Global Alliance on Community-Engaged Research. He is the founding director of the Office of Community Based Research and former dean of education at the University of Victoria. He holds an honourable doctorate from St. Francis Xavier University and has been working on issues of knowledge and democracy since 1970, when he was working in Tanzania. He has published five books in recent years on issues of community based research and engagement. He is also a poet.

- **Ira Harkavy** is associate vice-president and founding director of the Barbara and Edward Netter Center for Community Partnerships, University of Pennsylvania. Harkavy helped to develop academically-based community service courses and participatory action research projects in Penn's local community of West Philadelphia. Harkavy has written and lectured widely on the history and current practice of urban university-community-school partnerships and strategies for integrating the university missions of research, teaching, learning and service.

- **Matthew Hartley** is associate dean and professor at the University of Pennsylvania Graduate School of Education. His research focuses on academic governance and the social and democratic purposes of higher education. He is also the executive director of the Alliance for Higher Education and Democracy (AHEAD). Hartley serves on the editorial boards of *Educational Researcher*, *the Review of Higher Education*, and the *Journal of Higher Education Outreach and Engagement*.

- **Ellen Hazelkorn** is policy advisor to the Higher Education Authority (HEA), and emeritus professor and director of the Higher Education Policy Research Unit (HEPRU), Dublin Institute of Technology (Ireland). She is president of the European Higher Education Society (EAIR) and sits on the

advisory board and management committee. She is also an international researcher with ESRC/HEFCE Centre for Global Higher Education (CGHE), UCL Institute for Education, London. She advises and reviews for governments, international organizations and universities, and has over 20 years' experience as vice-president of research and enterprise, and dean of the graduate research school, and vice-president and founding dean of the faculty of applied arts, DIT. Her books include *Rankings and the Reshaping of Higher Education: The Battle for World-Class Excellence* (Palgrave 2015), *Editor, Global Rankings and the Geo-Politics of Higher Education* (Routledge, 2016); co-author: *The Civic University: Meeting the Leadership and Management Challenges* (Edward Elgar, 2016) and *The Impact and Future of Arts and Humanities Research* (Palgrave Macmillan, 2016).

- **Arab Hoballah** holds an MSc in economic tools and prospective analysis, an MSc in law and international relations and a PhD in economic development from the University of Paris. He supports the mainstreaming of resource efficiency and sustainable consumption and production policies, particularly through responsible industry and cities management, and has successfully launched initiatives and partnerships across sectors (e.g. buildings, tourism).

- **Anna James** is currently a research assistant on the Traditions of Popular Education Research Project, University of the Western Cape. She has an MSc degree in climate change and sustainable development (University of Cape Town) with a dissertation exploring the experience of skills development for sustainable urban housing. She has published in the *South African Geographical Journal* on contested urban-environmental decision-making through discourse analysis of the media. Recently, she has explored the use of street theatre as a tool for popular education. She is working towards a PhD in experiential and collective learning.

- **Barbara Lethem Ibrahim** is founding director of the John D. Gerhart Center for Philanthropy and Civic Engagement (2006-2014) at the American University in Cairo, and currently advisor to the president, AUC. She previously served as the MENA regional director for the International Population Council and a programme officer in the Cairo Office of the Ford Foundation. She holds an MA from the American University of Beirut and a PhD in sociology from Indiana University. Her publications address philanthropy in the Arab region, youth activism in Egypt, gender and adolescence, and challenges to civil society and philanthropy in the Arab transitions. She currently serves on the board of directors of Worldwide Initiatives for Grantmaker Support (WINGS) and the International Center for Not for Profit Law. She received the Lifetime Achievement Award of the Association of Middle East Women's Studies in 2009.
- **Jouni Kekäle** works as director of human resources at the University of Eastern Finland. He also acts as a part-time professor and advisor to the rector. He is a docent in administrative sciences, especially higher education studies, at the University of Tampere, and a docent in psychology, especially higher education studies, at the University of Eastern Finland. His main research interests are academic leadership, quality, disciplinary, and organizational cultures in higher education as well as the changing operational environment for the higher education sector. He has participated in numerous local, national and international development projects in the field of higher education.
- **Denise Kirkpatrick** is deputy vice-chancellor and vice-president (academic) at Western Sydney University. She is a highly-regarded academic and educational leader in the fields of distance, open and e-learning and quality assurance. She has worked as an academic, senior executive and higher education consultant in Australia, the UK, Africa and South East Asia.
- **Juan-Luis Klein** is a full professor at the University of Quebec at Montreal and the director of the Centre de Recherche sur les Innovations Sociales (CRISES). He assumes several duties in editorial committees of scientific journals and is the director of the Collection Géographie Contemporaine at the Presses de l'Université du Québec. He is currently co-president of a non-governmental organization for knowledge transfer in social innovation, social economy and territorial development called Territoires Innovants en Économie Sociale et Solidaire (TIESS).
- **Elizabeth Larrea de Granados** is a member of the High Education Council of Ecuador, and sub-secretary of higher education, magister and PhD in education.
- **Betty Leask** is pro vice-chancellor for teaching and learning at La Trobe University in Melbourne, Australia. She is a leading international scholar in the field of internationalization of the curriculum in higher education. She has published widely in this area over the last 20 years and is currently the editor in chief of the *Journal of Studies in International Education*.
- **Itziar de Lecuona** holds a PhD in law and an MA in bioethics and law. She is a member of the UNESCO Chair in Bioethics at the University of Barcelona and assistant director of the Bioethics and Law Observatory at the University of Barcelona. Moreover, she is a member of the Catalan government's consolidated research group 'Bioethics, Law and Society'. She also has experience as director of the master's in food, ethics and law and coordinator of the master's in bioethics and law at the University of Barcelona. She forms part of the Catalan Bioethics Committee; the Research Ethics Committee at Hospital Clínic de Barcelona and the Bioethics Commission at the University of Barcelona. She is a member of the Expert Group on Research Integrity and the Working Group on Ethics in Horizon 2020,

League of European Research Universities (LERU). She is part of the Ethical, Legal and Social Board of the European Institute of Innovation and Technology, Health Division (EIT Health), Knowledge and Innovation Communities (KICs); and member of the European Advisory Committee, 5th World Research Integrity Conference (Amsterdam 2017). Finally, she is a visiting researcher of the Bioethics Programme at UNESCO Headquarters (Paris) and of the University of Bologna, CIRSFID Research Center.

- **Denise Leite** has master's and doctoral degrees in human sciences from UFRGS, internships in Exeter and Edinburgh, UK and postdoctoral studies at CES University of Coimbra. She is invited professor on the graduate programme on education at UFRGS, Brazil and visiting professor on the graduate programme on education at UNEMAT, Brazil; a senior researcher, level 1A CNPq (National Research Council); member of the Research Study Group Innovation & Evaluation (CNPq-UFRGS). She is in charge of inter-institutional and international research projects on innovation, evaluation and collaborative research networks. She is currently GUNi/UNESCO secretary for Latin America and Caribbean.

- **Walter Lepore** is a doctoral candidate in the School of Public Administration at the University of Victoria. In May 2014, he joined the UNESCO Chair in Community-Based Research and Social Responsibility in Higher Education. He is the coordinator of the Next Gen project which is aimed at increasing access to high quality training in community-based research within higher education institutions and civil society organizations in the Global South.

- **Vincent Lomotey** is deputy registrar at KNUST with vast administrative experience in academic and student affairs. He champions the Development Research Uptake in Sub-Saharan Africa

(DRUSSA) programme at the university and has facilitated many projects and programmes in research uptake and utilization. He holds a diploma in education and a bachelor's degree in physics from the University of Cape Coast, Ghana, a master's degree in science education from the University of Bristol, UK and is currently a PhD candidate at the University of Stellenbosch, South Africa.

- **Jack Makau** is a programme officer of Shack Dwellers International. He currently manages the technical and professional support for the Kenyan movement of slum residents known as *Muungano wa Wanavijiji*. This function includes the development and maintenance of relationships with universities, local and national government agencies as well as development partners.

- **Jorge M. Martínez** is an economist for Universidad Autónoma de Guadalajara (Mexico) specialized in foreign trade and in political marketing. He began his professional life as deputy manager of the Centro de Estudios Económicos del Sector Privado de León, Guanajuato. Later, he joined the public sector in the Centro de Información Guanajuato as head of special projects development and coordination of indicators of government. He has collaborated with various national and local election campaigns. In Spain, he studied a master's in government and public administration at the Instituto Universitario Ortega y Gasset and the doctoral programme in government and public administration. Since June 2007 he has been deputy director of the UNESCO Chair on Higher Education Policy and Management at the Polytechnic University of Madrid.

- **Federico Mayor Zaragoza** was chair of biochemistry and biology at the University of Granada (1963-1973) and the Autonomous University of Madrid (1973-2004). He was also the rector of the University of Granada (1968-1970). His professional life includes: promoter of the Span-

ish programme for the prevention of newborn disabilities; director general of UNESCO (1987-1999); minister of education and science (1981-1982); director general of UNESCO (1987-1999); president of the Foundation for a Culture of Peace (2000-present); chair of the European Research Council Expert Group (ERCEG) in 2002. In 2005, he became the co-president of the High Level Group for the Alliance of Civilizations (2005-2007), and he is currently the president of the International Commission against the Death Penalty (2010-present).

- **Francisco Michavila** is a professor of applied mathematics of the Universidad Politécnica de Madrid (UPM), director of the UNESCO Chair in Higher Education Policy and Management, honorary rector of the Universitat Jaume I and director of the INCREA Chair. In 1991 he was appointed first rector of the Universitat Jaume I of Castelló de la Plana (1991-1993). Two years later he was appointed secretary general of the Council of Universities. In November 2009, the University of Las Palmas de Gran Canaria awarded him the doctorate honoris causa.

- **Mircea Miclea** is professor and director of the Centre for Applied Cognitive Psychology, at Babeş-Bolyai University in Cluj-Napoca, Romania. He served as the general chancellor of the university from 2001–2004. In 2001, he was named the UNESCO Chair on Higher Education Management and Governance. In 2006, he was appointed as president of the Presidential Commission for Analysis and Elaboration of Policies in Education and Research.

- **Anand Mohan** studied geosciences and spent 23 years as an active researcher and academician at Banaras Hindu University, Varanasi, before accepting a pivotal role as administrator at Dayalbagh Educational Institute, Agra. Mohan has received several prestigious awards and Nation-

al Academy Fellowships. His current interests include disaster management, consciousness studies and value-based ethical practices in addition to his passion for geology.

- **Carlos Iván Moreno** earned his BA in finance at the University of Guadalajara. He also holds a master's degree in public administration from the University of New Mexico (USA) and a PhD in public policy from the University of Illinois-Chicago. He was a doctoral fellow at the Harris School of Public Policy at the University of Chicago and the Kellogg School of Management at Northwestern University. His research interests are related to comparative higher education policy, institutional change and power and politics in organizations. He is currently a professor of organizational studies in the Public Policy Department and vice-provost for international affairs at the University of Guadalajara.

- **Josep Joan Moreso** is a professor of legal philosophy at Universitat Pompeu Fabra, and adjunct professor at Universidad Diego Portales (Chile). He holds a law degree and PhD in law (UAB 1983, 1988). With more of 200 publications in his field, he is co-director of the collection 'Filosofía y derecho' by Marcial Pons Publisher, as well as editor of the following Journals: *Ratio Juris*, *Doxa*, *Law, Ethics and Philosophy*, *Analisi e Diritto*. He was invested Doctor Honoris Causa in Valparaíso University (Chile), and Antenor Orrego University (Trujillo, Peru). He was rector of the UPF from 2005 to 2013. Since 2013, he has been the president of the university quality assurance agency AQU Catalunya.

- **Claudia Neubauer** is co-founder and director of Fondation Sciences Citoyennes, a non-profit organization aiming at democratizing sciences and technologies so that they serve the common good and a socially and ecologically more just world. She holds a PhD in human genetics and a master's in scientific journalism. She has been

working on issues such as scientific citizenship, national and European research systems, expertise and research capacities of civil society organizations. Since 2014, she has worked as a programme officer on research, innovation, economy and energy for the Swiss Foundation Charles Léopold Mayer.

- **Peter A. Okebukola** is a professor of science and computer education at the Lagos State University, Nigeria. He was concurrently chairman of the council of four Nigerian universities. He is currently the chairman of the council of Crawford University and chairman of the board of trustees of Caleb University. He was executive secretary of the National Universities Commission. He is the president of the Global University Network for Innovation (GUNI-Africa) and the current chairman of the advisory council of the CHEA International Quality Group (CIQG).

- **Luis Enrique Orozco Silva** is a doctor in philosophy from the University of Lovaina, Belgium. Permanent professor of the University of Los Andes and coordinator of the area of management and public policies of the faculty of administration of the same university. He is the director of the UNESCO Chair in Higher Education for Latin America and member of the academic committee of IESALC/UNESCO. He was coordinator of the National Council of Accreditation, member of the institutional board of the National Commission of Quality Assurance in Higher Education (CONACES) and the doctorate and master's room of the same body in the National Ministry of Education. He was also academic vice-rector (1989-1996) and dean of the faculty of philosophy and arts (1989-1996) of the University of Los Andes. He has advised different national and international higher education institutions. He is the author of many articles in specialized journals and books in the fields of philosophy of science, ethics and higher education, among which the

latest are: *La Educación Superior, problema global y respuesta nacional* (2001); *Dinámicas de transformación de la Educación Superior* (2003); *Políticas de Educación Superior en Iberoamérica 2009-2013*; *La Educación Superior. Retos y perspectivas* (2014).

- **Sheela Patel** is the founding director of SPARC, an NGO that works with social movement of the urban poor in India through the National Slum Dwellers' Federation and Mahila Milan. She is also the chair of the board of Shack Dwellers' International, a transnational global movement of community federations of the urban poor across Asia, Africa and Latin America.

- **Andrew Petter** is president and vice-chancellor of the Simon Fraser University, and professor in its School of Public Policy. From 1991 to 2001, he served in the Province of British Columbia's Legislative Assembly and held numerous cabinet portfolios, including Advanced Education. Since he became president of SFU in 2010, he has overseen the implementation of a strategic vision that seeks to distinguish SFU as Canada's engaged university defined by its dynamic integration of innovative education, cutting edge research, and far-reaching community engagement.

- **Nelson Piedra** is currently the knowledge management director of UTPL (Ecuador) and acts as principal researcher in the Data Sciences and Web Advanced Technologies group, department of computer sciences and electronics. He also serves as a director of the Smart Land Initiative. He holds a doctorate in software and systems from the Polytechnic University of Madrid (Spain). His research focuses in the areas of semantic web, data integration/interoperability, open linked data and machine learning.

- **Nandita Pradhan Bhatt** is a development professional and has been associated with the sector for more than 19 years. She is currently a programme

manager in PRIA's gender unit. She is the coordinator of the organization's Making Workplaces Safe programme which has its focus on increasing awareness and institutional accountability on the prevention and redressal of sexual harassment in both the informal and formal workplaces. As part of her work, she is also supporting PRIA's programme on ending violence against women and girls in educational institutions and public spaces through youth led initiatives in more than 15 locations across the country.

- **Jaana Puukka** is an analyst of the OECD programme on Institutional Management in Higher Education (IMHE). She has experience in higher education and regional development in Finland as a ministerial and local government adviser, programme manager, practitioner and evaluator. She has management experience from both the university and polytechnic sector and has worked in university internationalization, PR and communication and stakeholder management. In addition, she has worked in the corporate sector in the pharmaceutical industry. Before joining OECD, she was the regional development manager of Turku University of Applied Sciences, at that time the biggest professionally oriented HEI in Finland. She has been involved in various university evaluations and has worked for the Finnish Ministry of Education to review university master's programmes.

- **Sally Randles** is a professor of sustainability and innovation at Manchester Metropolitan University in the UK. She holds associate fellow roles at the Institute of Innovation Research at the University of Manchester and at the Centre for Organization Research and Design, Arizona State University and is scientist in charge of the EU Marie Curie 'Innovation 4 Sustainability' network for the Academy of Business in Society, Brussels. She is interested in the historical and institutional origins and contemporary transformations of actors' interpreta-

tions, practice and governance of 'responsibility' in a range of research and innovation contexts

- **Dzulkifli Abdul Razak** is the current president of the International Association of Universities (IAU), a UNESCO-based organization, located in Paris. Currently, he is the chairperson of the Islamic Science University Malaysia (USIM). He is an honorary professor at the University of Nottingham; and held the chair of Islamic Leadership at USIM from 2014-16. He also chairs the steering council of the Right Livelihood College Global Secretariat based in the University of Bonn, Germany. He was the 5th vice-chancellor of Universiti Sains Malaysia (USM) from 2000 to 2011.

- **Liam Roberts** is programme officer at the Association of Commonwealth Universities (ACU). As well as contributing to the ACU's Beyond 2015 campaign between 2013 and 2015, Liam also helps coordinate the Development Research Uptake in sub-Saharan Africa (DRUSSA) programme, led by the ACU in conjunction with international partners. He maintains a strong interest in public engagement, research communication and impact evaluation.

- **Núria Saladié** is the project manager of H2020 project Higher Education Institutions and Responsible Research and Innovation (HEIRRI). She has been working since 2013 as a research assistant with the FP7 European projects PLACES, KiiCS and NERRI at the Studies Center on Science, Communication and Society from Universitat Pompeu Fabra (SCS-UPF). She has a degree in journalism from Universitat Autònoma de Barcelona and a master's degree in science communication from Universitat Pompeu Fabra.

- **Jamil Salmi** is a global tertiary education expert providing policy advice and consulting services to governments, universities, multilateral banks and bilateral donor agencies. He is an emeritus

professor of higher education at Diego Portales University in Chile. Salmi wrote the first World Bank policy paper on higher education in 1994 and was the principal author of the World Bank's 2002 Tertiary Education Strategy entitled 'Constructing Knowledge Societies: New Challenges for Tertiary Education'. In the past 23 years, Salmi has worked on tertiary education reform and strategic planning in more than 90 countries. His 2011 book, co-edited with Professor Phil Altbach, is entitled 'The Road to Academic Excellence: the Making of World-Class Research Universities'.

- **Katya Salmi** is a human rights researcher and an adjunct sociology lecturer at the American University in Washington DC. In the past few years, she has worked on migration, gender equality, race relations, and higher education. She was recently commissioned by Verso Books to write a report on emerging trends in race literature in the United Kingdom. She received a master's degree in human rights from UCL and completed her PhD in sociology at the University of Sussex (United Kingdom). She worked for two years at Human Rights Watch as a research fellow on refugees and migrants issues.

- **Wafa Singh**, India's research coordinator of the UNESCO Chair in CBR has been engaged in numerous national/international projects under the higher education theme. She has represented the Chair at international forums such as the 2nd Asia Engage Conference in Bali and CUExpo in Ottawa, Canada. Having secured a master's degree in water resources management, she has also been as an independent researcher working on various consultancy projects.

- **Morshidi Sirat** is a professor at the School of Humanities of Universiti Sains Malaysia. He has served as the director of the National Higher Education Research Institute (IPPTN), as deputy director-general, department of higher education

(public sector), and as director-general of higher education/registrars general of the private institutions of higher education in Malaysia. Currently, Morshidi is the founding director of the Commonwealth Tertiary Education Facility in Malaysia. He publishes widely on Malaysia's higher education policy and is very active in research and consultancy work for the ADB, the World Bank, and UNESCO APEID Bangkok.

- **Juan Pablo Suárez** is currently the vice-principal for research at UTPL (Ecuador) and acting as principal researcher in the Microbial Systems Ecology and Evolution (MS2E) group, department of biological sciences, UTPL. He holds a doctorate in natural sciences from the University of Tuebingen (Germany). His investigations are related to plant-microbial interactions.

- **Sharifah Hapsah Syed Hasan Shahabudin** is an emeritus professor at the Universiti Kebangsaan of Malaysia (UKM) and currently advisor and member of the governing board of the Albukhary International University (AiU), Malaysia. Former vice-chancellor, she combined her social activist work for gender equality to strengthen community engagement projects in UKM. She promotes knowledge and technology transfer for wealth creation and social wellbeing by nurturing a culture of innovation and entrepreneurship in research, teaching and service. She is responsible for the quality assurance framework of higher education in Malaysia and is credited for developing the code of university good governance in public universities.

- **Alfred Tan** is an entrepreneur, an IP attorney, an engineer, a research scientist, an inventor and a university senior administrator all in one. He started his career in academia before embarking to successfully lead his own technology start-up. He then returned to academia to further his career as a well-published professor in engineer-

ing and technology, both in Hong Kong and Australia. Alfred Tan has a number of patents to his name. He is also a senior member of IEEE and a member of Engineers Australia. He is also a registered Australian trademarks attorney and an often-referenced patent consultant. He is also a certified patent valuation analyst and consults for venture capital firms.

- **Rajesh Tandon** is a doctor and internationally acclaimed leader and practitioner of participatory research and development. He founded the Society for Participatory Research in Asia (PRIA), a voluntary organization providing support to grassroots initiatives in South Asia, and continues to be chief functionary since 1982. In 2012, he was appointed co-chair of the UNESCO Chair on Community Based Research and Social Responsibility in Higher Education. The UNESCO Chair grows out of and supports UNESCO's global lead to play 'a key role in assisting countries to build knowledge societies'. Tandon has authored more than 100 articles, a dozen books and numerous training manuals on democratic governance, civic engagement, civil society, governance and management of NGOs, participatory research and people-centred development.

- **Nieves Tapia** is founder and director of the Latin American Center for Service-learning (CLAYSS), an NGO based in Buenos Aires. She organized and directed Argentina's Ministry of Education's first National Service-learning Programmes (1997-2010). Founding member of the board of the International Association for Research on Service-learning and Community Engagement (IARSLCE), she has served as a jury member for Argentina's Presidential Awards for service-learning and for the MacJannet International Prize for University Engagement. She has been honoured as Argentina's 'Youth of the Year' (1985), Eisenhower Fellow (1988), National Service Fellow (1993), and Alec Dickson Servant Leader Award

(2001). Tapia has published numerous books and articles in Spanish, English, Portuguese and Italian.

- **Crystal Tremblay** is a doctor and research associate with the Office of Community University Engagement at the University of Victoria and research director of the UNESCO Chair in Community-based Research and Social Responsibility in Higher Education. She is involved in numerous research projects in Canada and globally on issues relating to water governance, citizenship, livelihood enhancement, and institutional transformation. She specializes in using participatory arts-based methods for engagement that promote knowledge co-creation and democracy.

- **Stevie Upton** is a research associate in the City Region Exchange, Cardiff University, UK, where her research interests include the policy and practice of higher education impact and engagement. She has previously researched and taught in the Institute of Higher Education, University of Georgia, USA, and in 2012 was seconded to the UK's Arts and Humanities Research Council to advise on researcher engagement with policymakers.

- **Raúl Valdés** is a senior programme specialist at the UNESCO Institute for Lifelong Learning and programme manager of the UNESCO Global Network of Learning Cities. Raúl holds an MBA and a PhD in education. For over twelve years, he has been working in international organizations in the field of lifelong learning and adult learning and education. He has led various research and advocacy projects such as the *Conceptual Evolution and Policy Developments in Lifelong Learning* (editor, with J. Yang, 2011), and *Unlocking the Potential of Urban Communities. Case Studies of Twelve Learning Cities* (editor, with N. Longworth and others).

- **Josep M. Vilalta** is executive secretary of the Catalan Association of Public Universities (ACUP), formed by the eight public universities in Catalonia (Spain). He is also executive director of the Global University Network for Innovation (GUNi). He has over 25 years of experience in the public management area, holding some positions in the government of Catalonia, in universities and also collaborating actively with other countries and international institutions like the European Union, the OECD, UNESCO, European Association of Universities and International Association of Universities. His main areas are public policies, public management, higher education policies and research and innovation policies and management. He has published more than 60 articles, chapters of books, reports and books in the following areas: university leadership, management and public policies, organization, management and university funding, university policies and governance, research management and policy, knowledge management and innovation.

- **Shirley Walters** is an emeritus professor and former professor of adult and continuing education and founding director of both the Centre for Adult and Continuing Education and Division for Lifelong Learning, University of Western Cape. Her contributions to adult education internationally have been recognized through various awards. She has been appointed to serve on various national structures, including as chair of the South African Qualifications Authority. She is currently on the Ministerial Oversight Committee on Transformation in the South African Public Universities. She is coordinating research into traditions of popular education, which is supported by the National Institute of Humanities and Social Sciences.

- **Chang Da Wan** is a senior lecturer at the National Higher Education Research Institute (IPPTN), Universiti Sains Malaysia. His main interests in-

clude higher education policy and economics. He has been involved in a number of research and consultancy projects with UNESCO Bangkok ERI-Net, OECD, Commonwealth Tertiary Education Facility (CTEF), Asia Pacific Higher Education Research Partnership (APHERP) Research Cluster, Bait al-Amanah, and the Ministry of Higher Education Malaysia.

- **Joann Weeks** is associate director of the University of Pennsylvania's Netter Center for Community Partnerships, focusing on its regional, national and international programmes. She directs the national adaptation of the Netter Center's university-assisted community school programme, as well as its training and technical assistance activities.

- **Hans de Wit** is director of the Center for International Higher Education at Boston College, USA. He has a long career as a scholar and practitioner in the field of internationalization of higher education, advising the European Commission, the European Parliament, the World Bank and the European Consortium for Accreditation, among others. He has published several books, articles and commentaries on internationalization of higher education and he was the founding editor of the *Journal of Studies in International Education*.

- **David Wolff** is director of the Community University Partnership Programme at the University of Brighton and was the original member of staff when the programme was established in 2003. Prior to this, David worked in the community and voluntary sector in the fields of homelessness, advice and information services, project management and in the use of technology in community sectors. He has occupied roles as a service delivery worker, manager, director and consultant.

GUNi presentation

GUNi is an international network created in 1999 by UNESCO, the United Nations University (UNU) and the Universitat Politècnica de Catalunya – Barcelona Tech (UPC). It was founded after the 1998 World Conference on Higher Education to give continuity to and facilitate the implementation of its main decisions. Since 2014, the Catalan Association of Public Universities (ACUP) has hosts its secretariat and presidency.

GUNi currently gathers 208 members from 78 countries among the UNESCO chairs in higher education, higher education institutions, research centres and networks related to higher education and other UNESCO chairs and UNITWIN networks established within the UNESCO/UNITWIN programme involved in innovation and the social commitment of higher education.

GUNi has offices with regional representatives in Africa, the Arab states, Asia and the Pacific, Latin America and the Caribbean, Europe and North America.

GUNi's mission is to strengthen higher education's role in society, contributing to the renewal of the visions, missions and policies of the main issues of higher education across the world under a vision of public service, relevance and social responsibility.

At the beginning of this century, there is a strong need to establish new bases for a sustainable global society that, taking into account environmental limits, re-examine the dynamics of global economic, political, human, social and cultural models, as well as their local manifestations. We are currently experiencing a crisis of civilization, in which we must facilitate the transition towards a paradigm shift aimed at rebuilding society, with the collective desire and responsibility of attain-

ing a better world for future generations. There is a requirement to reconsider what the social contribution of higher education should be.

GUNi encourages higher education institutions to redefine their role, embrace this process of transformation and strengthen their critical stance within society.

GUNi's goals are to:

- » Encourage higher education institutions to reorient their roles to broaden their **social value and contribution** and strengthen their critical stance within society.
- » Help bridge the gap between developed and developing countries in the field of higher education, fostering **capacity-building** and **international cooperation**.
- » Promote the **exchange of resources**, innovative ideas and experiences in **emerging higher education issues**, while allowing for collective reflection and coproduction of knowledge on innovation, relevance and social responsibility.

GUNi carries out the following main activities:

- » **Higher Education in the World Report**

The report is a collective work published as part of the GUNi series on the social commitment of universities. It is the result of a global and regional analysis of higher education in the world, with a specific subject chosen for each edition. The report reflects on the key issues and challenges facing higher education and its institutions in the 21st century.

» **Conferences, Seminars and Workshops**

GUNi promotes international events on higher education that address innovative proposals and ideas. The events have a global projection focused on different issues, such as the social commitment of universities and education's commitment to sustainability.

» **Networking projects**

GUNi reinforces and expands its network by encouraging the dynamic involvement of a wide range of actors in higher education in its activities. It fosters cooperation between them and promotes debate and the creation and exchange of knowledge on higher education worldwide through both on-site and online activities. The website and the monthly newsletter are cornerstones of the accomplishment of this objective, along with GUNi's participation in different European projects funded in the framework of Horizon 2020.

» **International Summer School on Higher Education and Research Leadership**

In June, GUNi promotes a variety of activities in Barcelona. The aim of the International Summer School on Higher Education and Research Leadership is sharing the common factor of fostering the policies and management of higher education and research on an international scale. The International Summer School, promoted by the GUNi in partnership with different Catalan and international institutions, aims to become an annual meeting point for anyone with an interest in the world of higher education in its broadest sense: not just university institutions and their managerial boards, but also governments and public agencies, stakeholders and international institutions.

UNESCO'S INTRODUCTION

The role of Higher Education Institutions today

P. J. Wells

Chief, Higher Education, UNESCO

Perhaps never before in recent history has the role of higher education been so intricately tied to the economic, social and environmental fabric of the modern world. The demands from all stakeholders for quality, robust and diverse systems of higher education to take an active responsibility in addressing the challenges of the world's pressing issues is likewise unprecedented. This pressure for global engagement emanates from an equally diverse group of stakeholders: from policymakers, students, parents, academics, social and environmental groups, to lobbyists, inter-governmental, regional and national bodies.

As the world in which we live has become increasingly complex and the challenges we face become more interconnected, so has the need for harnessing collective responses to complex solutions – solutions that affect and connect us individually, nationally, regionally and globally. The seventeen Sustainable Development Goals (SDGs) adopted at the United Nations in New York in 2015 clearly set out an agenda to address these complexities. The enormity of the tasks ahead faced by all UN member states is unparalleled, with commitments to realize sustainability policies for human development, natural resource protection, peace and security, cultural and education resources. From safe drinking water, to universal healthcare, and reducing the effects of climate change, to establishing universal access to quality education, the demands are immense and all encompassing.

The need for higher education institutions (HEIs) to rise to these challenges through innovative study programmes and creative, collaborative research agendas is now paramount. The role of HEIs in developing the critical thinking needed in young minds and researchers to find solutions to the problems facing our world can no longer be undertaken in isolation, but must be approached in ways that cross both institutional and disciplinary boundaries as well as regional and international parameters. Scientific research addressing measures to reduce, for example, climate change needs to be accompanied by social science programmes that embed Corporate Social Responsibility (CSR) into entrepreneurialism education which can then cascade into responsible enterprise practices; global citizenship education must educate individuals to take personal responsibility for actions to reduce their impact on the planet's ecosystems and natural resources; teacher education programmes must equip the next generation(s) of educators to teach social responsibility to learners from an early age; and HEIs must provide the Continuing Professional Development (CPD) and lifelong-learning opportunities to up-skill and re-skill professionals – be they educators, policymakers, entrepreneurs or public sector workers – to take a collective stance to protect the world's resources and support global development issues.

Similarly, research aimed at eradicating endemic diseases that paralyse the world's poorest communities must be accompanied by education programmes that teach healthy lifestyles and safe practices for personal wellbeing; the world's tangible and intangible heritage can only be preserved by developing new conservation techniques accompanied by policies and practices that can ensure the sustainability of the world's most at-risk cultural markers. Higher education institutions, their programmes and researchers



are best placed to lead the world in the international pursuit of this aim.

The massification of and increasing access to higher education for previously under-represented groups has created a unique opportunity to tap into the creative and innovative solutions the world now needs. This more inclusive and diverse approach to addressing the critical issues of our time has created not only the potential for greater engagement with millions more would-be *agents of change*, but also a greater sense of a shared responsibility for the future world we want to live in and to leave for successive generations.

The globalization and internationalization of the university creates an unrivalled invitation for learners, scholars and researchers to pool their collective creativity, knowledge and experiences for change. The growing number of networks of higher education institutions and collaborative research projects has proven to be the cornerstone for accelerating the move from fact finding to solution building. This,

the sixth edition of *Higher Education in the World – Towards a Socially Responsible University – Balancing the global with the local*, is a timely reminder of the need for the higher education sector to not only engage in the traditional pillars of higher learning and research but to do so in a way that is both reflective of, and responsive to, the present realities of today’s world challenges as communicated in the Education 2030 Agenda and each of the seventeen SDGs.

As part of the growing family of UNESCO Chairs and the UNITWIN programme, the GUNi network is a testament to the power of collective thinking for realizing the future we need and the future we want. Now in its 17th year, UNESCO applauds the dedication and visionary leadership of the GUNi Network members in pioneering a new era of the *Glocal university*: that is, higher education institutions and systems that strive to address the demands of the local community within the context of an ever expanding global reality for the good of all humanity.

UNU'S INTRODUCTION

Harnessing Research for Social Responsibility

David M. Malone

Rector, United Nations University

United Nations Under-Secretary-General

The United Nations University's vision of promoting social responsibility in higher education, both locally and globally, is reflected in its three main functions which are to act as: (a) an interdisciplinary research institution that focuses on pressing global problems of human survival, development and welfare; (b) a think-tank tasked with translating research outputs into policy-relevant recommendations for the UN system and UN Member States; and, (c) a postgraduate training and capacity-development organization, with a particular focus on building capacities in developing countries.

For over forty years, the university has been committed to promoting the growth of vigorous academic and scientific communities in the Global North and South, often serving as a bridge between the two. While the 2030 Sustainable Development agenda will certainly help focus the efforts of governments on bringing about meaningful development outcomes, the success of those efforts will rely in large part on the willingness of governments and academic institutions to accept solutions emerging from a broader group of development thinkers. Increasingly, these thinkers hail from dynamic higher education institutions in the Global South.

Policy solutions that draw on developing thinking from the Global South are a hallmark of the United Nations University (UNU) and distinguish it from other actors in the field. As of 2015, just over 50 per cent of the university's research was

conducted primarily in developing countries. While this work is carried out by a global workforce, 42 per cent of UNU personnel are developing country nationals. In Ghana, the United Nations University Institute for Natural Resources in Africa (UNU-INRA) collaborates with the Africa Climate Policy Centre (ACPC) of the United Nations Economic Commission for Africa (UNECA) on studying how climate change will affect agriculture, trade and food security in the Economic Community of West African States (ECOWAS) region. In Mozambique, the United Nations University World Institute for Development Economics Research (UNU-WIDER) collaborates with the Ministry of Economics and Finance and the University Eduardo Mondlane in addressing development challenges. It has supported efforts to build local data collection and analysis capacities which will facilitate policymaking and eventually help monitor the country's progress towards the 2030 Sustainable Development Goals.

UNU's capacity-building programmes and other academic exchanges further stimulate and facilitate international academic cooperation and seek the broadest possible participation of young scholars, women and students from developing countries. More than half of the UNU's research projects undertaken in 2015 incorporated a capacity-development component.

These capacity-development activities extend beyond the provision of academic training courses. Through the concept of 'integrated capacity development', UNU has sought to make training an integral part of its research projects and policy studies. Indeed, in recent years, UNU has redoubled its efforts to connect young leaders from the Global South to policy-communities abroad so that they might exchange ideas with new scientific peers and policy leaders in their field, returning to their communities with enriched research experiences. This has been the case for young

scholars that have participated in the United Nations University International Courses held in Tokyo, Japan, but also through fellowship programmes such as that of the Iceland-based United Nations University Geothermal Programme, which boasts close to 121 former fellows from developing countries.

The university's promotion of social responsibility can also be glimpsed in its thematic orientation. Rather than pursuing the advancement of knowledge in independent disciplinary silos, UNU's network of research institutes and programmes set out to address specific social or development challenges. When these efforts come together, the results are notable. This is perhaps best exemplified in the area of migration, where the UNU Migration Network has brought together research expertise on migration in the inter-related areas of migration and development, migration and the environment, forced migration,

migration and culture, migration and health, as well as migration, governance and policy.

The United Nations University occupies a unique position in the constellation of higher education institutions – its mission and purpose are rooted in the very idea of social responsibility. Looking forward, the university will continue to strive to build more inclusive academic communities and serve as a vector between academic forums and policymaking ones, in the hope that these will serve as catalysts for innovative thinking on issues of global importance.

Catalan Association of Public Universities' Introduction

Sergi Bonet
GUNi President

The Global University Network for Innovation (GUNi) is an international network created in 1999 by UNESCO, the United Nations University (UNU) and the Universitat Politècnica de Catalunya-Barcelona Tech (UPC). The GUNi presidency and secretariat has been held by the Catalan Association of Public Universities (ACUP) since 2015.

GUNi was founded shortly after the first UNESCO World Conference on Higher Education (WCHE) and played a significant role in the second UNESCO World Conference on Higher Education, following its mandate for further reflection and action frameworks to facilitate the exchange of value between higher education and society.

GUNi's mission is to strengthen the role of higher education in society and contribute to a renewal of the visions, missions and policies of higher education across the world from the perspective of public service, relevance and social responsibility.

Higher Education in the World is a collective work published as part of the GUNi series on the social commitment of universities. It is the result of global and regional analysis, with a specific subject chosen for each edition. The report reflects on key issues and challenges that higher education faces in the twenty-first century.

The new edition analyses the dual responsibilities of universities at local and global levels. It explores the potential conflicts and intrinsic dif-

ferences in addressing both the local demands of society based on the race for global competitiveness, and local and global demands to contribute to a more equitable and sustainable society on all levels.

Universities have always been key institutions for social development. Today, in the context of an increasingly knowledge-based society and economy, their role is strengthened and extended: universities have become critical to the social, economic, cultural and technological development of societies. At the same time, they have become key institutions that can meet the global challenges facing humanity and the planet, which are described in the UN Sustainable Development Goals 2030. Through their main missions (training, scientific research, knowledge transfer and social commitment), universities at the start of the twenty-first century are dedicated to building more prosperous, fair societies with a greater emphasis on responsible, critical knowledge. It is from this perspective that GUNi shall continue to act, forming partnerships worldwide to promote reflection on higher education and the advancement of societies in a global context.

About the report

The Global University Network for Innovation presents the 6th Higher Education in the World (HEIW) Report, entitled 'Towards a Socially Responsible University: Balancing the Global with the Local' in an online fully open-access version, together with a synthesis in paper format.

For the first time, the HEIW Report offers fully open access. The five former editions presented 30% of the content in open access format, while access to the whole report was only available in the paid version. With this new format, GUNi aims to make the report content available for everybody, regardless of economic reach. Making the entire edition available for free online will allow everyone interested to consult it. It will become a useful tool for anyone interested in the interrelated topics of socially responsible universities and local and global demands and impact. First and foremost, GUNi's goals are to facilitate

the exchange of ideas, to feed debate and to disseminate expert insights into the chosen topic. Thus, GUNi is proud to be able to deliver, for the first time, the complete document in a fully open-access online edition.

Alongside this accomplishment, GUNi is publishing an HEIW 6 Report synthesis in paper edition. This edition comprises a selection of the authors' most relevant ideas included in the report. It is a concise introduction that highlights the main themes of the report and gives a broad overview of policies and how to improve them and the most important paths to follow in the near future. The synthesis is also a taste of the deeper and wider content available in the full report. Most of the material in this publication has been written specifically for this version. The synthesis is designed to be a tool for policymakers.

EDITORS' INTRODUCTION

Towards a Socially Responsible Higher Education Institution: Balancing the Global with the Local

Francesc Xavier Grau, Cristina Escrigas, John Goddard, Budd Hall, Ellen Hazelkorn and Rajesh Tandon

Introduction

Higher Education in the World is a collective work published as part of the GUNi Series on the social commitment of universities. The present document frames the 6th Higher Education in the World Report (HEIW6) around a comprehensive analysis of the global and local engagement of higher education institutions (HEIs).

Towards a Socially Responsible Higher Education Institution: Balancing the Global with the Local aims to analyse the dual responsibilities of universities at local and global level, exploring the potential conflicts, and intrinsic difficulties, in addressing both the local demands of society based on the race for global competitiveness and the local and global demands to contribute to a more equitable and sustainable society (at local and global levels).

Background

Clearly, the old economic model is breaking down. In too many places, growth has stalled. Jobs are lagging. Gaps are growing between rich and poor, and we see alarming scarcities of food, fuel and the natural resources on which civilization depends. [...] Slowly, we have come to realize that we have entered a new era. Some even call

it a new geological epoch, where human activity is fundamentally altering the Earth's dynamics.

We recognize that we cannot continue to burn and consume our way to prosperity. Yet we have not embraced the obvious solution – the only possible solution [...]: to set a new course towards a future that balances the economic, social and environmental dimensions of prosperity and human wellbeing.

To secure our world for future generations we need [...] a transformative agenda for change – to set in motion a conceptual revolution in how we think about creating dynamic yet sustainable growth for the 21st century.

Ban Ki-moon, former UN Secretary General, The New York Times, 2012.

All regions and countries can benefit from progress towards a knowledge-based economy, which does not depend heavily on material resources, places less of a burden on ecosystems and is more sustainable than other economic models. By shifting to a knowledge-based economy, societies can move from the age of scarcity to the age of abundance. Knowledge does not deplete with use but rather increases as it is shared among people. Through technological innovation, we can help usher in a more sustainable future.

To generate progress, countries must invest in education, science and technology. I hope that your Conference will explore ways to set the stage for leveraging the value of the knowledge-based economy to promote development in Saudi Arabia, across the region and around the world.

Ban Ki-moon, former UN Secretary General, Message to the Conference on the Knowledge-based Economy and its Role in National Development, Riyadh, Saudi Arabia, 24 April 2014.

These two statements come from the same high dignitary, the one with the highest level of global responsibilities, but one could find many similar sentiments expressed by government, business and community leaders from around the world. These declarations have been chosen to represent global and local approaches to the challenges of individual societies and the world at large. These two approaches are interconnected and synergistic; Ban Ki-moon is not sending contradictory messages. However, the resulting action, if driven from only one of these perspectives, could, in fact, lead to results that are at odds with the overall objectives.

HEIs can be identified as key players from both perspectives and, thus, **have the singular responsibility of helping to provide appropriate and adequate responses to both legitimate needs and interests:** i) to contribute to overcoming the global challenges of the world, which are very well summarized by the UN Sustainable Development Goals (SDGs), and ii) to contribute to the social, cultural and economic development and international competitiveness of their societies. This duality is the focus of the present report, HEIW6.

Institutions and higher education systems are exploring, somewhat cautiously, the concepts of global and local, of impact and engagement, of social innovation and responsible research and innovation. **This reaction arises from different interpretations of what is being asked of higher education, as well as diverse understandings about the ways in which HEIs can and should respond to the changed environment. Context is important, as differences arise about what the concepts mean and their implications.**

For instance, a group of top-ranked universities, sometimes called **'world-class' universities, have attempted to define 'The Ten Character-**

istics of Contemporary Research Universities'. The Hefei statement (October 2013) was drafted by the American Association of Universities (AAU), the European League of Research Universities (LERU), the Group of Eight and Chinese 9 Universities, drawing on their own experience and position in the global rankings. Other highly ranked universities gathered together in Vienna to identify themselves as 'global universities', concerned about their regional impact.

At the same time, other **HEI associations and networks around the globe have taken up this theme, but in a more inclusive way**, organizing seminars, conferences and campaigns, for example: on the Post-2015 Agenda and the role of universities (The Association of Commonwealth Universities 2014 campaign – The world beyond 2015: is higher education ready?); on social innovation (International Association of Universities 6th Global Meeting of Associations, Montreal, May 2015 – Social innovation: challenges and perspectives for higher education); on the civic roles and social responsibilities of higher education (GUNi2013 Conference: 'Let's build transformative knowledge to drive social change', or 2014 Talloires Network Leaders Conference, and the subsequent Call to Action); on regional engagement and doctoral education (European Association of Universities, Council for Doctoral Education Workshop, January 2015); and on regional competitiveness and the role of European universities (international seminar organized by ACUP-GUNi in Barcelona).

Responding to these different developments, **HEIW6 discusses these tensions, and re-interrogates the characteristics of the contemporary HEI.** What accounts for the changing role of the university, the increasing demands on and for higher education, and the processes of massification and globalization? To what extent is the

experience of so-called world-class universities casting a shadow internationally on higher education, with positive and perverse implications? To what extent are the demands that higher education acts as the engine of the economy and of social change also reshaping higher education? How are these different aspects reconciled, and/or are they resolvable?

Finding sustainable solutions to the problems of health and demographic change, food security, secure and clean water, green and efficient energy sources, climate change, and inclusive and secure communities requires the active participation of everyone. Global societal challenges have both a local and a global dimension. Although they have had a strong impact in the so-called Global South, global challenges have also had local impact, even in developed countries. Yet it is developed countries that have mostly caused the current impacts on the environment. Moreover, the transition and sustainability of the green economy is a collective matter, based on new perceptions and practices of production and consumption worldwide. **This is the meaning of globality, where global forces and trends are reflected in local realities, and local activity conforms to a global interconnected picture that affects the entire world.** The nature of **globalization** is a confluence of economic, ecological, cultural and social forces that manifest themselves differently in different localities. Every HEI, as with all other institutions, exists both in locally specific cultural, political and organizational contexts and is simultaneously affected by global forces. **This impact and growing global consciousness gives rise to a consistent demand for a balanced approach to engagement with the world outside of higher education that is both locally relevant and globally responsive.** The dilemma for HEIs is to find a balance between, on the one hand, local realities and aspirations understood within a global context and

calling for a different role for HEIs, and on the other, the strong demands that come from political and economic actors seeking to increase their own regional/national global competitiveness.

Thus, the main premise for HEIW6 can be broken down into **three main elements**.

First, there is a need to find **a balance in the context of a renewed social contract between HEIs and their respective societies, taking into account the dual nature of local and global engagement**, and the balance across short-, medium- and longer-term impacts and benefits. While higher education has multiple roles in society (e.g. educating people, producing codified knowledge, problem-solving and providing public space), its greatest contribution is ‘replenishing the intellectual pool every year with new graduate students’.¹

Second, HEIs are a space of multiple and sometimes conflicting demands from the broader community and civil society, from political jurisdictions and policymakers, from students, from academic staff and from market interests. As a sector, **higher education faces the challenge of establishing a renewed and revitalized strategic framework, taking into account this diversity within the context of the global public good as defined by the UN.** In fact, globalization has strongly emphasized the strategic positioning of HEIs to enhance the competitiveness of nations and regions, an objective that leads to direct pressure from many universities’ stakeholders, while global responsibility is raised only lightly in international forums and global institutions, such as the UN and its institutions, which have little direct influence.

¹ Gordon Moore, Chairman Emeritus, Intel

The third component of the premise is that **the natural focus of action of HEIs in response to local demands – to contribute to the competitiveness strategy of nations/regions – can lead to a winners-and-losers scenario (zero-sum competitive game), with the possibility of a somewhat negative impact on global issues.** HEIs with a clear vision of their local and global engagement can make this potential conflict explicit and work with external partners to seek to resolve it. The way forward will be found through an integrated vision of the future of all humanity, both locally and elsewhere, and not limiting engagement to contributions to economic growth as the major goal of HEIs.

Under these propositions, HEIW6 explores tensions and experiences, challenges and opportunities, limitations and restrictions, and analyses the key elements that enable HEIs to adequately fulfil their local and global public good responsibilities. This involves the identification of relatively independent principal components (decomposition of the issue into a set of themes), and their analysis from complementary global and local perspectives by more than 30 experts from around the world. This complementarity and search for compatibility constitutes one of the main characteristics of HEIW6. In their contributions, the experts also bring a corresponding set of good practices that help to establish the final HEIW6 recommendations.

HEIW6 focuses on **providing practical examples of structures and processes** so that higher education leaders and the wider academy, policymakers and decision-takers, and societal stakeholders will support a process of organizational development in a manner that enables HEIs to better respond to the various challenges and expectations relating to this dual level of engagement from a policy and institutional perspective. **The final objective is to provide a**

comprehensive analysis of the characteristics of this global and local engagement, and to produce a set of recommendations to strengthen the contribution of HEIs and systems to both local and global demands and requirements. To do so, the duality has been decomposed and analysed from different perspectives and by different actors, to identify the challenges to be overcome and the mechanisms by which this can be achieved.

The specific aims of HEIW6 are:

- a) To explore the **potential conflict, or intrinsic challenges, both in addressing** societal demands based on **the race for global competitiveness** and in contributing to a more equitable and sustainable society at local and global level;
- b) To analyse the dual responsibilities of HEIs at local and global level and how to serve and deal with both at the same time.

Moreover, it:

- c) Reflects on how *glocal* engagement should be included in **teaching, learning, research and institutional activities, governance and leadership**;
- d) Describes and analyses **the current concept** of university **social engagement and social responsibility** at both levels – global and regional;
- e) Identifies **how the different social actors are involved** in *glocal* engagement practices, and how they interact with HEIs;
- f) Illustrates how HEIs have linked with society at local and global levels, identifying and **presenting the different experi-**

ences, mechanisms and structures, and best practices on *glocal* engagement from around the world;

- g) **Provides recommendations** on how HEIs and systems could successfully sustain this dual level of engagement in practice;
- h) **Proposes steps for advancing the contribution** of higher education to achieve effective and compatible local and global engagement, helping to advance societies and building a more just, equitable and sustainable society.

The report is structured into ten chapters, which are described below. Each of these chapters has involved the participation of at least two experts, who have analysed the corresponding topic, identified good practices and made recommendations addressed to policymakers, academic leaders and academia. Each of the articles from the experts is independent and stands on its own, offering a rich panorama of analysis, conclusions and recommendations. The reader is invited to go to these original articles for a deeper analysis of each of the topics.

THE ORGANIZATION OF HEIW6

World Context and Implications for Higher Education Systems and Institutions

The world and all of its societies are subject to a process of continuous change and have evolved and transformed very quickly in the past few decades into a globalized arena. HEIs and systems are facing one of the most exciting times, since globalization implies the possibility of taking advantage of significant opportunities. Nevertheless, globalization also brings challenges for the

future. For instance, there is the challenge of how to serve the common good, in an era when what is 'common' and what is 'good' are difficult to define (Escrigas, 2008).

Debates about challenges in higher education are mostly related to internationalization, access, technologies, autonomy and governance, quality and recognition, funding, new providers and diversification of institutions (in terms of their nature and the forms of provision), among others. In this context, **social responsibility** emerges as the need to reconsider the social relevance of universities in light of the encounter of the local with the global, regarding priorities, demands, impacts and knowledge needs in the context of globalization. The competitiveness of nations – as the only way to achieve progress – should be balanced with inclusive social development and sustainability of the entire global population. Given the criticality of knowledge-intensive economic growth, globalization has been a driving force, but so has the national pursuit for a greater share of the global market. **Higher education plays a key role in shaping national competitiveness.** Today, it is one of the most internationalized sectors.

At the same time, there is an emerging demand regarding the role of knowledge, education and research in overcoming pressing global problems. Despite the fact that these problems are rarely explicit in the urgent daily demands faced by HEIs, they are gaining space as societies and their leaders become aware of the local impact of such global issues as sustainability, climate change and poverty (which affect the Global South more, but which have an increasing impact in the North).

The adoption of the Post-2015 Agenda will generate many new demands that can only be met through cooperative and concerted efforts requiring the commitment and actions of a wide array of local and global actors. In his synthesis

report on the Post-2015 Agenda, UN Secretary General Ban Ki-moon explicitly mentions the following needs: new sources and modes of financing, progress indicators and measures, sensitivity to both local circumstances and global targets, an authentic revolution in data, and the mobilization of technology, science and innovation (including a proposed global 'Technology Bank' and capacity-building mechanisms). **HEIs are explicitly called on to play a role in this context, mainly through teaching and research.** What role are HEIs and systems playing in the local and global spheres? Are these roles balanced and/or compatible? Is it possible to serve different levels of global and local needs, given the current structures and institutional dynamics? What are the implications of *glocality* for teaching/learning and research? Are HEIs aware of the various impacts that their activities generate at different levels? Are HEIs and their communities aware of the UN Global Agenda and its priorities for the near future? Are they aware of how this Global Agenda would require changes in current roles and institutional dynamics? Is there anything HEIs could do in this regard?

1. Changing the Role of Higher Education Institutions in the Light of Globalization; Trends and Challenges

The role of HEIs in today's world is vast, complex and vital. In contemporary complex societies a wide range of challenges and possibilities are emerging with political, economic and social implications.

The role of HEIs has been seen to change over time, from preservers of culturally revered forms of knowledge, through producers of skilled labour associated with a workforce-planning approach, to a more recent perception as agents of social change and development.

As centres of training and the production as well as transmission of knowledge, HEIs are **well positioned to link the local and the global**, as well as business and government. This should give institutions considerable access to, and influence over, change processes in many societies, and may enhance their potential to contribute to social transformation. They are therefore called on to play a **fundamental role in building society**.

What we call society can apply more broadly to a sense of communal responsibility at a local, regional and global level. Today, local needs require local proposals in global frameworks, and global challenges require local solutions that have to be locally acceptable. However, global solutions can come from local levels, and vice versa.

This approach implies redefining multiple and simultaneous spaces that could all be called 'community' at multiple levels. This is especially relevant for HEIs, irrespective of where they are located. We must assume that these diverse levels of communities are interdependent and that no real and sustainable solutions to pressing problems will be reached if we do not work on them all simultaneously. **Redefining the role of knowledge distribution and creation in this framework is crucial for achieving higher levels of wellbeing worldwide.**

2. Reframing the Curriculum for the 21st Century

In this global era, being prepared as a citizen who will interact with society through a professional activity implies a complex vision of reality that demands inter- and trans-disciplinary education. It also implies the need for content, skills and values, such as sustainable development as a collective social process to be learned; a need for common recognition and understanding of, and

respect for, different cultures to promote intercultural relationships and support diversity; and a **comprehension of global and local dynamics and the ability to interact with them simultaneously in any professional activity.**

New approaches to learning based on dialogical, co-learning, participatory and problem-oriented methods are probably required to support these new pedagogical achievements. Disciplinary studies that fail to make connections or links with real-world and real-time challenges and problems appear unlikely to support useful learning in the future. New, **critical and reflexive learning systems need to be designed to meet the challenges of the new modernity. Learning by doing** is now seen as a vital tool for understanding sustainability, among other emerging concepts.

Higher education is responsible for training professionals such as engineers, doctors and architects, in the course of their careers, to attain positions of great responsibility and power in society. **The decisions of professionals trained in universities can make a decisive contribution to the way societies develop.** This decision-making can take place through approaches that can be more or less constructive for the global progress of humankind and societies, in both developed and developing countries. **Higher education, therefore, plays a decisive and fundamental role in terms of teaching the content, values and skills it incorporates.**

It is appropriate to encourage a model that educates global citizens – builders of inclusive, just and fair social systems, with ethical criteria – to enable them to understand reality from a holistic perspective and prepare to act with patterns of trust and collaboration. Higher education should prepare students to gain a critical consciousness of the world they inhabit, and help them to bet-

ter anticipate, articulate and animate alternative processes to build better societies.

It is important **to adopt a knowledge-democracy framework**, including drawing on previously excluded knowledge from other sectors, sources and backgrounds. It is also important to **explore engaged teaching that emphasizes both experiential learning at the local and international levels** and a dramatic broadening of the base of theoretical materials, **taking into account intellectual contributions from the entire globe.**

Internationalization is probably one of the strongest drivers of change in relation to the curriculum, along with employability issues. **There is also an increasing demand** for higher education, primarily in developing countries, and a parallel demand **for talent everywhere, especially in developed countries.**

Nowadays, curricula respond mainly to the need for **specialization**, but this **can and must be compatible with the education of global citizens**, who are being educated at the highest level and who thus have the highest responsibility towards society. Ways have to be found in which super-specialization – the expansion of knowledge that is required today – can coexist in the curriculum with content relating to global citizenship.

Through curricula, higher education should go beyond educating professionals, to educate citizens in ethical awareness and civic commitment, citizens who know how to contribute to the common good through their professional practice. It is educating for *glocality*, sustainability, democracy, citizenship, intercultural relations, peace building and a deep understanding of social, human and life dynamics.

3. Global Knowledge and Responsible Research

The existence of globally and locally engaged HEIs could imply changes in research activity, both in terms of **the content and purposes and in terms of the ways in which the research itself is performed.**

At the local level, current demands create pressure for economic growth and socioeconomic development at country and regional level. In the global sphere, there is a call for HEIs to engage with the generation of knowledge related to the pressing global issues described in the SDGs.

The changing role of HEIs is reflected in the re-orientation and (changing) purpose of research. There has been a shift towards research focused on business innovation, and the subsequent adoption of principles of **responsible research and innovation (RRI) by the European Union that seek to strengthen community research partnership approaches, structures, methods and more. This is both a response to and a driver of change in the research process and practice towards more open models of innovation.**

In November 2014, at an international conference on ‘Science, Innovation and Society, Achieving Responsible Research and Innovation’, the Rome Declaration on Responsible Research and Innovation (RRI) in Europe defined RRI as **‘the ongoing process of aligning research and innovation to the values, needs and expectations of society’.** It also stated that ‘RRI requires that all stakeholders including civil society are responsive to each other and take shared responsibility for the processes and outcomes of research and innovation’.

Moreover, **public investment in science requires a vast social and political constituency** sharing the values of science, educated and engaged in its processes, and able to recognize its contributions to knowledge, to society and to economic progress. Responses to local and regional research needs have gained most of the attention in recent decades. Correspondingly, in the past few decades **HEIs worldwide have designed structures to foster mostly local research demands,** in a process of growing engagement with the local and national productive sector.

However, **the need to engage research on pressing global issues is also growing.** Linking research agendas to **collective challenges such as climate change and sustainability could have a great impact on the shared future and,** at the same time, **make evident connections between academic activity and the big societal needs.** Another challenge for HEIs is to provide other social actors with access to research. Participative action research and ‘Science Shop’ experiences in universities worldwide could be one direction to follow, along with interdisciplinary research, participatory research, action research and collaborative research initiatives.

Several **global initiatives and the emergence of international research networks** (for example, The Science and Technology Alliance for Global Sustainability and ‘Future Earth’) **make possible interdisciplinary research consortiums** to co-create knowledge to help overcome these large, pressing problems. At the same time, **a more interdisciplinary approach to social problems is emerging at the city level, where it is difficult to separate the economic and social spheres.**

4. Institutional Governance, Organization and Management

No matter how diverse HEIs from around the world are, they share common elements: they all have faculty and staff who play a central role, they all have students, and they all have a network of community, political and societal and economic partners. Governance models differ significantly from jurisdiction to jurisdiction. In some cases faculty is a key driver, while in other systems, the balance between internal and external accountabilities differs. **In all cases, faculty is the real asset of a university.** Students are another important voice; since the Prague Communiqué in 2001, as part of the evolution of the European Higher Education Area (EHEA), 'students are [considered] full members of the academic community'. Thus, whatever strategic vision and mission the institution adopts, it should involve and be developed by its faculty and students. **So, behind it there is essentially a governance and management issue: how faculty assumes, shares and, finally 'owns' its institutional mission.**

If HEIs and systems have to play a transformative role for society in changing times, they must be able to transform themselves first. **Adapting and creating appropriate structures, procedures, recognition systems and governance at all levels is key for addressing new challenges.** As mentioned in the background section, **there are challenges for HEIs, especially in the way in which they are organized,** which can lead to miscommunication within the institution and to conflicting agendas and priorities.

Institutions in a world in transition **need governance mechanisms for an effective shared mission that** takes into account how to serve both local and global needs and demands, through real engagement at all levels. **This contribution is related to, and should address the need for, an ex-**

PLICIT shared strategy: shared goals in relation to serving society, and the mechanisms, structures and financing that would be needed to achieve them under real conditions, including embedding engagement with society into teaching and research, rather than treating it as a third and, by definition, inferior mission.

Inclusion of external stakeholders is increasingly essential in the governance of any public institution, including HEIs. **Thus, this analysis should include a focus on multi-stakeholder relations and skilful navigation through competing expectations and demands. The contributions to HEIW6, therefore, introduce case studies from institutions that are already leading the way.**

What is the role of leadership and management? **Are there organizational and structural issues to help develop locally/globally engaged institutions?** How can this institutional engagement be made compatible with the preservation and assurance of **academic freedom?**

5. Glocal Higher Education Institutions' Engagement and Ethical Implications

Higher education can be focused on training professionals as valued neutral technicians or on educating citizens capable of using their professional skills for the benefit of all society. To move from the former approach to the latter requires a deep sense of citizenship as an active way to contribute to a wide range of collective goals. The need for change is reflected in the Communiqué of the 2009 UNESCO World Conference on Higher Education (UNESCO, 2009):

Higher education institutions [...] should increase their interdisciplinary focus and promote critical thinking and active citizenship. This would contribute to sustainable development, peace, wellbeing and

the realization of human rights [...] Higher education must not only give solid skills for the present and future world but must also contribute to the education of ethical citizens committed to the construction of peace, the defence of human rights and the values of democracy.

Can every institution be a force for social, cultural and economic development and revitalization? **Even in cases where an entire HEI is unable to focus on the public good, individual researchers, instructors and directors of research institutes can make an impact.** Universities should be institutions for the public good, spaces for learning and re-affirming ethics in life and work. Professional education requires learning and practice of ethics. What are the challenges and limitations? What are the keys to success? What is the role of leadership? What is the need for organizational change? In being a driver of economic growth, are there contradictions or conflicts with higher education's role as a purveyor of knowledge for pressing global problems? To what extent does this role constitute the progressive penetration of the 'market' into fields of inquiry (as Slaughter says, 'academic capitalism') and the undermining of knowledge as a 'public good'?

As already highlighted in **HEIW5**, there is a tacit agreement on what it is relevant to do and to know in order to live, develop and prosper in contemporary societies. Looking at reality, it is relevant to ask: what knowledge do we emphasize in our education systems as the most useful, and useful for what purpose? Are we preparing people to understand and to live in contemporary society? **Are we preparing people who are able to use their professional practice to actively participate in the positive transformation of our societies?** What ethics and values do we transmit in the current educational processes?

To imagine a different world, we need to consider what knowledge is needed and generated, for what kind of society. **Transformative and democratic approaches to knowledge democracy include this analysis of epistemology.** We need to go deeper into the ways in which ethics and values should be addressed, recognizing their inherent existence and questioning the idea of an absolute truth, dealing openly with complexity and uncertainty.

Other ethical questions have to focus on the analysis of the implications of the advance of knowledge. On a global scale, **only a small percentage of all of the resources invested in science and technology is allocated to the analysis of its ethical, environmental and social implications.** A first step is recognizing that science, technology and education are topics of research that require urgent attention, in order to close the gap between scientific production of knowledge and reflections on the impacts of this production (Jassanoff, 2008).

As Jassanoff (2008) points out, technologies clearly incorporate design choices that reflect prior cultural assumptions about what it is desirable or possible to achieve in society. To meet the challenges head on, **universities will need to develop a fuller, more historically informed sense of their own institutional missions**, not only as incubators for the production of new scientific knowledge and technological know-how, but also **as sites of capacity building for social analysis, critical reflection and democratic citizenship.**

Proposing **individual and collective responsibility in professional decision-making within new global ethical paradigms is a subject on which to reflect.** The ethical dimension must be introduced into all disciplines as something inherent to the use of knowledge. **This requires that the use of knowledge and the impacts of that knowledge are not separated.** Higher education sys-

tems are mostly focused on the academic content of a disciplinary approach. **Little relevance has been given to the impact of the fragmented comprehension of reality that is inherent in our education system.** Today we know that reality is complex, that any phenomenon, problem or situation we live with or create is multi-dimensional. However, we are educating people outside of this understanding, predominantly looking at the profit capacity of their studies.

Another key issue on which to reflect is that globalization imposes a damaging cultural uniformity. The cultivation and dissemination of individual identities and values must be closely linked to the local, regional and national community, in order to prepare citizens who can commit themselves to the world's problems and who can appreciate and value cultural diversity as a source of enrichment and world heritage.

Regarding the local and global dilemma, according to Delors (1996), 'people need gradually to **become world citizens without losing their roots and while continuing to play an active part in the life of their nation and their local community**'. **A key dynamic for higher education is the integration of the local and the global in which we are all present.** Globalization challenges the current world structures and brings a post-cosmopolitan citizenship (Dobson and Bell, 2006) equipped with a social consciousness (Goldberg, 2009), which will act and participate with its agency, and together with other people, social stakeholders and organizations, in the construction of a new world order by developing partnerships for solving problems and creating things for the appropriate scales and communities.

6. Incentivizing Institutions, Faculty and Students

Adequate governance without adequate recognition systems and structures could fail in its achievements if the shared institutional mission and vision implies changes in current internal dynamics and accepted routines. Recognition systems and structures that are not linked to a shared strategy and goals could fail to guarantee the expected results in terms of social impact. Nevertheless, **academic pressures drive academic behaviour.** There is a huge amount of literature about the **academic** profession, and the **academy is not an innocent victim, but an active part both in driving changes and in opposing them.** Academic tribes create their own rules of engagement that are not necessarily in harmony with the *glocal* vision.

It has to be recognized that the current selection processes, career promotion, etc., emphasize a particular aspect of the activity of faculty: that of disciplinary research. Without diminishing the importance of disciplinary research in defining the impact of a particular academic, it is important to identify **the mechanisms that encourage engaged scholarship, and make it possible for academic activity to have social impact, both locally and globally.** Likewise, the curriculum should support and facilitate a philosophy that embeds active engagement as a core principle in learning and research. These mechanisms underpin a distinct institutional mission, strategy and system that allow flexible, multiple ways for individual academics and students to embed social responsibility, in addition to teaching and research activity.

Furthermore, in this report **the concept of engagement is understood beyond the limited understandings of a third mission,** an outreach mandate, a public engagement function, or an academic enterprise, towards an 'engaged' or 'civic'

university, **where the previously separate functions of teaching, research and engagement are transformed in a space capable of innovation**, of co-creation of knowledge, of visibility for alternative ways of living, of the development of a deeper trans-disciplinary comprehension of reality and its dynamics, and of support for an inclusive form of active citizenship at both the local and global level (HEIW5, 2014).

This new comprehension of the way that teaching, learning and research could be developed, with in a mature view of the concept of engagement, must **integrate changes in internal organization, structures, dynamics, incentives and recognition systems that allow academia to advance new ways of developing its core academic mission**.

On the other hand, **these transformations imply the complicity and probably the full involvement of local, national and supranational structures of higher education governance and policy bodies**. Likewise, **policies to support these changes are already emerging** within the academic world in terms of how to recognize excellence in community-based research (CBR), and engaged scholarship is advancing. As examples, the Community Campus Partnerships for Health network, operating in both the USA and Canada, has produced a kit that offers support for academics wishing to provide evidence of the quality of their CBR when going forward for merit reviews or promotion. The Research Assessment Exercise in the UK now requires scholars to document the 'impact' of their research, with the result that innovative practice on how to do that is emerging. New journals, many of them open access, are emerging within the field of community-university engaged scholarship, and we see this expanding dramatically as the years go by. The **National Co-ordinating Committee for Public Engagement in the UK is a good example** of a national structure that is raising these matters effectively at a national level.

Recent years have seen the emergence of concepts such as engaged scholarship (Boyer, 1990), the engaged university (Watson et al., 2011), Community Based Research (Strand et al., 2003a, 2003b), community-university research partnerships (Hall et al., 2011), public engagement in higher education (NCCPE, 2010), and others. All are related to new considerations of the creation and use of knowledge in society, broadening the idea of its social impact (HEIW5).

Engagement with society necessarily entails struggles for change and transformation altering the current dynamics, structures and power relations. The challenge for HEIs is **how to support community-university engagement** to ensure a positive internal response for faculty and students.

New approaches to knowledge mobilization and transfer are needed between institutions and their communities at local and global levels. **Greater coordination is desirable between governments, civil society, educative institutions and the private sector in order to achieve this transformation** (HEIW5). Furthermore, these alliances and partnerships have to be forged with the constellation of social actors, for teaching and research activities, and also linked with technological and social innovation. **This represents a new range of relations at diverse levels, involving diverse actors and for diverse types of intervention**, to better answer current challenges in the creation and dissemination of knowledge. To incentivize and support such initiatives, **HEIs should establish specific structures and mechanisms under new rules**. As has been done in the recent past to foster enterprise engagement, **the challenge now is to design interfaces that are multi-faceted in their composition, scope and functions**.

7. Mutual Learning and Empowering Support: the Role of Networks in Achieving Glocal Engagement

Organizations such as ACUP, GUNi, UNESCO Chairs and Talloires, and national networks such as NCCPE and Community-Based Research Canada, etc., provide support and communications networks to accelerate the pace of change in the engaged higher education sector. Over 5,000 universities in over 100 countries are represented through the existing networks. **How can these networks share, facilitate and mutually support a shared vision of their role with singular and specific manifestations worldwide?** Is this approach an effective one for moving forward changes in HEIs and systems?

As stated in the previous GUNi Report, numerous national, regional, sectorial and global networks have emerged over recent years with an overall objective of building the movement of community-university engagement for the purpose of being better able to contribute to meeting the critical issues of our times. **These networks have several goals: building the institutional capacity for engagement, building capacity among community groups, developing knowledge systems, policy development and advocacy, and providing opportunities for collaboration.** The constellation of community-university engagement networks provides a kind of circulation system for ideas, good practices, policy language and simply inspiration. However, the coverage of networks is uneven, in terms of both global distribution and sectorial focus (HEIW5, 2014).

Global, regional and national networks are well positioned to facilitate conversations on several key issues, as *glocal* engagement of HEIs takes place. Furthermore, it is a moment for broad collaboration among key players. **How, then, can the existing and related networks collaborate and**

pursue common actions? Is this an opportunity to advance? Under which conditions and rules? Are transnational and North-South interchanges interesting in this regard? Which recommendations can be made to these networks to help them to better play their role? Are these common issues to be proposed, or are they specific and not generalizable?

Furthermore, networking could be established among diverse social actors to facilitate a renewed view of the local and global engagement role of HEIs. Several emerging initiatives, such as the European Commission's sponsorship of networks supporting RRI, are examples. National research councils, ministries of higher education, municipal and state or provincial governments, civil society, non-governmental organizations (NGOs), business and industry **are all called on to work together in this approach. Do these partnerships have to be local, or can they even be mixed among local and global approaches and realities?**

8. Impacts, Multi-faceted Accountabilities and Measurements

HEIs foster transformations in the local and the global community, and often these changes imply **relevant social impacts at different levels that could and should be measured to gain a better understanding of the changing social role of HEIs** in the new global system. In that sense, identifying and measuring the social impacts of universities allows more to be known about the real role of HEIs worldwide. In order to better understand this interchange of value, as well as the nature of commitment with both global and local challenges, **it is worth making progress with the identification of indicators and measurement systems of HEIs' global activity impact.**

Quality assessment in higher education is a well-established field. In addition, **accreditation and ranking systems are well-known and are applied all around the globe** to specify the quality and the relevance of HEIs. Nevertheless, it is not easy to evaluate higher education's impact in terms of the deep and transformative results that these institutions provide to society. **HEIs' activity implies multiple, diverse and simultaneous interactions that produce impacts in society that are not always immediate.** That is why there has been a preference for measuring the processes and key quantitative variables as a way of approaching impact on society. On the other hand, economic impact and outputs of research activity have traditionally been easy to measure, and are also used as proxies for the impact of HEIs.

However, **impact is today defined under a systemic approach that goes beyond the univariate assessment of indicators.** Moreover, HEIs do not have impact only on their own, especially on social issues, and many interesting works on **collective impact approaches** have recently emerged. These approaches search for the commitment of a group of **key actors from different sectors to a common agenda for solving a specific social problem.** This is aligned with the community-university engagement practices that HEIs are called on to develop for local or global demands.

9. Resourcing the Change Process, Making a Difference

It was no accident that the 1st GUNi Report, 'Higher Education in the World 2006: The financing of universities', was dedicated to investigating the resources devoted to higher education. There is a huge amount of literature concerning the funding of universities and, as part of this, HEIW 2006 provides a worldwide panorama. However, the situation is somewhat different today. After the global economic and financial crisis, many na-

tions have faced complex financial circumstances that affect all public services, particularly higher education and research.

The decision on priorities and on the allocation of resources, which are always scarce, constitutes the final message and evidence of any policy. To undertake any new policy there is a need to allocate or reallocate resources, regardless of their relative availability. But the economic implications of new change processes are particularly difficult for HEIs in developing countries, which lack internal resources, even sometimes those required to develop national objectives for higher education.

The process of renewal and/or development of HEIs requires more than motivation and competence. It requires basic and even specific resources that allow the change process to be initiated. It entails giving time to senior leadership to work on the renewal process and lead it from the front. It also necessitates that the process of renewal is adequately resourced in order for effective changes to happen.

Hence, innovative and creative ways of mobilizing resources for renewal have to be found. This section of HEIW6 addresses the problems of finding such resources, especially in developing countries. The competition among HEIs for public and private resources can affect their autonomy. This may also be the case for individual professors and their academic freedom. Are resources devoted to increasingly expensive research activities competing with resources devoted to the teaching mission? Economic resources are essential, but are nothing without human capital. How can the process of brain-drain taking place around the world be dealt with?

Conclusion

Like many other organizations today, universities are under intense pressure. Many focus merely on survival, and attempt to respond to the massive increase in demand, the decreasing role of the state and the increasing role of the market, the diversification of providers, the multiplicity of funding sources, the challenges of internationalization and cross-border education, the need to internalize processes of quality assurance and how these processes are related to accreditation processes, the emergence of rankings and their effect on public policies, and so on. This may explain why universities are not as involved as they should be in facing global issues.

The only possible approach is to be fully engaged. Universities need to be key institutions at the regional level. They must seek to contribute to

the development of immediate society through teaching, research and knowledge transfer, and involve themselves in establishing regional strategy in conjunction with local authorities, social agents and civic representatives. But they must also aspire to be globally engaged institutions that educate open-minded, critical and aware citizens, and whose research activity helps to define global lines of action leading to a fair and sustainable world. Everything they do matters!

This is precisely what the 6th GUNi Report on Higher Education in the World deals with: the mechanisms that enable universities to have local impact and, simultaneously, to play the leading role in global issues that the global society needs and expects.

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A blurred, black and white photograph of a classroom with rows of desks and students, serving as the background for the page.

PART I **THE CONTEXT**

1.

World Context and Implications for Higher Education Systems and Institutions

1.1. Globalization, Trends and Drivers of Change

Federico Mayor Zaragoza

Abstract

For the first time in history, thanks to digital technology, human beings are able to express themselves freely and participate: from passive spectators to actors. They know what is happening on planet Earth as a whole, and are thus becoming world citizens. And, above all, women, the cornerstone of the new era, are able to progressively take part in the decision-making process.

In this context, universities will not only efficiently contribute to being, to knowing, to doing, to living all together and to undertaking, but they will also be at the forefront of the general mobilization needed to pave the way for the transition from a culture of force to a culture of word. In order to develop exclusively human capacities (thinking, imagining, discovering, anticipating, innovating, etc.) the philosophical, humanist and artistic dimensions of higher education are crucial, while always bearing in mind the need for a dignified life (food, water, health) and sustainable development for all.

To face the main challenges of our times – social inequality, extreme poverty, environmental deterioration, immigration, global citizenship – and make the transition from a culture of war to a culture of peace feasible, the world needs higher education of excellence that makes human beings free and responsible in order to reverse present trends. This article points out the main characteristics of globalization and the drivers of change that will have a global impact on society and higher education in the years to come.

Introductory remarks: the future is to be invented

Each human being is unique and capable of creativity. This is the great hope for humanity. Until recently, individuals were seen merely as specks in the trajectory of a mankind dominated by absolute masculine power, in which people were invisible, anonymous, silent, fearful, submissive... But now, for the first time in history, humankind has a global conscience, is able to contemplate planet Earth as a whole, in all of its dimensions, and has realized that the future is yet to be written.

Confined both territorially and intellectually, the world's inhabitants have always lived and died in extremely limited spaces. And they have lived in fear, without referents, without the capacity for comparison.

The first phrase in the UN Charter, written in 1945, was extremely lucid in articulating, then and today, the synthesis of how to face the most pressing challenges: 'We the Peoples'. It does not mention states or governments, but rather 'Peoples' – peoples who have decided to 'save the succeeding generations from the scourge of war'. This means that they assume that supreme commitment – so often evoked by President Nelson Mandela – to future generations. *It is the duty of each generation to take the next one into account.* And, once and for all, to enable peace to prevail over war, and words to prevail over force. From the beginning of time, national powers have always followed that perverse adage: 'If you want peace, prepare for war'. And thus, at the end of World War I the Republican Party prevented the United States from joining the League of Nations which President Wilson had created to implement his 'Covenant for Permanent Peace'.

“ It is the duty of each generation to take the next one into account.

“ To enable peace to prevail over war, and words to prevail over force.

President Roosevelt's magnificent plan at the end of World War II placed 'the Peoples' at the forefront of history. Moreover, the Constitution of UNESCO, as the United Nations' intellectual

institution, proclaimed that an educated people must be free and responsible, and that they should be guided by the democratic principles of justice, equality and intellectual and moral solidarity. But these ideals, as well as those of the free flow of ideas by word and image were all too soon ignored and forgotten by the great powers, which invariably had security as their supreme concern.

Three years later, in 1948, the Universal Declaration of Human Rights was adopted by the United Nations General Assembly, asking all member states 'to publicize the text of the Declaration and to cause it to be disseminated, displayed, read and expounded principally in schools and other educational institutions, without distinction based on the political status of countries or territories'. The Preamble reads:

Whereas recognition of the inherent dignity and of the 'equal and inalienable rights of all members of the human family' is the foundation of justice and peace in the world... the advent of a world in which human

beings shall enjoy freedom of speech and belief and 'freedom from fear and want' has been proclaimed as the highest aspiration of the common people...

In its article 26 the Declaration states that 'higher education shall be equally accessible to all on the basis of merit'. The reference at this point is to adult citizens, and obligatory or compulsory provisions are excluded. The basis is merit, with respect to all members of the academic community, both professors and students – the merit, dedication, effort and imagination required in order to be fully 'free and responsible'.

The second paragraph of Article 26 reads:

Education shall be directed to the 'full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms'. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace.

The excerpts from the Universal Declaration quoted above are especially pertinent at this time when it is quite possible to find rather biased definitions being offered by institutions that specialize in other areas, such as economics, and which should not be interfering in education to promote their own interests.

In the late 1940s and early 1950s the buzzwords were 'sharing' and 'international cooperation'. Sharing what we have with others and distributing wealth appropriately were the essence of those 'democratic principles' that had to be observed in order to put an end to an era of absolute power. 'Union makes strength', and it was necessary for all countries to unite (*United Nations*) to achieve the overall and proportional development that would enable peaceful coexistence at the national and international levels. I recall incessant deliberations about the nature of 'development': it should be *integral*, that is, not limited to merely economic aspects but instead, and most importantly, include social and cultural factors; it should be endogenous; it should be sustainable, according to the definition put forward by the committee chaired by Gro Harlem Brundtland; and in the late 1980s – at the behest of UNICEF's Assistant Administrator, Richard Jolly – development should above all be *human* (Development with a Human Face).

There are some other crucial references to be taken into account: in December 1993 after a very important meeting held in Montreal, Canada, the World Plan of Action on Education for Human Rights and Democracy¹ was adopted. I would like to emphasize to whom it was addressed:

The World Plan of Action is addressed, among others, to:

individuals, families, groups and communities, educators, teaching institutions and their boards, students, young people, the media, employers and unions, popular movements, political parties, parliamentarians, public officials, national and international non-governmental organizations, all multilateral and intergovernmental organizations, the United Nations Organization, in particular its Centre for Human Rights, specialized institutions of the United Nations System, in particular UNESCO, and States.

1 http://www.unesco.org/webworld/peace_library/UNESCO/HRIGHTS/342-353.HTM

Two years later the World Summit on Social Development was held in Copenhagen to celebrate the 50th anniversary of the United Nations, together with the summit in Beijing on 'Women and Development'² and the 'Declaration of Tolerance'³ by the General Conference of UNESCO. Approval and implementation of the eight commitments should have been widespread, but, regrettably, this was not the case in a neoliberal context.

Particularly relevant is the Declaration and Programme of Action on a Culture of Peace adopted by the General Assembly of the United Nations in September 1999.⁴ Its article 1 states that:

A culture of peace is a set of values, attitudes, traditions and modes of behaviour and ways of life based, among others, on:

- » Respect for life, ending of violence and promotion and practice of non-violence through education, dialogue and cooperation;
- » Full respect for and promotion of all human rights and fundamental freedoms;
- » Commitment to peaceful settlement of conflicts;
- » Efforts to meet the developmental and environmental needs of present and future generations;
- » Respect for and promotion of the right to development;
- » Respect for and promotion of equal rights and opportunities for women and men;
- » Respect for and promotion of the rights of everyone to freedom of expression, opinion and information;
- » Adherence to the principles of freedom, justice, democracy, tolerance, solidarity, cooperation, pluralism, cultural diversity, dialogue and understanding at all levels of society and among nations...

In order to put these aims into practice, the measures to be adopted in regard to such matters as education, development, freedom of expression and gender equality are provided in the programme. The 'new beginning' as proclaimed in the Earth Charter⁵ would be the transition from a culture of oppression, violence and war to a culture of encounter, dialogue, conciliation and peace. 'The transition from force to words' is the main goal of humanity at present. Such immense funding is devoted to military expenditure and armament when the majority of humanity is living in extreme poverty.

2 <http://www.un.org/womenwatch/daw/beijing/fwcwn.html>

3 http://www.unesco.org/webworld/peace_library/UNESCO/HRIGHTS/124-129.HTM

4 <http://www.un-documents.net/a53r243a.htm>

5 http://www.unesco.org/education/tlsf/mods/theme_a/img/02_earthcharter.pdf

I would also like to mention the Alliance of Civilizations UN Programme.⁶ The report of the High Level Group was presented to the UN Secretary General on 13 November 2006. Its main fields of action are in education, youth, migration and media.

Here again, the importance and urgency of using these highly relevant documents as guidance for everyday behaviour is clear. Also crucial is the inspirational role of the scientists, political leaders, philosophers, teachers and others who have provided timely warnings for humanity and guidance for action. Taking just the 20th century into account, some particularly relevant figures include Wilson, Roosevelt, Kennedy ('There is no challenge beyond the reach of the creative capacity of humanity'), Gorbachev and Mandela, among others. The crucial role played by these figures will be highlighted later in this article.

In addition, I consider it important to highlight the intellectual leadership of Aurelio Peccei, the founder of the Club of Rome, which published *The Limits to Growth* (Meadows et al., 1972), following the publication of *The Chasm Ahead* (Peccei, 1969), three years earlier. Peccei was particularly skilled in his ability to foresee the future, advocating a position of permanent watchfulness in order to anticipate and prevent calamity.

Also of note are scientists like Albert Einstein ('only imagination is more important than knowledge'), Bernardo Houssay ('there is no applied science if there is no science to apply'), Hans Krebs ('research is to see what others can see and to think what nobody has thought') and Severo Ochoa ('knowledge to avoid or reduce human suffering'), as well as philosophers such as Edgar Morin, who enlightened us with his wise educational directives (Morin, 1999).

In the early 1990s I commissioned European Community President Jacques Delors to produce the report *Higher Education in the Twenty-first Century*,⁷ which was drafted by a committee of prominent professors at all levels, as well as educators, sociologists, artists and philosophers, among others. The report defined the four principal pillars of the educational process: learning to know; learning to do; learning to be; and learning to live together. Among these four, I would like to underscore the principle of 'learning to be'. A century ago Francisco Giner de los Ríos affirmed that 'education is the capacity to sensibly manage one's own life'; indeed, we might say, learning to use the distinctive and infinite powers of the human species: thought, imagination, foresight, creativity. To the Delors Committee's pillars I added 'learning to undertake', since – and I have mentioned this many times – I remember that after a long stay at the Biochemistry Department at Oxford University, whose county coat of arms reads 'Sapere aude' (dare to know), when I returned to Spain I thought that *while daring to know, one must also know how to dare*, since risk without knowledge is dangerous but knowledge without risk is useless. Learn to dare, learn to undertake, to innovate, remembering those mountaineers who once said, 'we did it because we didn't know it was impossible'.

It is time to reflect and to act accordingly. We must ensure that education is available for all throughout life, while always mindful of the social and physical environment in which it operates.

⁶ <http://www.unaoc.org/>

⁷ <http://unesdoc.unesco.org/images/0011/001166/116618m.pdf>

Globalization and present trends

At the end of the Cold War, when many important events were taking place – for instance, the end of apartheid, the fall of the Soviet Union, the success of various peace processes – the neoliberalism imposed by the US Republican Party, with the support of UK, led to a system based on market laws, the marginalization of the United Nations System and the weakening of the Nation State. This lack of solidarity on a global level formed the basis of the present social disparities.

In fact, the debates in the UN at the time concerning the nature of development were already being overshadowed by the arms race of the super powers, raising the stakes to stratospheric levels. I recall with horror the ‘star wars’ in which the United States and the Soviet Union were then engaged. ‘Star wars!’, while most of the rest of the world were engaged in ‘star-vation’, as I saw it written in large letters in a New York street. International cooperation became exploitation; subsidies and loans were granted under draconian conditions; the nation state was progressively weakened in favour of large multinational corporations. At the same time it was the educational institutions, research centres and universities that kept the flame of human progress and ethical values alive.

To endow the current inhabitants of the Earth with the strength they require, now that they may finally cease to be invisible or anonymous, and to provide the stimuli to enable them to work tirelessly for equal human dignity and world governance, encompassing all human beings and not only a privileged few, it is essential to keep in mind the episodes that I have experienced or witnessed, either personally or from the perspective of the university: the Ku Klux Klan and racial segregation in the United States; the lack of freedom and excesses of power in the Soviet Union; apartheid in South Africa; the abominable practices of ‘Operation Condor’ in Latin America; the economic and technological colonialism imposed without hesitation in so many countries in Africa; the craving for domination of the Republican Party led by Ronald Reagan and seconded by UK Prime Minister Margaret Thatcher, who replaced the United Nations with groups of plutocrats, and democratic principles with the rules of the marketplace. Although it would appear unthinkable, based solely on their wealth and military power, both leaders intended that a handful of six, seven or eight countries should govern the other more than 180 countries existing at that time. Unthinkable, but true.

However, the unexpected happened. *The unexpected is our hope.* The unexpected is the best that can be expected of human beings endowed with creativity. Suddenly, a dark-skinned prisoner called Nelson Mandela appeared after 27 years of incarceration without seeking revenge. On the contrary, he emerged with open arms, and, in complicity with another great figure, President Frederik de Klerk, in a few months he ushered in the downfall of apartheid to become the first black president of South Africa, marking the course of a new beginning in that country and in the African continent as a whole.

Also unexpectedly, thanks to Mikhail Sergeyevich Gorbachev’s radical change in the manner of exercising power, and with the symbolic breach of the Berlin Wall, the vast Soviet empire fell, while its members formed the Commonwealth of Independent States and could thus commence their long march towards building regimes based on public liberties and pluralism.

A system that was based on equality, but which had forsaken liberty, had finally fallen. But the alternative, based on liberty but forsaking equality, failed to learn its lesson. Just the opposite, it intensified and imposed rules and standards of conduct on the West in a very peculiar manner.

Nevertheless, in the late 1980s everything pointed to peace. For example, following the end of the Cold War and the racist regime in South Africa, thanks to initiatives supported by UN Secretary General Javier Pérez de Cuellar, in a few years peace finally came to Mozambique with the wise intervention of President Joaquim Chissano and the Community of Saint Egidio; the civil conflict in El Salvador was resolved at Chapultepec; and the peace process was renewed in Guatemala. Indeed, the late 1980s witnessed a popular demand for peace, a demand that was ignored by those who thought that the moment had come to achieve their dreams of dominance.

The West, and particularly Europe, is experiencing the collapse of a system based on an economy of speculation and the delocalization of production – which, above all, has converted China into a huge communist capitalist – and war, whose tragic balance may be summarized by the more than 3 billion dollars that are invested daily in military spending and weapons while at the same time at least 20,000 people die of hunger and neglect, the majority of whom are children under five years of age.

“But now, with a global conscience, the growing participation of women in decision-making processes and the new digital technologies, it is possible to initiate the great transitions capable of transforming this era of change into a change of era.

However, beyond the confusion gripping Europe, the effects of emerging citizen power are being felt. Latin America, Africa and a few Arab and Asian countries – including India, both qualitatively and quantitatively – are taking a new course and applying original models.

Only twenty years ago it was unimaginable that institutions using socially responsible policies could decisively influence the attitudes and lives of the majority of people. **But now, with a global conscience, the growing participation of women in decision-making processes and the new digital technologies, it is possible to initiate the great transitions capable of transforming this era of change into a change of era.**

Thanks to digital technology, for the first time in history human beings are able to express themselves freely and participate in events – moving from passive spectators to actors. They are no longer silent, obedient and fearful. They know what is happening on planet Earth as a whole and are becoming world citizens. Above all, women, who form the cornerstone of the new era, are able to progressively take part in decision-making. After a secular male absolute power, every human being, *with the distinctive capacity for creativity*, will contribute to inventing the future – a future in which humanity will be guided by democratic principles, as enshrined in UNESCO’s Constitution, the only context in which human rights can be fully exercised.

Drivers of change

Citizen participation has always been very weak and the voice of the people, generally barely audible, was neither listened to nor heard. In contrast, today there are many who are capable of making the transition from subjects to citizens, becoming visible, identifiable, bold and unbound. **The fundamental mission of universities is to pave the way for this new era, the era of the people.**

Higher education means being fully – and at a higher level – free and responsible, as so masterfully defined in Article 1 of the UNESCO Constitution. Free and responsible! This means empowering people who act on their own reflections and not on the dictates of others; who are aware of their rights and obligations; and who fully apply democratic principles at the personal, local, regional and global levels, which is the only context in which human rights may be freely exercised.

During the 1990s, as Director General of UNESCO, I had the opportunity of organizing global conferences on higher education, which provided me with first-hand knowledge of the sector's essential characteristics and those that must be maintained as our principal reference: the values that are common to all universities in the world. This process culminated in the World Conference on Higher Education held in Paris in 1998,⁸ the conclusions of which are still entirely applicable as models for the foremost academic institutions at the dawn of this new century and millennium.

“The fundamental mission of universities is to pave the way for this new era, the era of the people.

It was underscored that **‘it is essential that we all be autonomous, while being interrelated and interactive’**, so that universities may play their role as intellectual, academic, scientific and cultural leaders, enabling them to achieve universal recognition and to implement human rights within a genuinely democratic framework.

In effect, **universities must tirelessly promote justice, gender equality, sustainability and democracy.** The adequate provision of and investment in lifelong higher education that is accessible to all citizens from the age of emancipation is, as it was so lucidly defined in the Declaration of the Regional Conference on Higher Education in Latin America and the Caribbean, **‘an irreplaceable element for social progress, the generation of wealth, the strengthening of cultural identities, social cohesion, the struggle against poverty and hunger, the prevention of climate change and the energy crisis, as well as for fostering a culture of peace.’**⁹

Concerning universities as a vital process, point C.6 of the Declaration of the 2008 Regional Conference on Higher Education¹⁰ is quite significant:

Moving towards the goal of generalized, lifelong higher education requires demanding and providing new content for principles of active teaching, according to which learners are individually and collectively the principal protagonists. Active, permanent, and high-level teaching is only possible if it is closely and inno-

8 http://www.unesco.org/education/educprog/wche/declaration_eng.htm

9 https://www.iau-hesd.net/sites/default/files/documents/declarationcres_ingles.pdf

10 Ibid.

vatively linked to the exercise of citizenship, active performance within the workplace, and access to the diversity of cultures.

“Universities must tirelessly promote justice, gender equality, sustainability and democracy.

We must read and re-read the Declaration because it contains essential recommendations, particularly in Chapters D (Social and Human Values of Higher Education) and E (Scientific, Humanistic and Artistic Education and Comprehensive Sustainable Development).

In order to achieve *a socially responsible university*, among the major questions to be addressed, I would like to highlight the following:

1. The policies and perspectives of higher education for a socially responsible university.
2. The educational and teaching challenges in training highly-qualified professionals who are committed to society. Universities should demonstrate socially responsible management of the environment, energy and sustainable development.
3. The use of information technologies to support the social mission of universities.
4. Improvement of the training of educational and health professionals as an expression of socially responsible universities.
5. Food security: the responsibility of universities towards society within the contemporary context.

At this point I believe it would be interesting to examine what were considered the great challenges facing higher education 25 years ago and the solutions that were proposed at that time, looking at some of the points that I addressed and the recommendations made at the Europe-Latin America University Conference held in 1987 in Buenos Aires:

- » **The genuine wealth of a country has its expression in its capacity for creativity, innovation, and in its capacity to respond to challenges both personally and collectively.**
- » The unwavering reason for the university's existence is to bring culture to all citizens.
- » New dimensions and change require an attitude of permanent learning.
- » **Universities can and must play a fundamental role in providing an accurate analysis of the present and in predicting the future.**
- » The quality of its teaching staff is the indisputable essence of a university.

- » If you really believe that higher education institutions are the motors of society on whose actions future progress depends, then new national priorities must be established so that education and science receive the financial and social support that they so urgently need.
- » **With few exceptions, universities have not fulfilled their role as catalysts for social change.**
- » The only requirement for choosing teachers should be their qualifications. And as for students, access to higher education should not be based on their families' economic standing, but rather on their duly accredited efforts and abilities.
- » We cannot expect universities to be rebuilt or renewed in a context that is anachronistic and indifferent to any change.
- » **Transformation of our universities can only be achieved with the necessary daring and lucid political, social and economic changes.** It is in stimulating and supporting that transformation where universities can play a fundamental role.
- » **Universities must become permanent centres for higher learning,** and institutions capable of mobilizing all of their intellectual potential.
- » If universities lead the never-ending rebellion against ignorance, and if they still have the strength required to implement the previously mentioned transformations, then universities will be the life blood of all educational activities.

Sonia Bahri rightly quoted from the World Conference on Higher Education, UNESCO 2009:¹¹ 'new dynamics [this was the title of the 2009 WCHE] are transforming' higher education functions to 'lead society in generating global knowledge to address global challenges' and promote 'critical thinking and active citizenship' which 'would contribute to sustainable development, peace, wellbeing and the realization of human rights'. And she added that:

[A]t both the national and the subregional levels, universities will need to work in synergy and build bridges between the other stakeholders of the public space: policymakers, whose decisions must draw upon research findings, civil society, industry and the media, and not forgetting local populations. This synergy must ensure complementary and sharing for the sake of greater impact.

Yes, higher education is at the forefront of **the priorities that scientists must urgently address** in close cooperation at the global level:¹²

11 UNESCO, World Conference on Higher Education: The New Dynamics of Higher Education and Research For Societal Change and Development (2009).

12 Art. 'Science and Conscience for Radical Change', Litoral, *Revista de Poesía, Arte y Pensamiento* (2012).

- » Food. Food production using agriculture, aquaculture and biotechnology and the preservation and suitable distribution of food, promoting as far as possible the local raising of crops and livestock are key to development.
- » Water. The appropriate use and management of water resources, agriculture adequately supported by technology, water production through desalination, etc. are essential aspects for ensuring the welfare of all of the Earth's inhabitants.
- » Health. This will undoubtedly become the most important field of scientific research in the next few years, given its increasing focus on the individual. Much progress has been made, but, given that each life is a wonder that must be nurtured with the utmost care, in-depth studies are required in such fields as genetics, epigenetics, autoimmune symptomatology and neurological deterioration due to age. All of these are areas that deserve special attention. Prevention is undoubtedly the top priority, but it is very difficult to find popular support for these areas since they are essentially invisible.
- » Environment. For the first time mankind is living in an age in which human activity has a global impact. This is called the 'anthropocene' age in reference to the fact that today human beings, given the fantastic development of their creative imaginations, are able to modify parameters that not long ago were beyond their reach. It is now vital that specialists in areas such as energy sources, recapturing carbon dioxide and other greenhouse gases and forecasting the effects of the partial melting of polar icecaps (particularly in the Arctic) should focus their research on adopting measures capable of at least containing or lessening the present rate of environmental deterioration.
- » The recent Paris Agreement (12/12/15) is a very important step forward that must now be implemented under the supervision and coordination of the UN System. This is a process in which universities and scientific institutions must play a central role, as its success requires intergenerational solidarity.
- » Rapid and coordinated action to reduce the impact of natural disasters (wind, water, fire) is another of the measures demanded by the world's citizens, alarmed by the immense amounts of money devoted to military spending, while the aid needed to rehabilitate areas devastated by earthquakes or tsunamis and to return the victims to normality is always too little and comes too late.
- » Education. As is the case with health, water and food, education is a social component of the right to dignity in life – and thus there should be no limitations on access to education at any age. Through learning and studying, human beings are empowered to act on their own reflections, rather than under the influence of ideological or religious dogmas or the dictates of others.
- » Peace. In the transition away from a secular culture of war, oppression and violence, the perverse adage 'if you want peace, prepare for war', must now be replaced by 'if you want peace, work to build it each day in your daily lives'. Here again, to achieve a re-founded United Nations and competent world governance, scientists must endeavour to contribute to the development of mechanisms capable of rapidly resolving the inevitable conflicts, using appropriate and modern materials, without threatening life as a whole, as is currently the case with nuclear weapons.

In view of the foregoing, the following recommendations are **the great objectives that universities should pursue**, using all of their influence and capacity for mobilization, both in the classroom and in cyberspace:

1. A re-founding of the United Nations System, making 'We, the Peoples' a reality in a General Assembly – as is already the case in the International Labour Organization, that relic of the League of Nations – in which 50% of the delegates would be representatives from the member countries and 50% from civil society. This would be augmented by a Security Council in which veto rights would be replaced by weighted votes and the addition of an Environmental Council and a Socioeconomic Council.

This has all been well planned: it is now a matter of ensuring that they (especially the Republican Party in the United States) realize that the time for silence and a passive citizenry in the world is over. It is essential to return to the concept of a 'United Nations' so that all of us, together, may achieve the great transformations previously mentioned, with particular emphasis on the 'power of the word' to demand equal dignity for all human beings.

2. Nuclear disarmament. It is madness for the world to continue under the sword of Damocles represented by nuclear weapons. No excuses can be made concerning reasons of security since nuclear weapons contradict all the norms of a civilized society. Thus, the use of these weapons must cease immediately. If the great majority of the world's universities were to demand that we usher in a post-nuclear era in situations of conflict, this would be a giant step towards creating that other world which we all desire.
3. Strengthening genuine democracy is the only context in which it is possible to implement human rights to achieve socially responsible universities in the short term. In this respect, universities should familiarize themselves with and contribute to the project for a Universal Declaration on Democracy,¹³ drafted with contributions from Karel Vasak, Juan Antonio Carrillo Salcedo, Mario Soares and others who have distinguished themselves for their knowledge in this field. The institutional support of higher education for this document would be particularly important in order to achieve its consideration and approval by the United Nations. In addition to covering ethical, social and cultural factors, this Declaration also includes economic and international aspects.

In terms of organization, there are already multiple **associations of higher education institutions at the global and regional levels**. But especially now that new digital technologies are bringing us even closer together, despite any physical distance, it would be wonderful if we could collaborate so that higher education institutions become not only places for lifelong learning (especially important given our present rates of longevity), but can also take action to support or reject options that would ultimately and rapidly usher in the previously mentioned transformations, including fulfilling our obligations to future generations, both from a social perspective as well as with respect to protecting the environment. In that regard, it is also interesting to consider the World University Consortium, a proj-

¹³ http://www.fund-culturadepaz.org/democracia_eng.php

ect of the World Academy of Art and Science¹⁴ whose members include the International Association of University Presidents and the Inter-University Center.

In my opinion, one of the current activities related to the World Academy of Art and Science that is particularly relevant is the **'new paradigm', which seeks to formulate alternatives to the present neo-liberal system** and in which the Green Cross Foundation, the Club of Rome and the Culture of Peace Foundation, among others, are now participating.

I emphasize that **at this moment in time there is the risk of reaching points of no return**, particularly in terms of social and environment issues. This represents an essential concern because certain measures cannot be postponed. For this reason, the following Joint Declaration¹⁵ has been launched:

We, individuals and institutions that are profoundly concerned about the Earth's present state, particularly by potentially irreversible social and environmental processes, and about the lack of an effective, democratic multilateral entity respected by all that is essential for world governance at this extraordinarily complex and changing time,

Urge you

to adhere to this joint declaration in order to contribute to the rapid adoption of the following measures:

Environment

The current tendencies, resulting from a deplorable economic system based solely on making fast profits, must be urgently reversed to avoid reaching a point of no return. Both President Obama 'we are the first generation to feel the effect of climate change and the last generation who can do something about it', – as well as Pope Francis – '(...) intergenerational solidarity is not optional, but rather a basic question of justice, since the world we have received also belongs to those who will follow us', have with wisdom and leadership warned of the immediate actions that must be taken concerning climate change. We must invent the future. The distinctive creative capacity of human beings is our hope. As Amin Maalouf has highlighted, 'unprecedented situations require unprecedented solutions'.

We live in a crucial moment in the history of mankind in which both population growth and the nature of our activities influence the habitability of the earth (anthropocene).

All other interests must be subordinated to an in-depth understanding of reality. The scientific community, guided by the democratic principles so clearly set forth in the UNESCO Constitution, should counsel political leaders (at the international, regional, national and municipal levels) concerning the actions to be taken, not only in their role as advisors, but also to provide foresight. Knowledge to foresee, foresight to prevent.

It is clear that accurate diagnoses have already been made, but they have not led to what is really important: the right and timely treatment.

¹⁴ <http://www.worldacademy.org/home-demo/index.html>

¹⁵ <https://jointdeclaration.wordpress.com/>

Communications media and social networks must constantly strive to achieve a resounding outcry, a sense of solidarity and responsibility, adopting personal and collective resolutions at all levels – including radical changes in institutions – capable of halting the current decline before it is too late.

Social inequality and extreme poverty

[As I have already emphasized above,] [i]t is humanly intolerable that each day thousands of people die of hunger and neglect, the majority of them children between the ages of one and five, while at the same time 3 billion dollars are invested in weapons and military spending. This is particularly true when, as is currently the case, funds for sustainable human development have been unduly and wrongfully reduced. The lack of solidarity of the wealthiest towards the poor has reached limits that can no longer be tolerated. For the transition from an anti-ecological economy of speculation, delocalization of production and war to a knowledge-based economy for global, sustainable and human development, and from a culture of imposition, violence and war to a culture of dialogue, conciliation, alliances and peace, we must immediately abolish plutocratic groups (G7, G8, G20) and re-establish ethical values as the basis for our daily behaviour.

Elimination of the nuclear threat and disarmament for development

The nuclear threat continues to pose an unbelievably sinister and ethically untenable danger. Well-regulated disarmament for development would not only guarantee international security, but would also provide the necessary funds for global development and the implementation of the United Nations' priorities (food, water, health, environment, lifelong education for all, scientific research and innovation, and peace).

For these so relevant and urgent reasons

We propose

Calling an extraordinary session of the United Nations General Assembly to adopt the necessary urgent social and environmental measures and, moreover, to establish the guidelines for the re-founding of a democratic multilateral system [as suggested above in the objectives that universities should pursue]...

In view of the poor progress made toward fulfilling the Millennium Development Goals (MDGs) and, given the present lack of solidarity, increased social inequality and subordination to the dictates of commercial consortia, no one believes that the Sustainable Development Goals (SDGs) to be adopted in September will actually be implemented [without the leadership of a multilateral democratic system].

The solution is an inclusive participative democracy in which all aspects of the economy are subordinated to social justice.

Jose Luis Sampedro left a fantastic legacy to young people: 'You will have to change both ship and course'.

Now 'the Peoples' can raise their voices and actively participate. But it is up to the scientific, academic, artistic and intellectual communities to mobilize them, to be at the forefront in the movement towards a better world. As the Earth Charter,¹⁶ one of the most lucid documents from recent decades, states:

We stand at a critical moment in the Earth's history, a time when humanity must choose its future. As the world becomes increasingly interdependent and fragile, the future at once holds great peril and great promise. To move forward we must recognize that in the midst of a magnificent diversity of cultures and life forms we are one human family and one Earth community with a common destiny. We must join together to bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace...

We must realize that when basic needs have been met, human development is primarily about being more, not having more. We have the knowledge and technology to provide for all and to reduce our impact on the environment. The emergence of a global civil society is creating new opportunities to build a democratic and humane world.

Now that the voice of the people can be heard, we must ensure that everyone understands that **implementing human rights benefits all of us equally**. It must be universally accepted that accumulating immense fortunes adds nothing to an already comfortable life. I like to repeat a simple observation that I read one day in a small chapel in the south of France: '*Les linceuls n'ont pas de poches*' ('funeral shrouds have no pockets'). Whether we are born into wealth or poverty, death is the great equalizer. Thus, it is essential that universities, aware of the emergency the world is facing, become protagonists in the radical changes that cannot be postponed, and achieve now what in 1945 was impossible: cooperation and working together, in a context of democratic principles, towards peaceful coexistence marked by social justice and the conditions inherent in a dignified life for all human beings.

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¹⁶ http://www.unesco.org/education/tlsf/mods/theme_a/img/02_earthcharter.pdf

1.2. Global Pressing Problems and the Sustainable Development Goals

Claudia Neubauer, Matthieu Calame

Abstract

More than ever before humanity is being torn between the gravity of self-created problems and the inability to overcome them. Billions of people live in degrading conditions, we are depleting and polluting our natural resources, and undermining our ability to maintain human life on earth. Since the Club of Rome published its first report in 1971, many more scientific analyses have been conducted on this subject and numerous solutions have been proposed that are either not applied or, if applied, are too often not appropriate. Unfortunately, the Sustainable Development Goals (SDGs) are not the exception to the rule. Even if they propose a good understanding of worldwide problems and emphasize that we must urgently change our trajectory, a failure to address the root of the problem is weakening the whole process and threatening its relevance. Closing this gap could be considered as a major issue for numerous local and global actors including Higher Education Institutions (HEI), which should use the SDGs to continue to improve the human condition. The problems the SDGs focus on (and those they do not focus on) are at the heart of society and will need co-constructed responses. This paper attempts to critically discuss how HEIs can firmly engage in producing and sharing relevant knowledge, proposing and debating solutions, scrutinizing mechanisms and supporting awareness, delivering critical analyses, sensitizing and preparing students for the challenges that lie ahead, and supporting systemic change, which are all activities that higher education can and should seriously engage in.

SDGs: a brief reminder of the context and objectives

In September 2015, in the framework of the 'Post 2015 development agenda', the UN adopted 17 goals broken down into 169 targets, designed to guide policy towards a sustainable development agenda that includes social, economic and ecological dimensions. This universal framework is intended to accompany governments, civil society and transnational structures in a common effort up to 2030.

Although the SDGs still target developing countries in their main actions, as did the Millennium Development Goals, they also address rich industrialized nations in order to transform their social, ecological and economical order towards greater economic and social justice within and among countries and more sustainable production and consumption patterns. "We are determined to protect the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations... We are determined to ensure that all human beings can enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature" (United Nations, 2015: 2).

Social aspects form the backbone of the document, and are present in numerous goals. They encompass ending extreme poverty and hunger, reducing social inequality within and among countries, ensuring healthy lives, reliable energy and water supplies, ensuring education for all, achieving gender equality, and providing access to justice. A few goals address the ecological dimension by conserving the oceans and marine resources, protecting terrestrial ecosystems and biodiversity and combating climate change. Finally, the text emphasizes economic growth and full employment and proposes further innovation.

From the limitations of the SDGs to meaningful action

The SDGs suffer from at least three main weaknesses. Firstly, even if guided by the United Nations Charter and other international declarations, they are not a mandatory treaty. Secondly, they are inconsistent among themselves, since some goals on economic issues contradict others in the social or environmental domains. Thirdly, they do not address the root causes of the present imbalances. This is no surprise, however, as listing problems and goals is much easier than building a consensus on the causes and the actions required to resolve them. The latter would generate profoundly contradicting approaches, interests and world visions. **Between smooth rhetoric while doing business as usual with a bit of “greening” and the call for a radical upheaval in our economic, legal and social system lie deep political divergences.** Nevertheless, the SDGs present a globally agreed agenda on change and list the major challenges of our century in an exhaustive and unique manner. They could, like other initiatives, act as a catalyst for people and politics to pursue a better economic and social model.

The issue of sustainability is not new to HEIs. Many universities already have a range of declarations and charters, as well as numerous sustainability departments, programmes and initiatives, and in recent years have started to integrate sustainability criteria into campus life. The International Sustainable Campus Network (ISCN) provides a global forum for colleges and universities to holistically integrate sustainability into campus operations, research and teaching.¹

The special responsibility of higher education institutions lies in the fact that they are preparing future generations of scientists, managers, politicians, philosophers and artists who we will rely on to build a more socially just world that does not destroy its ecological livelihood. Sustainability in higher education integrates a holistic approach based on humanistic values that is pluralistic, transdisciplinary, emancipatory and sensitive to the great challenges of our time, and proposes a multi-perspective approach to ecological, economical and social dimensions. Several assessment tools exist to evaluate the implementation of sustainability in higher education institutions.² However, in many HEIs sustainability in the curricula and in research programmes is far from being as prioritized as one might wish. **The SDGs should be used as a unique opportunity to reinforce and intensify sustainability dynamics in HEIs worldwide.**

“The SDGs should be used as a unique opportunity to reinforce and intensify the sustainability dynamics in HEIs worldwide.

1 <http://www.international-sustainable-campus-network.org/>

2 Assessing Sustainability and Social Responsibility in Higher Education Assessment Frameworks Explained. Pieterneel Boer.

By doing so, the process will also challenge the positioning of HEIs: will they continue to supply economic competitiveness and growth (and be part of the problem), or will they build a new identity of modern HEIs, more in tune with people and their problems and acknowledge their responsibility as political and educational actors? The stakes are high, as the underlying assumptions and statements of the SDGs (and of current public policies in general), such as for instance the almost immovable faith in scientific progress, technological innovation and growth, have to be questioned. HEIs should push the analyses proposed by the SDGs radically further. Analysing, revealing, and communicating the root causes of the problems and proposing tools to overcome them will help develop relevant, just and feasible solutions.

Below, we briefly reflect on a few issues relevant to HEI actions.

On the case of eradicating poverty. In Goal 1 the SDGs seek “By 2030, to eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day” (United Nations, 2015: 15). \$1.25 is a very low amount to cover basic needs, even in poor countries. In October 2015, a few days after the vote on the SDGs, the World Bank updated the international poverty line to US \$1.90 a day by underlining that “As differences in the cost of living across the world evolve, the global poverty line has to be periodically updated to reflect these changes. [...] the real value of \$1.90 in today’s prices is the same as \$1.25 was in 2005” (World Bank, 2015). This made the SDG threshold of \$1.25 obsolete before the official start of the SDGs in January 2016. And how much will this amount count for in 15 years?

The SDGs also aim to ensure “that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including micro-finance” (United Nations, 2015: 15). Presently, the 85 richest people in the world are as wealthy as the poorest half of the world, and the richest 10% of people³ produce half of the Earth’s climate-harming fossil-fuel emissions, while the poorest half contribute a mere 10%.⁴ **The basic barrier to effective action here is the SDGs not stating that the current economic system is unable to fight poverty and hunger since it inherently produces them.** At the end of the day, there is no trickle down. Over-accumulation of wealth on the one side creates poverty on the other side, and is broadly accountable for environmental degradation. The suggested “income growth of the bottom 40 per cent of the population” (United Nations, 2015: 21) is impossible to achieve within the proposed framework since “there is a distinct lack of focus on consumerism and inter-generational responsibility in all the targets. In addition, the goals, targets and indicators concentrate more on raising the bottom, in terms of income levels, rather than managing the top, where the problems of high consumption at the cost to biocapacity are rife” (Karin and Gunawardena, 2015). Poverty is not only the absence of money, it is a general living condition that affects all parts of daily life. This may include hunger and malnutrition, diminished or poor physical health due to hunger and malnutrition but also due to limited access to health services or bad working and housing conditions, mental health and behavioural problems notably due to daily (survival) stress, exclusion and isolation, unrewarding

3 Remember the poor: “If you have sufficient food, decent clothes, live in a house or apartment, and have a reasonably reliable means of transportation, you are among the top 15% of the world’s wealthy.” <http://irememberthepoor.org/3-2/>

4 <http://www.theguardian.com/business/2014/jan/20/oxfam-85-richest-people-half-of-the-world>, January 2014.

and stressful work and loss of confidence in one's own capacities, less access to education and high rates of school drop-outs, less access to culture, and less participation in social life in general (civic and democratic rights), etc.

Taking the case of health as an example, countless issues exist today. “The inverse association between socio-economic level and risk of disease is one of the most pervasive and enduring observations in public health” (Murali and Oyeboode, 2004). What should a just health system look like? How can a balance be achieved between psychological, physical and social wellbeing? To what extent do the social and physical environments influence health? What progress is being made in hospitals? Where do solidarity and compassion fit into health systems? Scientists, doctors, clinical and technical staff, public authorities and non-profit associations all work to answer these questions, albeit with different approaches and not always on the basis of a shared understanding. At this juncture, **in addition to the classic collaboration methods, participatory health research could also be another relevant approach.** “For participatory health research, the primary underlying assumption is that participation

“Action research (or participatory research or community built research), by blending academic knowledge with local, traditional and professional knowledge, is a powerful tool for finding practical and practicable solutions.

on the part of those whose lives or work is the subject of the study fundamentally affects all aspects of the research. The engagement of these people in the study is an end in itself and is the hallmark of participatory health research, recognizing the value of each person's contribution to the co-creation of knowledge in a process that is not only practical, but also collaborative and empowering” (ICPHR, 2013). The goal of the International Collaboration for Participatory Health Research (ICPHR) is to “establish participatory health research as an integrated part of local, regional and national strategies to meet the needs of disadvantaged communities by addressing issues of health inequality” (Ibid.). Unfortunately, the potential of this approach is currently greatly underestimated and remains underused, despite the existence of some initiatives and projects. In general, participation as an important component is now increasingly being recognized in the healthcare sector. Participation in health research or training, however, is still weak. The promotion of strong partnerships between communities and disadvantaged populations, higher education and other scientific institutions and policymakers would contribute to promoting health equity and social justice.⁵ It would also allow more attention to be paid to the relationship between different public policy sectors in regard to their effects on health and health inequalities.

5 See for instance the experiences of the Community-Campus Partnerships for Health (CCPH), <https://ccph.memberclicks.net/>

On the case of energy, technology and innovation

Our societies are highly dependent on technological devices of all kinds and on an unsustainably high level of energy consumption. The SDGs' demand in Goal 7 is to “Ensure access to affordable, reliable, sustainable and modern energy for all”; in Goal 8 to “Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value-added and labour-intensive sectors”; and in Goal 9 to “Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending” (United Nations, 2015: 19-20). Many economists, industrial players and policymakers claim that technical innovation will decouple growth from the use of raw materials and allow us to bypass planetary boundaries. The final masterstroke of this discourse is the decoupling of growth from energy use, based on the illusion of full-steam-ahead techno-scientific progress and of new energy sources substituting exhausted ones. However, energy sources are almost never really substituted but rather subjoined, and even if new ones might improve efficiency, this gain is often cancelled out by higher consumption (rebound effect). Of the 3% average increase in GDP per capita during the post-war boom, about 2% came from the increase in oil, coal and gas consumption, and only 1% from technical progress (Caminel et al., 2015). Thus, in view of the past and the present, energy remains the key element, and energy saving (especially in highly industrialized countries) and renewable energies are the main ways to respond to climate change and the natural limits of non-renewable energy sources. Just to mention one out of many examples, Volteface is a joint research initiative of the University of Lausanne and the leading Swiss electricity provider Romande Energie working on the social aspects of an energy system based on renewable resources and energy saving.⁶

But the dominant technofix rationale still presents research and innovation as if they were homogeneous blocks, unquestionable in their direction and meaning. What research does society need? Which fields should be prioritized? What kind of innovation, for whom, and with whom?

What kind of research, for instance, will be prioritized in Goal 2 on food security and agriculture? Research for small-scale family farmers (who still provide most of our worldwide food production) or research for large companies, securing important market share for them? How much of the already existing knowledge, be it scientific, professional, empirical or traditional will be called on to solve problems? Do ‘environmentally sound technologies’ mean GMOs or local farming techniques? All over the globe, academics from HEIs are working with groups of concerned people, such as farmers and their organizations and civil society organizations, to build locally adapted solutions that provide a decent life for farmers and their families by simultaneously protecting the environment from pollution, using locally available renewable resources and delivering high value, tasty nutrition. The Centre for Agroecology, Water and Resilience (CAWR) at Coventry University, for instance, is promoting “transdisciplinary research on the understanding and development of resilient food and water systems throughout the world.” The Centre incorporates citizen-generated knowledge through the “participation of farmers, water users and other citizens in transdisciplinary research, using holistic approaches which

⁶ <http://www.volteface.ch/>

cross many disciplinary boundaries”.⁷ **Action research (or participatory research or community built research), by blending academic knowledge with local, traditional and professional knowledge, is a powerful tool for finding practical and practicable solutions.** But as a (no longer new) paradigm, action research is still struggling to conquer university teaching and laboratories, although it can furnish relevant approaches, methods and results in SDG core issues such as agriculture, environment, health, urban and rural development, transportation, energy and social issues. Research open to society will also contribute to breaking down barriers between academic disciplines, thus allowing for greater interdisciplinarity.

Rethinking economic progress in the light of social and environmental needs

Schumacher argued back in 1973 in *Small is beautiful – a study of economics as if people mattered* that the modern economy is unsustainable. He proposed a philosophical approach that appreciates both human needs and an appropriate use of technology by accepting natural limitations (since we depend on nature but nature does not depend on us) (Schumacher, 1973). Economic growth, measured through the omnipresent and increasingly criticized indicator of GDP, is mainly an economic dogma of the late twentieth century that shaped the construction of society after World War II. It was about rebuilding the economy and providing welfare for people. However, the idea became not only sclerotic, but even dangerous and counter-productive to providing a decent life for each human being. **A growing number of economists, ecologists, civil society organizations and local initiatives are criticizing the unlimited growth ideology of the GDP, and are delivering evidence that due to limited natural resources and the limited capacity of natural systems to recover, it will simply be impossible to realize growth over the long term (Gadrey, 2011).** Regrettably the SDGs remain on the surface of the problem and are inextricably linked to the economic growth dogma. Scattered across different sections, the claims of the text can be summarized by “We envisage a world in which every country enjoys sustained, inclusive and sustainable economic growth...” (United Nations, 2015: 4). However, we will not be able to reduce poverty and inequality without transforming current power relationships between different societal and economic actors and between states. We cannot save nature and people without stepping out of the growth dogma. As Jason Hickel, a US anthropologist, puts it “All of this reflects an emerging awareness of the fact that something about our economic system has gone terribly awry – that the mandatory pursuit of endless industrial growth is chewing through our living planet, producing poverty at a rapid rate, and threatening the basis of our existence. Yet despite this growing realization, the core of the SDG program for development and poverty reduction relies precisely on the old model of industrial growth – ever-increasing levels of extraction, production, and consumption. [...] Given the existing ratio between GDP growth and the income growth of the poorest, it will take 207 years to eliminate poverty with this strategy, and to get there, we will have to grow the global economy by 175 times its present size. This is terrifying to contemplate” (Hickel, 2015). In this context, it is also interesting to recall Pope Francis’ encyclical *Laudato Si* from June 2015. “The lessons of the global financial crisis have not been assimilated, and we are learning all too slowly the lessons of environmental deterioration. Some circles maintain that current economics and technology will solve all environmental problems, and argue, in popular and non-technical terms, that the prob-

7 <http://www.coventry.ac.uk/research/areas-of-research/agroecology-water-resilience/>

lems of global hunger and poverty will be resolved simply by market growth... Yet by itself the market cannot guarantee integral human development and social inclusion..., we are all too slow in developing economic institutions and social initiatives which can give the poor regular access to basic resources. We fail to see the deepest roots of our present failures, which have to do with the direction, goals, meaning and social implications of technological and economic growth”.⁸

Economic sciences occupy a special position here. The current crises owe a lot to an aging dominant economic thought, rooted in three erroneous convictions. The first is to believe that the economy can run independently of the social and environmental fact and can be approached as a science obeying immutable ‘natural laws’ outside the social and environmental conditions it is applied in (forgetting or denying that there is a structure-function relationship; that is to say, that the organization modes of a society induce their operation). The second is to believe in the superiority of economics above all other social sciences and humanities in the political field. The third is to believe in the capacity of the ‘free market’ to regulate its fluxes and to optimize the allocation of natural, financial and human resources and profits. Hence the inability of economics to resolve current crises and, even worse, to avoid them. It is thus urgent to re-inscribe economic thinking in its global, social and ecological context.

HEIs can intervene here on numerous levels: training students by opening up economic curricula to the teaching and critical analysis of diverse and antagonistic economic approaches, while giving more room to alternative theories, and by educating students in a human-oriented rather than a profit-oriented economy; promoting in all disciplines an understanding of the interdependence between the social, the environmental and the economic; producing theoretical and practical tools for actors initiating social, technical and economic changes, often at a local level but increasingly also on a regional and national level; developing a macro-economic theory for a highly sustainable society and a social and ecological state; helping to progress from good practice to good policy (scaling up) by legitimizing good practices and developing political processes to adopt them.

Together, dynamics of bottom-up changes due to multiple local initiatives that come out of their niches, and dynamics of a profoundly reshaped socio-economic thinking should contribute to developing a common project of systemic change.

On indicators

“The success or failure of the Sustainable Development Goals will depend, to a great extent, on effective monitoring. Well crafted indicators and high quality data will give governments, businesses, academia and civil society the information they need to target resources, policies, and programmes” (Villiers, 2015). Indicators are critical for collective decision making, since beyond their technical aspect they can serve as tools for guiding and managing public action. They apply both upstream, to legitimate policy objectives as part of the exercise to track evolution, and downstream to assess outcomes. More broadly, they are part of the argumentation of all stakeholders to justify and explain their analyses, advocacy and action.

⁸ Encyclical *Laudato Si*, from the Holy Father Francis on care for our common home, June 2015, p. 81.

Over the last twenty years, through observation of the state of the world population, the debate on (new) indicators of wealth has been vitalized and gradually institutionalized. Notable contributions to this debate were made by both UNDP annual reports and the Millennium Development Goals, the mobilization of numerous NGOs and social movements and the work of researchers and scientific committees. Since the 2008 financial crisis, wealth indicators have gained even greater visibility and importance in policy and budget debates. Scientists, alarmed by growing inequality in the richest countries, point out that this is jeopardizing the proper functioning of the economy which, if the gap widens any more and over a longer period, may lead to collapse of countries.

The central question about indicators remains: What are we measuring and how? Unfortunately, the cognitive reference system of institutions (European, international, national) remains focused on economic and financial indicators, above all the GDP, despite other indicators having emerged and having found a certain place in the overall debate. The Gini Index and the Human Development Index (HDI) have shown that a high GDP does not automatically mean fair distribution of wealth and welfare. The 'Better Life' indicator, which was created by the OECD in 2003 as an interactive tool to measure wellbeing, compares countries based on the importance given to different criteria of wellbeing. This was a pioneering initiative in the dynamics of institutionalizing alternative indicators. But setting up meaningful indicators needs a shared vision of what social and environmental wellbeing actually is. Different countries today use different sets of indicators varying from one policy area to another, thus complicating any comparison. Furthermore, the process of setting up indicators is almost as important as the indicators themselves. Closed expert discussions or open democratic debates with citizens will not produce the same result, neither in terms of indicators nor in terms of shared societal visions.

Conclusion: Transforming society at large

The growth of the consumer society is historically a very young phenomenon, having emerged just a few generations ago. Today, facing its numerous cataclysmic consequences, we must collectively overcome the ideological lock-in in "the secular religion of the advancing industrial societies" (Bell, 1972). At the Earth Summit in Rio in 1992 it was agreed that we cannot continue with 'business as usual'. However, we are doing exactly that. For decades, NGOs, grass-roots and social movements, scientists and policymakers have produced a wealth of knowledge on what should be changed and how. But these changes are not being made. We even know where this inability to apply all this knowledge for change comes from. The organizational forms of society we have built up over centuries are not easy to change; those in positions of power are unwilling to relinquish their authority, the bulk of the world population are (for different reasons) too busy with their own lives to engage for common purposes and for the community, and our primary impetus of empathy, solidarity and cooperation is quickly coated by suspicion, selfishness and opportunism. The SDGs once again reflect this tragedy of human beings that questions our civilizing capacity.

Nevertheless, mobilizing all our forces, including higher education institutions, could help us to overcome a situation that we should not take as a fait accompli. Moreover, **instead of viewing the transition to a more just and safe world as a constraint, we can seize it as an opportunity that should bring**

benefits to all men and women, even if it requires the richest, who make up an important part of the populations of industrialized nations, to renounce certain degrees of consumption and comfort. Politics would need to return to its primary mission: guaranteeing justice and peace while guiding social and economic action, geared towards universally applicable decisions and control mechanisms and regulating the peaceful coexistence of people. “Their inability to fight the growing social divide combined with their overuse of resources therefore shows that today’s high-income countries in their current shape can no longer serve as role models for the developing world. In terms of sustainable development, all countries are now developing countries. Thus, a new – more inclusive as well as sustainable – social and economic model must be strived for in the future” (Kroll, 2015). SDGs are the opportunity for HEIs to do more for humanity, and for themselves. HEIs should firmly commit themselves to helping to achieve the SDGs in their immediate environments and open up their territory on national and global levels. Numerous research units, consortia, scientific networks and HEIs from all over the world were pursuing research and educating students on SDG objectives long before these even existed. The question for HEIs is not so much whether they have expertise or not, but rather whether this expertise and its further development will be prioritized enough. Will university directorates inscribe the SDGs at the highest level and give them enough space in the orientation of their educational and scientific programmes? Universities should support a shared understanding with their students of the great challenges of the 21st century through transversal, pluralistic, inter- and trans-disciplinary teaching. The SDGs also provide an opportunity to reinvent and build on the humanist and emancipatory tradition of universities, to emphasize the value and agency of human beings, to prefer critical thinking over acceptance of outdated dogmas, and to promote research and education as political issues (in the best sense of the word), thereby contributing to building a fair worldwide community of emancipated citizens.

“Instead of viewing the transition to a more just and safe world as a constraint, we can seize it as an opportunity that should bring benefits to all men and women.

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Special Contribution

Higher Education in Contested Settings: the Global-Local Challenge

Barbara Lethem Ibrahim

Political and economic upheavals ushered in the first 15 years of the new century. Whether from international banking scandals, dislocations as older economies give way to information technology and services, or the rise of identity politics and extremism, no country has been immune. But in parts of the world with unrepresentative governments, the upheavals have been far more intense and costly.

Writers of the late 20th century could point to a hopeful 'third wave' of democracy that swept through Eastern Europe and the former Soviet bloc countries (Huntington, 1992). But from the perspective of 2016, it appears that autocratic governance is fighting back hard, reclaiming Russia and several members of the former Soviet Union. In the Middle East, what began as non-violent youthful protests to topple ageing regimes have devolved into protracted and bloody civil wars in Libya, Syria and Yemen. Fighting in Syria alone has produced millions of refugees desperate to reach safety, creating an immigration crisis across Europe and in neighbouring Lebanon and Turkey. Other countries that successfully ousted dictators struggle with armed extremist groups and, in the case of Egypt, the return of the 'deep state'.

What is the role of an increasingly globalized system of higher education in conflict settings? How does the global versus local theme of the sixth GUNi report affect states undergoing painful transitions? First we must note that most of the laudable case studies or recommendations highlighted in this volume will have marginal relevance in situations of protracted or intense conflict. These may be places where students and staff risk their lives just to reach university. Once there, they may find that dissenting views and freedom of expression are banned, the early casualties of power struggles. Even in relatively peaceful settings, police interference with campus life increases in places where old ruling elites attempt to prevent democratic openings.¹ Thus, standard programmes for adding global perspectives to the curricula or sponsoring cross-border student exchanges will have minimal relevance in contested settings like these.

In fact, introducing new forms of civic education in general can place students and staff in potential peril. Shortly after the removal of Mubarak and his regime, a number of Egyptian universities liberalized their policies for electing department chairs and student government. Courses were added that linked the recent developments in the Arab region with other citizen movements around the world. Graduates of those programmes in global studies or civic leadership were among the Egyptian youth lauded for standing up to Mubarak's regime in 2011. Five years later, however, large numbers find themselves investigated or in prison for the most basic expressions of citizenship – through their journalism, peaceful demonstrations, or public education via an NGO or the internet.²

1 <http://www.al-fanarmedia.org/2014/02/egyptian-court-puts-police-back-on-campus/>

2 <http://www.al-fanarmedia.org/2016/07/shielding-students-from-dictators/>

Troubled campuses

It is easy to say that these dire circumstances are faced by only a limited number of countries at a given time. On the surface, things may appear more promising in some emerging market countries where university education is attuned to serving labour market requirements. In those settings, the strides made in improving educational outcomes have indeed been impressive. Yet the driving goals of education remain tied to local market concerns, even if the content of curricula makes a nod to global issues. And in many of those places – for example China or the wealthier countries of the Arab gulf – severe restrictions are placed on academic freedom. Professors and students quickly learn the lexicon of words that should not be invoked on their campuses, among them democracy, citizen rights, labour rights, dissent and advocacy. Those may also be places where minority citizens do not have the same rights to public education enjoyed by the majority ethnic or racial group.

If our commitment is to all those who are served by higher education around the world, we are compelled to address the special circumstances in societies facing repression, difficult political transitions or civil strife. To those we could also add university populations where the surrounding poverty means that even once admitted to study, a decent university education is still out of reach. For all of these groups, the global-local university debates that matter are less about whether HEIs exist to serve market needs or to instil global values – although this is a crucial theme for our times. For them the basic struggle is to attain open societies that would provide opportunities for both learners and teachers to advance.

What is the appropriate response to these seemingly intractable places and their problems? If we posit that bad governance is most often at the heart of repression in conflict-ridden societies, one can argue that university governance in the global north – whether through arrogance or simply being short-sighted – is what insulates university systems from these problems in wealthy, stable countries. It prevents these institutions from opening up, for example, to accept refugees as scholarship students or to organize study tours in post-conflict settings that raise awareness about the work necessary to accomplish peace-building. Real opportunities are thus lost for reaching out to struggling HEIs in troubled and disadvantaged environments.

This GUNi volume presents a laudable array of arguments and practical suggestions for moving forward a global agenda while remaining sensitive to local concerns. Most assume a relatively stable setting where good higher education simply needs to be made better. For those places, it is indeed helpful to update pedagogy, expose students to more diversity, and teach 'global citizenship'. That will not, however, address the great gap between these institutions and their counterparts in situations of transition or conflict. Thus, one purpose of this chapter is to explore ways that privileged higher education institutions can become responsive to the difficult places where students cannot learn and teachers cannot teach freely.

Drivers of change

The question about potential levers of change is a thorny one, because in many, if not most, conflict-riven settings, higher education itself is implicated as part of the system that props up ineffective or authoritarian power structures. That means that multiple layers of university bureaucracy may be

geared towards maintaining the status quo. Thus, as our starting place, it may be useful to step away from university systems entirely for a moment. Instead, we examine the drivers of truly paradigmatic societal change over the last decade. Might they point towards HEI strategies that could be brought to bear in conflict settings? Arguably, two global forces are driving rapid change: the digital information revolution and – perhaps related – the global emergence of seemingly spontaneous people’s movements. For the latter, think of the ‘colour’ revolutions of Eastern Europe, Occupy Wall Street and its spin-offs, the Arab spring uprisings, Iran’s 2009 Green Revolution and beyond. The surprising state of US presidential politics in 2016 may be driven in part by this trend as well.

Both of these game-changing innovations challenge pre-existing modes of human interaction, with the IT revolution now remaking forever the way we share information, alter opinions and produce value. Much has been written about the impact this is having on classroom teaching and learning, employment, commerce and sociability.³ The impact of mass people’s movements is less well documented or understood. The phenomenon is newer and by its very nature is less amenable to measurement and analysis (Langman, 2013). But an emerging hunch indicates that something important is happening which empowers large numbers of people to actively and directly engage with their rulers/elites in public spaces. In doing so they forgo older modalities such as the ballot box, the lobby group, political parties or armed resistance. What the two phenomena have in common is the ability to rapidly create vast lateral networks of people who share interests in working relatively independently towards the same or parallel goals.

Both lack a central command apparatus, making them simultaneously resilient and vulnerable. Think of Facebook and telephone messaging calling out tens of thousands of Egyptians to mobilize in the January 25th protests. But a week later Mubarak was able to shut down the national grid of internet and cell phones for days. When his regime fell, the young activists who orchestrated this non-violent uprising were not organized enough to effectively put forward their vision for a new Egypt. They lacked a coherent constituency when the tasks turned to elections and rebuilding institutions. Only the military and Islamists (and to some extent remnants of the *ancien regime*) had the structures and resources in place to dominate nation-building over subsequent years.

University response

So an important question is raised: are there ways our global project for universities could harness the strengths and guard against weaknesses of both the IT revolution and 21st century social movements? At a minimum, these are phenomena that offer new tools for HEIs to engage more effectively across borders, especially in conflict situations. Examining the nature and impact of information technologies and emergent social movements could open up a more forceful response to the global issues that GUNi volume authors ask universities to take seriously – climate change, inequality, authoritarian violence in all its forms – and the underlying concern for accountable governance. While it is too early for ready answers, the following are some suggestions for how that might proceed.

3 www.zurich.ibm.com/pdf/news/Konsbruck.pdf

Beyond campus walls

1. Take seriously the hypothesis, currently under study, that immersion in new information technologies, especially from an early age, is causing changes in neural connection pathways in the brain and altering the ways we think and act (Guy, 2013). Those lines of research and their philosophical underpinnings have implications for almost all of the topics covered in the GUNi volume, and pose meta-level questions about how teaching and learning may change in the future. Both the pure brain research and its applied social implications need to be pursued rigorously. That will essentially require cross-border collaboration among neuroscientists, ethicists and educators.
2. Undertake systematic efforts to understand the implications for civic engagement of recent 'people's movements', including triggering conditions and longer-term consequences. This is emerging as an important theoretical and applied research area, where again, cross-border research teams will have important advantages (Sherrod et al., 2010). Beyond the empirical contributions to science, there will be practical implications. In each local movement an active international element is observable. Sharing tactical planning information, providing moral and logistical support during non-violent struggles and sheltering public intellectuals from subsequent official backlash are all ways in which global participation is part of a local movement. While these are processes typically opposed by governments resisting change – and global civil society networks are relatively vulnerable⁴ – informal collaborative links are growing and need to be better understood.

Youth are the demographic category most inspired by the new movements and prepared to make global gestures of activism, moral or material support. They understand that they will be the inheritors of the changes they bring to life. Young bloggers in the Arab region, for example, lent their internet and phone capacity to the Green Revolution in Iran when the government closed down telephone and internet messaging in 2009. Three years later, an influx of young people from many countries travelled to Egypt to experience the heady days that followed Mubarak's departure. They came to lend a hand beside young Egyptians, via sit-ins, teaching, film-making and in a myriad of other ways. This phenomena could be harnessed to enrich the ways we teach civic engagement and encourage students to become active citizens. Can the currently spontaneous gestures be made into more effective, sustainable (and safe) learning opportunities for both sides of the encounter?

4 International Center for Not for Profit Law: <http://www.icnl.org/research/journal/vol14iss3/art1.html>

3. The largely non-violent people's movements described above exist side by side with insurgent violence and terrorism among political groups at levels not experienced in recent memory. What does it mean that both forms of 'civic response', if you will, seem to be growing around the globe at the same historical moment? A comparative analysis of the recruitment pools, modalities of action and evolution of these two political forms would provide important information about why more traditional avenues of citizen action appear to be failing (Schedler, 2006). We need a wholesale rethinking of what 21st century citizenship and civic engagement entails before advising universities on how to implement their academic or community-based programmes.

Inside higher education

1. To become truly global, universities that are resource-rich and operate in relatively open environments would need to acknowledge and act on a responsibility to their counterpart HEIs in poorer, more constrained places. At the moment, the opposite is too often the case, when northern universities open satellite campuses to compete with developing country institutions, or lower their admission and graduation standards to attract tuition from developing country students. We should identify and promote positive models of north-south engagement where they exist.
2. Many taken-for-granted features of higher education in developed settings are underutilized or unknown elsewhere. And the reverse is also true. This reality points to an 'easy win' through active programmes of HEI twinning in which institutional exchanges benefit both institutions. One important outcome would be that local capacity is increased in troubled settings in such areas as shared digitized library resources, improving classroom technologies, or adapting internships and service learning programmes to difficult settings.⁵
3. Students already utilize new media channels to seek information from a vast array of sources. Universities can help to shape that around meaningful academic interaction among students and faculty in far-flung and diverse places. In order to be productive, these exchanges need to build on the experiences of Soleya and other organizations with sustained and meaningful youth dialogue and guided reflection.⁶ At little cost, and using models such as Soleya's, universities could provide incentives for faculty to build video-conferencing and other modalities of global contact and learning into their syllabi.

5 The John D. Gerhart Center at American University in Cairo recently convened a faculty group to modify service learning classroom procedures to be suitable for very large class sizes and communities in conflict. www.aucegypt.edu/research/gerhart

6 http://www.soliya.net/?q=why_we_do_it_vision_and_mission

4. Other ideas include raising local resources for a ‘scholar rescue programme’ from conflict areas to enrich existing local faculty.⁷ The overall impact would be tremendous as well if every university in the global north were to house and educate just a handful of qualified refugee students each year. Currently, Turkey is supporting almost 5,000 Syrian refugees to attend public universities in the country. Funding to sustain these programmes could be raised locally from businesses and individuals. When students of privilege are trained to reach out to their networks by fundraising for a worthy cause, the results can be exceptional. They learn a new and useful skill, and donors may respond more readily to youthful requests than to those coming from university development officers.
5. Simplify the nuts and bolts of university programmes: actively encourage international student exchanges by making it easier to transfer credits and meet graduation requirements. Provide incentives for faculty to conduct research or teaching projects with counterparts around the globe, especially in challenging settings. The EU offers a model for faculty to collaborate in research teams in adjacent developing countries by building those requirements into Tempus and similar funding competitions.⁸
6. Resources are a major barrier to reform in the majority of universities outside the OECD countries. Thus, incentives for more contact, information sharing and collaboration need to be built into global programmes. Global networks of civically engaged universities such as the Talloires Network could ask their member presidents to launch a fund at each university for students and faculty to engage globally with counterparts in addressing the ‘big issues’ of the day. Those efforts will be strengthened when linked to the SDGs, multilateral networks and the UN system. A simple start-up idea would be for mid-level university administrators to transfer their expertise and gain cross-border experience in post-conflict settings by helping to upgrade IT systems, establish alumni databases, and internship or career counselling programmes, etc.
7. Even in relatively closed, authoritarian systems, individual reformers and pockets of excellence exist in HEIs and in governing bodies. Working with local counterparts, university leadership can seek them out relentlessly and find ways to build programmes with them safely. One young professor at Cairo University helped students to start a social service organization in Egypt that has remained youth-run and has over 200,000 young volunteers working in diverse programmes.⁹ When it was under threat of closure from security agencies, his networks helped the organization to survive and thrive. These examples abound, and could provide international service learning opportunities.

7 <https://www.scholarsatrisk.org/>

8 http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/international-cooperation_en.htm

9 https://en.wikipedia.org/wiki/Resala_Charity_Organization

For all of the above suggestions, GUNi and its affiliated global networks have a key role to play. In addition to disseminating this report widely, they may act as a clearing-house for information, ideas and contacts to move the agenda forward. We can envision a vibrant, interconnected web of faculty, administrators and students working together on myriad such projects. These would serve the goal of raising up *all* higher education around the globe.

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1.3. Education: Key to Reaching the Sustainable Development Goals

Arab Hoballah, Garrette Clark, Khairon Abbas

Abstract

The Sustainable Development Goals (SDGs) that came into effect in January 2016 address critical global development challenges such as ending poverty, combating climate change and providing quality education for all by 2030. Building on the (previous) Millennium Development Goals, the 17 SDGs aim to leave no one behind by stimulating needed action for humanity and the planet, with all countries playing a role.

Education underpins the SDGs and many experts are already talking about the 'SDG Generation' which is needed to make them a reality. This new generation must be equipped with the necessary understanding, skills, competencies and knowledge to ensure their successful implementation, while embracing a continuous improvement approach. SDG implementation requires increasing efficiencies in tandem with radical transformations which will be achieved through innovation across institutional levels. Education, both formal and informal, and in particular higher education and capacity-building, are instrumental in defining success.

This article outlines the role of Higher Education (HE) systems and Institutions (HEIs) in implementing the SDGs, given their ability to provide intellectual guidance, capacity strengthening and scientific evidence to support policymaking. It also provides an overview of the SDGs, particularly those relevant to education and sustainable consumption and production (SCP) and the role of education in policymaking, specifically responding to SDG targets – matching national development needs with the overall vision of the post-2015 development agenda.

Finally, recommendations for the future, highlighting the importance of countries learning from each other by exchanging information on what works and what does not are offered. Existing or new knowledge networks that support and facilitate this exchange between countries are proposed, as the role of HEIs is crucial in redefining the objectives of existing knowledge networks and creating new ones. HEIs are urged to mainstream sustainable development issues in curricula in an effort to produce sustainable development leaders who can contribute to the 2030 Agenda for Sustainable Development.

Demystifying the Sustainable Development Goals

“The new agenda is a promise by leaders to all people everywhere. It is an agenda for people, to end poverty in all its forms – an agenda for the planet, our common home”.

Ban Ki-moon, former Secretary-General of the United Nations

What are the Sustainable Development Goals?

2015 was a decisive year for the future of the planet. In September 2015, the 193 members of the United Nations (UN) General Assembly adopted the 2030 Agenda for Sustainable Development, which includes the Global Goals, consisting of 17 Sustainable Development Goals (SDGs) with 169 targets, operational from 1 January 2016. This bold and ambitious global agenda provides a new cosmivision for human wellbeing and prosperity in areas of critical importance for humanity and the planet.

The SDGs address pressing global sustainable development challenges, ranging from ending poverty and hunger to ensuring good health and wellbeing, and covering inclusive quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry, innovation and infrastructure, reduced inequalities, sustainable cities and communities, sustainable consumption and production (SCP), climate action, life below water, life on land and peace, justice and strong institutions. What role will education and related institutions play?



Figure 1: The Sustainable Development Goals

Source: <http://www.globalgoals.org/resource-centre/the-basics/>

The SDGs: building on the Millennium Development Goals

To better understand the SDGs, it is helpful to review their precursor, the historic Millennium Development Goals (MDGs). These eight goals, which ended in 2015, ranged from halving extreme poverty rates and stopping the spread of HIV/AIDS, to providing universal primary education and reducing child mortality. They represented one of the first global visions for the planet's future. Adopted in 2000 with uneven progress,¹ they produced the first global anti-poverty movement and showed progress in areas like improved access to water and increased primary school enrolment (UNDP, 2015). They built the solid foundation for the continued commitment to finding a common vision for the planet's future.

The MDG development process could have benefited from broader stakeholder engagement and from addressing the systemic issues that define the development context, such as trends in (unsustainable) consumption and production, poverty and gender (in)equality and in enhanced multi-stakeholder engagement (Ford, 2015). While the MDGs did not mention human rights, address economic development or engage all countries, these issues were addressed in the SDG development. The SDGs were developed through an inclusive and transparent UN member state intergovernmental process and focus on the underlying causes of poverty, providing a better balance among the three dimensions of social, economic and environmental development (Nilsson and Costanza, 2015). The SDGs will finish the job that the MDGs started – offering a new comprehension of human and life dynamics based on addressing the global systemic nature of development.

The SDGs: key to addressing global challenges

The SDGs provide a global framework for government leaders to strategically develop relevant national policies that address global challenges. They are universally applicable to all UN Member States and are interdependent. They recognize the overall objectives of eradicating poverty, changing unsustainable patterns of consumption and production and promoting sustainable alternatives, and protecting and managing the natural resource base (UN, 2012).

The SDGs are designed to address global societal and environmental issues, including the promotion and adoption of more sustainable consumption and production (SCP) patterns. SCP helps achieve sustainable development plans because it involves doing more and better in less resource-intensive ways. SCP calls for the use of services and products which respond to basic needs and bring a better quality of life, while minimizing the use of natural resources and the emission of waste over the lifecycle of the service or product, so as not to jeopardize the needs of future generations (UNEP, 2010). It requires societal changes in values and habits, e.g. systemic changes in the supply chain and promoting behavioural changes among consumers.

The SDGs reinforce each other, as parallel themes run throughout. For example, in addition to SDG12, which specifically highlights SCP, there are related elements of sustainable lifestyles and sustainable food systems covered in other SDGs with similar themes. SCP seeks to enhance the sustainability of production and rethink how best to meet the demands of a growing population. SCP is a crucial element for sustainable development and for increasing the quality of life for all.

Monitoring the SDGs through an indicator framework

A robust follow-up and review mechanism for the implementation of the SDGs calls for a solid framework of indicators and statistical data to monitor progress, inform policy and ensure accountability. This framework enables the SDGs to become a *management tool* that assists countries in identifying needs, creating implementation strategies and allocating resources accordingly, and developing a *report card* that measures progress towards sustainable development and ensures accountability in achieving the SDGs (SDSN, 2015).

As an example, the suggested indicators for SCP-related targets, such as target 4.7 on ensuring all learners acquire the knowledge and skills needed to promote sustainable development, include teacher training and teachers' skills to deliver education for sustainable development (ESD), SCP mainstreamed into formal education, and the frequency of online searches for key words directly linked to sustainable development and lifestyles. Target 12.8 on ensuring people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature has some of the same indicators as target 4.7, in addition to measuring the number of countries implementing the UN Guidelines for Consumer Protection, and the market share of goods and services certified by independently verified sustainability labelling schemes.

Strengthening capacity-building at country level (e.g. on data collection and application) is instrumental in increasing the readiness for measuring the SDG indicators. While the world refines its efforts to meet and monitor the SDGs, countries can start to identify available key data sources for measuring progress and use existing work on statistics both nationally and internationally.

Education in the SDGs

Education is essential to achieving all the 17 SDGs, given its power to galvanize gains throughout. The SDGs place significant emphasis on education, particularly through **SDG4**, the only standalone goal on education. This goal, which aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, has 10 targets tackling issues such as ensuring that girls and boys complete free, equitable and quality primary and secondary education, eliminating gender disparities in education and ensuring all learners acquire the knowledge and skills needed for sustainable development.

Education is a crosscutting topic, most notably included in these SDGs:

SDG3: Ensure healthy lives and promote wellbeing for all at all ages.

3.7: By 2030, ensure universal access to sexual and reproductive healthcare services, including family planning, information and education, and the integration of reproductive health into national strategies and programmes.

SDG12: Ensure sustainable consumption and production patterns.

12.8: By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.

SDG13: Take urgent action to combat climate change and its impacts.

13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

Higher Education forging a new SDG Generation

The importance of education in facilitating a shift towards sustainable development and in promoting SCP patterns is long-standing and has been internationally articulated and reaffirmed through various frameworks, including the UN's decision to launch a Decade of Education for Sustainable Development (DESD, 2005-2014). The SDGs acknowledge the significance of education in addressing global challenges and have incorporated education into several goals, including SDG3 on health, SDG12 on SCP and SDG13 on climate change, plus standalone SDG4 on education. Education for Sustainable Development (ESD), in particular, is an integral element of quality education and a vital enabler for sustainable development.

The expectations of the SDGs are very high and experts are already talking about the 'SDG Generation' that is needed to make them a reality. This 'SDG Generation' – consisting of a wide range of social groups and actors – needs to be mobilized to deliver on the goals as agents of change, together with governments. It must be equipped with the necessary understanding, knowledge, skills and competencies, as well as strong partnerships, to be able to adequately implement the goals, while embracing a continuous improvement approach. In addition to global engagement around multi-stakeholder partnerships, SDG implementation requires increasing efficiency in tandem with radical transformations achieved through innovation across institutional levels, including Higher Education (HE) systems and institutions.

The urgent need for society to change its current pathway and move towards sustainable development hinges on Higher Education Institutions (HEIs) as they can influence and guide future decision-makers in all sectors. The SDGs are integrated and indivisible and generate huge gains for all, including HE systems and institutions that can serve local and national governments by playing a proactive role in ensuring the SDGs are included in local agendas, proposing changes to education and conducting research and civic engagement with the local and global communities on sustainable development issues.

Education policymaking for the Sustainable Development Goals

“HEIs [...] have a responsibility to ensure that students are sensitized to [...] myriad development challenges, and that graduates are also equipped to create an informed and engaged citizenry – one that promotes sustainable development...”

Professor Goolam Mohamedbhai, former President, Association of African Universities.

SDG targets and the role of policymakers

The SDGs were built on years of experience around the sustainable development agenda and are consistent with relevant international commitments. Achieving the SDGs is a shared responsibility and global partnership is crucial to ensure their successful implementation (UN, 2015). Achieving the SDGs' 169 targets requires strong ownership of the SDGs, particularly at national levels. Fortunately,

policymakers were actively involved in formulating the SDGs and planning for their implementation while the SDGs were being negotiated, providing solid ownership and foundation for SDG implementation nationally (IISD, 2015).

Policymakers have been instrumental in supporting policy changes towards SCP, for example, through the Marrakech Process (2003-2013), a global informal multi-stakeholder process on SCP policy promotion and capacity-building which highlighted the important role of education and capacity-building for SCP. UNEP, together with governments and donors including the European Union, Sweden and Norway, helped support the establishment of regional SCP roundtables and national SCP policy capacity-building, all of which have strengthened the capacities of policymakers in the implementation of SCP-relevant activities.

Building on the work of the Marrakech Process, the 2012 Rio+20 Conference validated a 10-Year Framework of Programmes on SCP (10YFP) which supports the implementation of the SDGs by providing capacity-building, technical guidance and support for mainstreaming SCP into sustainable development policies, among others (10YFP Board, 2014). The six 10YFP programmes focus on policy areas and sectors closely tied to the SDGs and, within each, education and capacity building are paramount. In particular, the 10YFP Sustainable Lifestyles and Education Programme has the mission to refine a vision for and foster the uptake of sustainable lifestyles in tandem with supporting SCP education including research.² Many similar platforms at all levels are reinforcing the message.

Engaging education policymakers on SCP

The UNEP pilot project on advancing education for sustainable consumption (ESC) policy and implementation strategies was launched in collaboration with the Marrakech Task Force on ESC in Chile, Indonesia and Tanzania (2011-2014). This project invited countries to review and analyse existing national policy frameworks relevant to sustainable development and identify entry points to advance ESC nationally. Multi-stakeholder national roundtables were held with policymakers and education experts to develop best approaches and tools for ESC, which included the adaptation of UNEP's *Here and Now! ESC Recommendations and Guidelines* to national contexts, priorities and needs. The national guidelines and recommendations, which also consist of implementation strategies that define the necessary steps to cement ESC in curricula, have been widely disseminated with ministries engaged in education, SCP and sustainable development with the aim of stimulating national policy changes.

The role of Higher Education systems and Institutions in policy

Education, and Higher Education (HE) in particular, are vital components for policymaking. They must maintain relevance, quality and excellence in their work if they are to make profound contributions to society and effectively guide decision-makers (Kamba, 1991). HE systems and institutions can influence policy through their roles as: *educators* that provide knowledge; *trainers* that provide professional training and produce highly qualified manpower required to meet the needs of governments and others; *researchers* that produce data that informs policymakers; *facilitators* that contribute to regional

development and international cooperation; and *enablers* that foster the intellectual, social development and wellbeing of society (Seidel, 1991).

HE, specifically, prepares individuals to serve the needs of an adaptable, sustainable, knowledge-based and highly competitive global economy across local, national and regional levels, particularly a green economy, which results in improved human wellbeing and social equity, while significantly reducing environmental risks and ecological scarcities (Taylor and Miroiu, 2002).

The work of HE systems and institutions translates into policy through:

- » Developing specialized knowledge: Together with stakeholders, HE systems and institutions provide accurate research evidence, intelligence and analysis for policymakers, who use it to develop national development policies (ACU, 2015). Researchers agree that “policy-oriented research is more likely to be seen as ‘useful’ if it has clear action lines addressed to particular role-players rather than consisting of theoretically rich but practically unresolved Socratic deliberations” (CHERI, 2010).
- » Producing new sustainable development leaders and skilled professionals and specialists: Meeting the SDGs requires the specialized knowledge and expertise of skilled graduates who are well-informed about sustainable development and how development challenges can be addressed.

Capacity-building for SDG policy and planning

HEIs are indispensable in turning sustainable development from concept into practice by building capacity for sustainable development planning and management. Countries, together with HEIs and policymakers, should adapt the 2030 Agenda and SDGs to their own context and implement the goals “to enhance the relevance of capacity-building and training programs” (Pinter and Huppe, 2014). While organizations, including the United Nations, provide courses that focus on sustainable development planning and the themes, tools and methodologies for integrating sustainable development issues into specialized policy areas, a review of these courses reveals that very few of them (less than four per cent of courses reviewed) focus directly on sustainable development policy and planning (Pinter and Huppe, 2014).

HEIs can address this challenge by providing capacity-building on sustainable development policy and planning, which is fundamental to ensuring that policymakers have the necessary means to implement both the global and country-specific provisions of the SDGs. Vigorous capacity-building efforts could

involve developing “new targeted courses for government policymakers and other key stakeholders for implementing and monitoring sustainable development strategies in response to articulated needs” (Pinter and Huppe, 2014).

Most development projects and many SCP initiatives have capacity-building components. Finding ways to capture and share experiences and resources, and integrate learning into formal and informal education has great potential to contribute to the SDGs.

Higher education affecting policy changes

Education, particularly access to universal primary education, continues to attract international attention, from the World Declaration on Education for All (1990) and the Johannesburg Plan of Implementation (2002), which called for integrating sustainable development into formal education, to SDG4 on ensuring inclusive and equitable quality education and promoting lifelong learning opportunities.

In 2005, the UN Decade of Education for Sustainable Development (DESD) was launched to enhance the role of education in promoting sustainable development. The DESD generated numerous success stories that can be scaled up. Achieving SDG4 can be accomplished in conjunction with other international frameworks, such as the Global Action Programme on Education for Sustainable Development (ESD), which, as the follow up to the DESD, aims to generate and scale up actions in education to accelerate sustainable development. The Higher Education Sustainability Initiative (HESI) is another actor in achieving the SDGs, given its role in galvanizing commitments from HEIs to teach and encourage research on sustainable development. With a membership of more than 300 universities, HESI provides HEIs with a unique interface between education, science and policymaking by encouraging research and teaching on sustainable development, greening campuses and supporting local sustainability efforts.

The Global Universities Partnership on Environment and Sustainability (www.gupes.org) is UNEP’s flagship programme on environmental education, engaging over 680 universities worldwide. Launched in 2012, GUPES aims to increase the mainstreaming of environment and sustainability practices and curricula into universities by supporting innovative approaches to education. This includes the development of a Greening Universities Toolkit, which is geared towards transforming universities into green and sustainable campuses, and forging regional partnerships. GUPES provides a solid partnership for the SDGs and contributes to revitalizing the global HE system, enabling it to address sustainable development challenges.

UNEP, as part of its core multi-stakeholder approach, consistently engages HEIs in policymaking-related activities that recognize the role and need for formal education and research. For example, the UNEP Global Survey on Sustainable Lifestyles (GSSL) brought together HEIs, research institutes and regional centres to explore how young adults (aged 18-35) perceive and shape sustainable lifestyles.

The findings of this research, which involved surveying 8,000 young adults in 20 countries, presented in *Visions for Change: Recommendations for Effective Policies on Sustainable Lifestyles*, serve as a valuable source of information on young people's insights.

Visions for Change is addressed to policymakers to support the shift to sustainable lifestyles through effective policies and communication and awareness-raising campaigns. Policymakers are provided with clear-cut direction on how to educate and empower young adults on sustainable lifestyles, inspire new visions of progress and empower behavioural alternatives. The GSSL revealed that more efforts are needed to create a holistic and pragmatic vision of what a sustainable society is and how it can be translated at individual levels (UNEP, 2011). HEIs have a key role to play in defining this vision and forging this shift towards sustainable development and lifestyles through generating, synthesizing and sharing knowledge. Higher education can further promote more sustainable ways of living by developing and using SCP curricula and researching identified areas.

Recommendations for the future: making the SDGs a success story

“These Goals are a blueprint for a better future. Now we must use the goals to transform the world. We will do that through partnership and through commitment. We must leave no-one behind”.

Ban Ki-moon, Secretary-General of the United Nations

Opportunities for HEIs in the 2030 Agenda and the SDGs

Underscoring change, the role of HE systems and institutions is paramount. They could play the most critical role in the implementation of the SDGs as they provide the intellectual guidance, capacity-building and strengthening and scientific evidence needed to support policymaking. Two essential contributions from HE systems and institutions to the 2030 Agenda and the SDGs include:

- » Undertaking transversal reviews and refining curricula in all offered degrees (rather than creating new degrees). This exercise ensures the mainstreaming of sustainable development issues across curricula. New degrees can be developed as new needs emerge.
- » Including new values and practices for economic development that enhance social equity while reducing environmental risks in both curricula and research. HEIs must recognize their essential contribution in developing research and curricula based on this holistic, multidisciplinary approach and be equipped to provide policymaking advice and citizenry information on how to understand prosperity in an interdependent manner.

In today's ever-changing digital world, learning takes place beyond the formal education system. Individuals are increasingly turning to continuing education to gain knowledge and upgrade their skills. SDG4, which emphasizes promoting lifelong learning opportunities for all, implies the adaptability needed for HE systems and institutions particularly through continuing education, and tools such

as Massive Open Online Courses (MOOCs) which can be very effective at reaching people globally. (High-Level Policy Form, 2015).

High-level policy forums have called for equity, access and quality for online learning, while acknowledging the need for governments to provide policies and funding opportunities, and for innovations in HE.³ Increasing and strengthening the use of online, open and continuing education ensures that more students are learning more often, anywhere, at any time. Achieving SDG4 means we must use all methods to reach out to all learners in different circumstances worldwide. This includes using MOOCs, which enable individuals to learn from the best institutions, often for free, using online platforms. HE systems and institutions must become more inclusive, open and accessible to all, making sure that education also reaches those that cannot attend courses on campus.

Achieving these opportunities involves HE systems and institutions becoming proactive in building stronger, beneficial partnerships with SDGs actors, such as governments, civil society, the media etc. for maximum impact and results in moving this inclusive global sustainable development agenda forward. There is a need to strengthen cooperation (e.g. North-South) to facilitate the exchange of information and approaches between countries. Improving investments in ICT, particularly for HEIs in developing countries, is fundamental for ensuring learners and educators have access to the information they need to educate, build capacities and facilitate knowledge sharing.

HEIs and policy development supporting the SDGs

The implementation of the SDGs requires the development of new policies, or the retrofitting of existing ones. And undeniably, evidence-based and informed policymaking will be the cornerstone of long-term success. Policymaking should respond to SDG targets, matching national development needs with the vision of the post-2015 development agenda. Countries learn effectively from each other, cooperating in addressing similar challenges and exchanging information on what works and what does not. Existing or new knowledge networks to support and facilitate this exchange between countries are needed and HEIs are central to redefining the objectives of existing knowledge networks and creating new ones.

Without strong HE systems and institutions, the SDGs will be a distant hope (ACU, 2015). O'Brien (2011) argues that we can strengthen HE systems and institutions today so they can influence policy by developing strategies that strengthen policymaker engagement, ensuring their involvement at the onset of research, and by producing research with clear outcomes and guidance, visibly defining policy implications and communicating findings in an accessible manner for policymakers to easily translate into policy. HEIs must be prepared to showcase the relevance of their work, so everyone can see how research translates into useful and sustainable impact (ACU, 2015). Policymakers should also create an environment that is conducive to higher education research by recognizing the value of HEIs being seen to influence policy. This creates mutual understanding and respect and can forge healthy relationships between HEIs and governments (O'Brien, 2011).

There must be a demand from policymakers for knowledge and research, and HE systems and institutions must be ready to meet this demand by producing relevant knowledge and disseminating it to various actors (Carden, 2009). SDG actors need to be well educated, informed and equipped with research and capacity-building, as this can enable policy processes to be heightened, creating a greater chance for research to make a positive contribution. It is therefore upon HE systems and institutions to recognize how essential their contributions are to policymakers and wider society, and ensure that their objectives and research activities are well communicated to SDG actors.

A call for action to HE systems and institutions

In this SDG era, HE systems and institutions must expand how they develop, gather and share knowledge, research and information with the world, so that we can collectively explore new, sustainable and innovative ways of moving towards sustainable development (van der Valk, 2015). In an effort to become more inclusive, HE systems and institutions must identify ways to support and connect with traditionally marginalized groups (ACU, 2015). Another challenge for HE systems and institutions lies in incorporating the diverse demands of stakeholders into their own agendas while tackling local, regional and global issues.

Undoubtedly, successful ownership and on-the-ground implementation of the SDGs rely on collective action and robust networks and partnerships. HE systems and institutions can be the unifying platform that disperses the required information and knowledge that can guide the policymaking needed to place the world on a path towards sustainability.

HE systems and institutions are central in creating a more sustainable future, particularly through curricula development and with the rise of online, open and flexible learning that can forge a new SDG Generation. They must rise and embrace sustainable development in their mandates and curricula while engaging communities in sustainable development programmes. As educators and policymakers, it is our duty to deliver a more sustainable world – for current and future generations – through education.

Interesting case studies / examples

SDG 11: Why cities play an important role in achieving the SDGs

Half of humanity – 3.5 billion people – lives in cities today, and by 2050 this number will reach 6.5 billion people, with most urban expansion in the developing world. While cities, as hubs of innovation, creativity and cultural development, drive economic growth, they are faced with rising challenges that come with a growing population. Sustainable development cannot be achieved without drastically transforming the way we live, build and manage urban areas.

Cities are central to achieving the SDGs because it is within cities that we achieve inclusive economic growth, ensure equality and healthy lives. It is also in cities where individuals seek opportunities for higher education and employment. That is why SDG 11 on making cities and human settlements inclusive, safe, resilient and sustainable is instrumental, since achieving

the targets of SDG 11 sets the stage for achieving other targets in the other SDGs e.g. SDG 4 on education. For example, achieving SDG 11 target 2 on providing access to safe, affordable, accessible and sustainable transport systems for all, enables individuals to physically access other key services in cities, such as education.

Sources: <http://unchronicle.un.org/article/goal-11-cities-will-play-important-role-achieving-sdgs/>
<https://unchronicle.un.org/article/goal-11-cities-will-play-important-role-achieving-sdgs>

SDG 11: Education for inclusive, safe, resilient and sustainable cities

The 2016 International Conference on Education as a Driver for the SDGs called for HEIs to use every opportunity to provide information and knowledge for all citizens and become facilitators of change by creating forums where responsible citizenship can be developed. The concept of 'improving lives' in urban areas should be integrated as a subject of discussion in educational processes.

As archives of knowledge within urban areas, HEIs should recognize their important role of being a credible ground where stakeholders can meet without apprehension and inhibition to deliberate freely and fairly. Moreover, HEIs are well positioned to extend beyond formal education by using every opportunity possible to educate citizens to be responsible citizens in this SDG era.

Source: http://www.cceindia.org/esdg/Goal_11_-_Recommendations.PDF

Local leaders as SDG pioneers

The Local Network SDG Action Plan aims to spur action and inspire businesses around the world to help advance the SDGs. This Action Plan engages the UN Global Compact's Local Networks in the development and execution of SDG implementation strategies and in linking them with national plans of action.

The Local Networks are currently conducting SDG Kick-Start Workshops to engage the 13,000+ UN Global Compact participants, which comprise businesses, academic institutions, civil society and cities, among others. These workshops aim to help identify local priorities and opportunities related to the SDGs. The Action Plan also highlights individuals who are contributing to sustainable development through its Local SDG Pioneers programme. This programme honours business leaders and changemakers who are advancing, advocating for and mobilizing action sustainable development in their country.

HEIs that want to become local leaders on a global stage to inspire transformational action on SDGs should contact the UN Global Compact.

Sources: http://www.sustainablebrands.com/news_and_views/leadership/sustainable_brands/un_calling_local_business_leaders_changemakers_pioneer

<https://www.unglobalcompact.org/what-is-gc/our-work/sustainable-development/global-goals-local-business/In-action-plan>

Integrating SDGs into national programmes

Many countries have started to integrate the 17 crosscutting SDGs and associated targets into their national programmes. For example, Iran has introduced environmental education into school curricula to increase environmental awareness. The success of these goals rests on localizing the SDGs as per the need and context of the countries and regions, and stakeholders, including HEIs, are urged to do so. We cannot undermine the role of agriculture when we talk about food security and zero hunger, particularly since sustainable agriculture is closely tied to health and other factors. Likewise, we cannot talk about ending poverty and gender inequality without prioritizing development of rural areas, home to 3.5 billion people, many of whom are living in extreme poverty.

Source: www.thedailystar.net/op-ed/linking-rural-development-sdgs-786703

The Sustainability Literacy Test

One way HEIs can be sure they are producing sustainability literate graduates is through the *Sustainability Literacy Test* – a tool that accesses knowledge in economic, social and environmental responsibilities for HE students around the world studying at tertiary levels (Bachelors, Masters, PhD). The content of the test, which is of international and regional relevance, is directly related to the SDGs, focusing on sustainable development issues and trends. This Sustainability Literacy Test enables hundreds of HEIs around the world to enhance sustainability literacy and provide a benchmark with statistics.

Source: <http://sulitest.org/en/the-sulitest-initiative.html>

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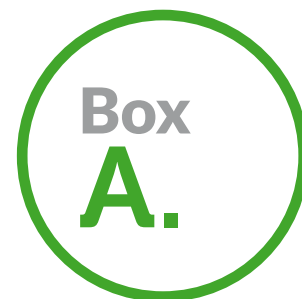
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Endnotes

- 1 Some note the MDG framework – limitations in MDG formulation, their structure, content and implementation – rather than extrinsic issues. MDGs were created by few stakeholders without adequate involvement from developing countries and overlooked previously agreed development objectives. Others note that the MDGs were unachievable and simplistic, not adapted to national needs. Retrieved from www.ncbi.nlm.nih.gov/pmc/articles/PMC3877943/
- 2 The 10YFP SLE programme has three work areas, with one focusing specifically on Education for Sustainable Lifestyles (mainstreaming sustainable lifestyles into formal education, making sustainable lifestyles a focus in every learning environment and mobilizing and empowering youth for sustainable lifestyles). Retrieved from <https://www.unep.org/10yfp/sle>
- 3 Such as the World Education Forum (Korea, May 2015) with conclusions that highlighted the importance of flexible learning pathways and the use of ICTs, and the International Conference on ICT and Post-2015 Education (China), which set an ambitious agenda for the use of ICTs, including mobile learning and open and online solutions. Retrieved from http://teachonline.ca/sites/default/files/pdfs/higher_education_for_the_sustainable_future_we_want_-_a_call_for_action.pdf

Beyond 2015 – Raising the Visibility of Higher Education and Development

Liam Roberts



Introduction

In mid-2013, with the Millennium Development Goals (MDGs) approaching their planned 2015 target date, the Association of Commonwealth Universities (ACU) posed a question: what role will higher education have in any new, replacement development goals? Which led us, naturally, to another question: how might we best be able to help?

The original MDG framework, of course, did not explicitly reference higher education (HE), either as the subject of a development goal or as an explicit agent to address development goals. As the new post-2015 development framework began to crystallise within the United Nations (UN), led by a dedicated High Level Panel, we saw a key opportunity for higher education to raise its collective voice regarding its developmental power and potential.

The ACU came to this discussion from a clear position: that higher education is exceptionally well-placed to help address global challenges, in part through informing policy with research evidence, through graduating generations of new leaders and skilled professionals and through engaging diverse community stakeholders. But universities also need sufficient recognition of their developmental role if they are to fulfil it meaningfully – both from governments responsible for development policy (and higher education policy) and from a range of funding bodies responsible for committing resources. The transition from the MDG era to an SDG era was thus a critical moment for universities to make a strategic case as developmental agents.

Purpose of the Beyond 2015 campaign

To help make this case, the ACU convened a two-year advocacy campaign to champion instances of developmental good practice in HE and to promote universities' potential going forward. The 'Beyond 2015' campaign ran from October 2013 to September 2015, primarily online but also through workshops and events held in the UK, Malawi, Pakistan and South Africa, among others. The campaign was designed as a platform for hundreds of voices from across and outside the HE sector, each one speaking to how higher

education has supported (and can further support) development processes in a global context. We invited university leaders, students, academics, and representatives from NGOs, funders and think tanks to contribute their views on higher education's real and potential social and developmental impact. Though curated by the ACU, the campaign's message was ultimately driven by its contributors.

Building the campaign

The Beyond 2015 campaign was modelled as a global conversation within a broad thematic structure, based on a series of six 'key questions' about what universities can and should be doing to contribute to the broader development agenda:

1. Why does the Post-2015 agenda matter for higher education?
2. How are universities already addressing local, national and international issues?
3. How can universities prepare to respond to the Post-2015 agenda?
4. What partnerships should universities establish to achieve their objectives?
5. How can universities champion their contributions to wider society?
6. How relevant and realistic are the Post-2015 goals likely to be?

Within this structure, we launched a call for evidence, inviting submissions in a range of forms, including articles, blog posts, videos, interviews and podcasts. Regular email newsletters to subscribers provided a synthesis of ideas and experiences, highlighting both trends and specific examples that were emerging across the campaign's lifespan. Early trends that we identified helped to inform the design of events and workshops, which, in turn, furnished us with new evidence and insights through informed discussion, which we sought to capture and represent on the campaign website as 'postcard contributions'. In this way, the campaign took on a cyclical nature, with an evidence base that informed stakeholder discussion, and with stakeholder discussion contributing to the evidence base.

Findings from the campaign

Contributors to the campaign were clear: universities already dedicate a large portion of their resources to addressing local, regional and interna-

tional issues, and have strong examples to share to help inform future practice. One South African contributor told us of research engaging with the community to address and solve sanitation issues in an informal settlement in the Stellenbosch region (Amollo, 2013). A network of leading Australian universities also submitted a case study on their progress in tackling malaria (McMahon, 2013), and another discussed the collective approaches developed by research centres towards mitigating climate change (Siew, 2014).

While contributions like these make explicit the developmental benefit of high-quality university research, contributors also highlighted the need for universities to better champion their social impact to a wider audience. One contributor told us about a national initiative to showcase the relevance of university research to the general public (Papakosta, 2014), and several contributions focused on how to measure the impact of research on communities – a long-term task, but a critical one in demonstrating the social utility of good, engaged research outputs.

Themes for consideration

Over one hundred articles, essays and videos were submitted in response to the campaign's six key questions, providing a wealth of good practice and lessons for future action. This diversity of voices is, of course, beneficial, and was a central mission for the campaign – but it did require us to consider carefully how to best (and most fairly) extrapolate key findings and highlight trends.

Although the breadth of voices was one of the campaign's stand-out features, we also found it useful to consider the overall focus of the contributions through the lens of 'big issues' occupying the sector. That is to say, what are the challenges universities worldwide are grappling with, and how do they intersect with developmental and social utility?

Engagement – The process of engagement is one such issue, partly as universities are under ever more pressure to demonstrate the ‘value for money’ of their public investment. Community engagement models thus lend themselves well to socioeconomic development (Oketch et al., 2014). As examples, one contributor to the campaign highlighted a Centre for Society-University Interface that had been established to bridge the gap between the university and rural society, with an emphasis on confidence-building for rural girls (Mittal, 2013). Another contributor outlined how environmentally-friendly farming practices were being implemented in a small island state, improving local livelihoods while also addressing environmental challenges that are global in nature (Lalljee, 2014).

Access and equity – HEIs need to be able to accommodate growing cohorts of skilled secondary school-leavers in order to sustain and strengthen high quality teaching and learning. In so doing, universities will also ensure they are producing a new generation of leaders and job creators that are essential to economic development. One contribution to the campaign in particular emphasized the need for HEIs to strive for both accessibility and quality (Grobler, 2013). Universities also need to be fully inclusive in their approach, ensuring that they involve traditionally marginalized groups – for example, by mainstreaming disability in higher education (Olakulehin, 2013).

Employability – HEIs are expected to generate highly-skilled workers and future employers. Employability, however, requires that graduates have skills that are appropriate to market and labour contexts – and socioeconomic contexts are, of course, a key part of this. One of our contributors underlined this through a submission on ‘curriculum relevance’ and the linkages that can help to inform socially-relevant design (Mohamedbhai, 2013). This is a principle that implies, but is not

exclusive to, strong links with enterprise and industry.

Mobility – Increasing internationalization of the higher education sector is a good thing (and a challenge) for the sector itself. But it also places academics and students in a strong position to share learning and experiences to help inform policy to address transnational challenges. As an example, one contributor told us how regional research exchange programmes have enhanced student and staff mobility, and have also helped lead to the harmonization of curricula to address common development objectives (Imbuga, 2014).

Lessons and messages

Informed by good practices emerging within these ‘big issues’, we have drawn some key lessons from the campaign that we have since communicated to stakeholders and partners across and outside the HE sector, including education policymakers from across the Commonwealth (Kirkland, 2016). These key lessons include:

- » High-quality, engaged university research in developmentally strategic areas can inform good policy, and can unearth solutions to key problems across all SDG focus areas.
- » Access to quality higher education systems underpins economic growth, and generates professional paths for skilled graduates with strong leadership skills.
- » Harmonization of education strategy from primary to tertiary levels can ensure sustainable paths for students and lay the groundwork for accommodating growth in enrolment at all education levels.

Funding programmes should recognize education systems holistically, with an understanding of the unique potential for the higher education sector to support evidence-based policy. In dialogue

with national governments, universities can play a constructive role in translating and applying the knowledge they produce. Such knowledge can help inform the design of national development targets in ways that align with the international goals established through the SDG framework.

Concurrently, a dedicated focus from national ministries and governments on strengthening higher education systems – as well as championing the developmental role of higher education with bilateral donors – comprises an essential strategic component to meeting targets across the SDG framework. In today's global knowledge economy, higher education serves as an 'engine of development' now more than ever (Power, 2015).

Conclusion

Unlike in the MDGs, higher education is explicitly referenced in the SDG framework, though only meaningfully in the context of advocating for greater access to all levels of education, 'including university'. It was never the mission of the Beyond

2015 campaign to advocate for higher education as a goal – but instead for its role as a developmental agent in meeting all targets under each goal. Contributors to the campaign, in their variety, brought forward a compelling argument for why universities should be supported in such a role.

Higher education institutions are well positioned between local, national and international spheres – and the knowledge they generate is also well positioned to inform development policy at all levels. As diverse voices in the campaign made clear, a robust higher education sector (within a wider education strategy) will be indispensable if we are to report significant progress towards the SDGs' many targets in 2030.

This article was adapted for the GUNi Global Report on Higher Education from the ACU paper 'Progress and potential: higher education playing its part in the SDGs.' Liam Roberts and Patrice Ajai-Ajagbe (September 2015). Please visit the historical campaign website at www.acu.ac.uk/beyond-2015

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1.4. Juxtaposing Economic Progress with Sustainability in Mind: Issues and Way Forward for Universities

Dzulkifli Abdul Razak, Chang Da Wan, Morshidi Sirat

Abstract

The economic determinism hypothesis posits the role of universities in a knowledge-based economy as the source of skilled human resources, technology and innovations. This societal institution is construed as essential to economic progress by enhancing national competitiveness in the global economy. Underlined by the neoliberal ideology, universities turned towards the corporate and new public management models of efficiency, especially in terms of strategic direction of income generation; students became products, academics were required to be entrepreneurial, research and development activities were expected to lead to commercialization and income generation, and importantly, businesses and industries became consumers of higher education for the sake of economic progress. However.

Universities – arguably the most important societal institution – have a role in developing citizens who are able to contribute politically, socially, culturally and economically to a just and progressive society. Furthermore, universities are also entrusted to mould global citizens who can play a greater part in ensuring that the Sustainable Development Goals (SDGs) can be met, and critical issues such as climate change, environmental degradation, international justice, sustainable development, intercultural understanding, peace building and global equity and human rights are addressed.

The SDGs beginning in 2016 specify six common focal points instead of the usual 3Ps of people, planet and prosperity. The three new areas are dignity, justice and partnership. While the first three dimensions have been familiar to many in balancing the three aspects of socio-culture, ecology and economy, the second three have not been well articulated.

In this paper, we juxtapose the concept of sustainability with that of economic progress and neoliberalism by suggesting a need to go ‘back to the basics’ of the founding purposes of education (Watson, 2013). What this entails includes the following goals: (i) to focus on educating the human person with the ability to think critically, manage knowledge and solve problems, not just training human capital; (ii) not to expect academics to multitask and be entrepreneurial, but instead provide the environment to foster their talent to do what they are most capable of in terms of creating and disseminating knowledge; (iii) to honour and appreciate long-standing academic cultures based on academic freedom and collegiality, not to govern and manage universities like corporate entities.

The current predicament of universities

Universities are arguably the single most important societal institution that conserves, understands, extends and passes on to the subsequent generations the intellectual, scientific and artistic heritage of mankind (Collini, 2012). This institution has survived many changes throughout the history of societies, and the expected role and functions of a university have also evolved with the times. However, as Collini (2012) succinctly puts it, in our current era universities across the world find themselves in a paradoxical position. He continues, “never before in human history have universities been so numerous or so important, yet never before have they suffered from such a disabling lack of confidence and loss of identity”.

Today, universities are confronted with three major paradoxes. Firstly, universities receive more public funding, but are more defensive about their standing as the single most important societal institution of higher learning. Although austerity measures are a harsh reality in higher education around the world (Kruss et al., 2015), many nations both developed and developing have been spending large sums of public money on higher education and related activities such as research and development. However, universities are facing unprecedented pressure to uphold their status as the largest concentration of public intellectuals in society. Many questions have been raised about the universities’ contribution to the socio-economic development of nations, and the extent of the ‘return on investment’ of public spending.

Secondly, the increase in student numbers at universities is unprecedented, but there is also unprecedented scepticism about the benefits of university education. The higher education systems in developed economies such as the UK, the USA and many European countries have shifted from an elite to a mass and subsequently to a universal higher education system (Trow, 2000). Even developing countries, such as China, India and Malaysia, are currently in the mass higher education phase, and rapidly growing into the universal phase. Yet, while the population has been increasing significantly, the value of university education has begun to diminish. The discourse about the benefits of a university education in developing a learned citizen in society has shifted towards the need to train and produce skilled human capital for the economy as encapsulated in the famous *Human Capital Theory* (Becker, 1993). However, in the process of this shift, the emphasis has drifted towards the measurable benefits, while the intangible value of university education has been regarded with great scepticism.

Thirdly, universities are identified as engines of technological advancement and economic prosperity, but are criticized for being self-indulgent, backward-looking and elitist. The economic transformation from a labour-intensive economy to a knowledge-driven economy has highlighted the need for knowledge production and technological advancement as essential ingredients for economic prosperity. Although a university is not the only major producer of knowledge in an economy or society, a large concentration of its activities focus on knowledge production and dissemination. However, with the current reinterpretation of the notion of knowledge and economy, universities are being attacked as ‘ivory towers’ detached from the real world, and also criticized for having fixated on academic and disciplinary knowledge, as opposed to problem-focused, context-driven and interdisciplinary knowledge, which is claimed to be useful for the knowledge economy (Gibbons et al., 1994; Nowotny et al., 2001).

Lastly, in response to the globalization process, in which higher education systems worldwide face similar challenges and are increasingly having to compete across national and regional borders, a single model seems to dominate over others. The traditional understanding of a university, the principal purpose of which is to advance science, research and education, is currently being challenged by a variety of forces that require universities to adapt to changing conditions in society, for instance simplistic reactions to market pressures, while preserving their core values (Hamburg Protocol, 2015).

Why are universities in such a predicament?

The economic determinism hypothesis

One of the ways to answer this question involves examining the economic determinism hypothesis. The economic determinism hypothesis posits the role of universities in a knowledge-based economy as the source of skilled human resources, technology and innovation necessary for economic development (Hawkins et al., 2013). The economic discourse of a knowledge-based economy was also the larger contextual development which encouraged the creation of the economic determinism hypothesis of higher education. Universities, therefore, have become known as the producers, consumers and disseminators of knowledge and graduates are the necessary human resource needed in the knowledge-based economy. In a nutshell, universities are seen as the key drivers of a knowledge-based economy and society through the 'knowledge triangle' of research, education and innovation (Hamburg et al., 2013).

Henceforth, universities cannot be left as ivory towers. Active participation and intervention by modern governments and policymakers are deemed necessary for ensuring the fulfilment of the economic determinism hypothesis (Pillay, 2011). Particularly in many Asian and developing economies, governments assume the role of a 'market-accelerationist state' by active intervention to reduce inefficiency in higher education, and to steer, create and facilitate university-industry-business cooperation (Mok, 2013).

Moreover, as a way to ensure universities fulfil their economic potential, economic approaches such as neoliberalism, free-market fundamentalism and commercialization dictated the development of these institutions (Bok, 2003; Giroux, 2014). In turn, this resulted in universities being run more like corporate or business entities with the notions of efficiency and effectiveness of a profit-driven institution, with a shift away from a collegial institution that elected its own leaders, to either a corporate governance model or public management model depending on the type of university.

Generating revenue has also become the mandate of universities. Conducting academic research may not be sufficient, so institutions and their academics are pushed to commercialize the findings of their research as a major form of income generation. The need to justify return on investment of research funding has also shifted the emphasis from fundamental research to more applied research, in the belief that a shorter period of time from research to developing a prototype is necessary and that applied research has greater commercialization value.

Significantly, universities are also put under immense pressure to restructure themselves in many ways, notably in curriculum design, to produce students who are employable and able to promote innovative creation, exploitation and implementation of knowledge as skilled human capital.

However, the knowledge-based economy is not without its peril. The concept of a knowledge-based economy does not have a coherent definition or theoretical basis; instead, it is a widely-used but rather vague concept (Smith, 2002). A knowledge-based economy is commonly defined as economy “directly based on the production, distribution and use of knowledge and information” (OECD, 1996). However, which civilization and economic phase in the history of mankind was not based on knowledge and information?

More importantly, the discourse of a knowledge-based economy has brought about a paradox regarding the centrality of learning to economic development (Guile, 2001). The emphasis on learning in education and economic discourse, especially in the context of public policy, has been premised on a one-sided and impoverished conceptualization of learning. Knowledge and skills are considered ‘commodities’ that can be possessed by individuals privately. Conversely, learning can be both a process of acquiring knowledge and skills and a process of participating in communities of practice. The process of participation underlines the embedded and situated context of learning (Cobb and Bowers, 1999; Sfard, 1998). Thus, equating learning with only the acquisition of knowledge and skills has contributed to the ‘credentialist’ phenomenon, and the emphasis on qualifications and credentials compounded by a ‘slippery’ concept of a knowledge-based economy has further complicated the discourse of education and economic development (Dore, 1997; Young, 1998).

In this regard, the Hamburg Protocol (2015) in its deliberation recalled that “[t]here is a broad and desirable spectrum of diverse institutional types that depend on the social, economic, political and regional environment. On the one hand, the university as an institution that impacts society; on the other hand, the university as a place of individual education and as a public good”. It is also important to remember that human development and scientific discovery are only possible when academic freedom encompassing the free movement not only of thoughts but also of people flourishes. In a university that promotes autonomy at all levels, teaching and research must be co-determined by academia. This “entails a commitment to take on social responsibility and ensure accountability through a continuous dialogue with society, business, and politics” (Hamburg Protocol, 2015). Thus, the economic determinism hypothesis falls short in its claims at the expense of academic freedom and institutional autonomy, which comprises legal, financial, organizational and academic autonomy.

Balancing economic progress and social needs

Despite the dominant influence of the economic determinism hypothesis in higher education, universities arguably remain the most important societal institution for conserving, understanding, extending and passing on the intellectual, scientific and artistic heritage to the next generation in a community, society and nation. While universities have been expected to play a significant role in training skilled human resources and creating and disseminating new knowledge in the form of technology and innovation, they must also remain steadfast in their fundamental role and function as a societal insti-

tution. A university must stop viewing itself as a training centre of human capital for the economy. It is insufficient to train university students only in the kind of skills and competencies needed for them to find employment; rather, there is a crucial need to educate and prepare students to think critically, manage knowledge and solve problems alongside disciplinary knowledge as a way to prepare them for a rapidly-changing economy and society. A university therefore plays a bigger and more important role in developing citizens who are able to contribute intellectually, politically, socially, culturally and economically to their community, society and nation. Universities should not only focus on the knowledge-based economy, but also assume the essential role of developing a just and progressive society. In addition, in a rapidly-changing world, universities must not lose sight of the crucial task they have been entrusted with, which is to mould global citizens who can play a greater part in ensuring the Sustainable Development Goals can be achieved. More importantly, universities need to prepare global citizens who will rise to the challenge of tackling the many critical issues facing us, such as climate change, environmental degradation, international justice, sustainable development, intercultural understanding, peace building, and global equity and human rights.

University leaders participating in the Hamburg Transnational University Leaders Council (Hamburg Protocol, 2015) believe it is essential for the theoretical and ethical foundations of university education to strike the right balance between the acquisition of knowledge and skills essential for cultivating personal development, meeting both the needs of business and industry, and providing benefits for society. They also consider that, among other points, the relationship between individual researchers and their institutions and the relationship between universities and the state must be shaped in such a way that academic freedom for research and teaching is continuously protected. Apart from the need to revisit the academic culture of collegiality, universities must also make full use of their academic freedom to pursue matters that are of importance to the community and society. As a societal institution, universities must be proactive in addressing issues that are important to their respective communities and societies by attempting to solve problems through research activities, as well as sharing knowledge with local people. It is also imperative “to act in a spirit of cooperation, stimulating the circulation of academic talent between all world regions and thus promoting the development of knowledge-based societies in all parts of the world” (Hamburg Protocol, 2015) in striking the right balance globally.

Furthermore, there is also a need for differentiation, diversity and flexibility in what we consider as excellent. As outlined in the Hamburg Protocol (2015):

Expansion and mass higher education are calling for differentiation – in the sense of diversity – in many dimensions. There is no single way to follow, flexibility is needed. Research excellence is not the only feature of high quality. Governments should also reward other features of quality. It is within the responsibility of universities, [through their academics,] to respond to the needs of students and society –independently of the underlying system –, and to articulate the quality of the different university missions beyond research.

As such, we argue that while striving for economic progress and addressing social needs are equally vital roles for universities, it is possible to attain a balance of the two. Below we share some examples of juxtaposing economic progress with sustainability:

The Concept of *Humaniversity*

The idea of a *Humaniversity* is a response to the challenges facing the role of higher education in developing the whole person (Campbell, 2015; Dzulkipli, 2011; 2012; Wan et al., 2015b). It is a concept grounded in a commitment to humanity, knowledge, moderation, and above all, wisdom. The approach of a *Humaniversity* is based on “a sense of humility and obligation and a genuine commitment to human solidarity and multicultural recognition” (Campbell, 2015: 168). Importantly, the concept of *Humaniversity* addresses the lack of a human dimension in higher education through the ethos of ‘materialistic’ and ‘me first’, and hence, argues the need to reclaim the role of humanity as being the ultimate goal and beneficiary for sustainability and the good of humankind. As outlined by the authors of this chapter in another paper (Wan et al., 2015b), the founding vision and mission of Alburkary International University (2011-2013) was an attempt to ‘humanize’ university education by ensuring that human dignity is safeguarded and kept intact. The main founding aim of this university was to produce human beings with the ‘soul’ of education nourished through student experience. Specifically, the initial intention of the university was to educate and equip students from the ‘bottom billions’ with knowledge, skills and abilities to bring about change in their respective communities, thus leading to sustainable and inclusive societal development. As such, the Humaniversity Competency Framework (Dzulkipli and Evangelos, 2014) has been designed to explore the critical dimensions of students in understanding the dominant and potential roles of knowledge and civil society, and the framework can draw a number of parallels with the global agenda of both the MDGs and SDGs.

Heliopolis University for sustainable development

Heliopolis University is the first non-profit private university in the Middle East and North African region to declare sustainable development as its overall guiding principle. This university was established in Heliopolis, Egypt, in 2012 by SEKEM, an organization that advocates sustainable development. The university has adopted the ‘Project Competence Degree’ that intertwines theory with business needs, whereby students at this university follow an integrated curriculum of teaching, learning, research and practice. Through this concept, students are developed to become social entrepreneurs who have the knowledge, skills, capabilities and competencies to withstand future challenges through innovation, collaboration and technology. The Core Programme of Heliopolis University integrates learning experiences from four streams: (i) language, communication and enterprise; (ii) arts, culture, development and innovation; (iii) social sciences; and (iv) nature and community, in which, in addition to focusing on their area of choice, students also work on projects with partner companies using problem-solving approaches to acquire new competencies and skills in a real-life context (Heliopolis University: <http://www.hu.edu.eg/core-program/>).

Universiti Sains Malaysia

Universiti Sains Malaysia was awarded the Accelerated Programme for Excellence (APEX) status in 2008 by the Malaysian Ministry of Higher Education with the overarching theme of *Transforming Higher Education for a Sustainable Tomorrow* (Universiti Sains Malaysia, 2009). The university aspires to become a world leader in championing sustainability and to be a sustainability-led university that embraces the nexus of ecology-economy-society-culture. In addition, the concern for the ‘bottom

billions' – poor, disadvantaged and vulnerable groups – became the focus of the APEX initiative (Dzul kifli, 2009; Wan et al., 2015b).

The APEX status was a stark departure from the conventional way of becoming a world-class university through the predetermined key performance indicators (KPIs) leading to global university rankings. Instead, considerations were given to the immeasurable and intangible through the key intangible performance indicators (KIPs) (Morshidi and Sarjit, 2010). For example, contributions to alleviating poverty and social deprivation are acknowledged, recognized and weighted as having a successful impact. A healthy campus concept to promote sustainability was introduced alongside courses and modules towards mainstreaming education for sustainable development (Dzul kifli, Zakri, Zainal and Koshy, 2010).

STREAM

STEM is a well-known acronym that needs no further introduction, it refers to science, technology, engineering and mathematics. However, this is a mere utilitarian concept of preparing students to be more relevant to workforce development and improving the competitiveness of the economy and it is not broad enough to provide a meaningful knowledge base for students (Dzul kifli, 2015b; 2016). Instead, education must reawaken the 'soul', and should therefore expand into a more transdisciplinary base from STEM to STREAM: a more balanced mix of the sciences and humanity, namely Science, Technology, Religion (spirituality), Ethics, Arts and Management (governance). The broader base has been neglected in higher education and economic plans and policies (Dzul kifli, 2015b; 2016; Wan et al., 2015a), taking a toll on the type of education that is more in tandem with the demands of Education for Sustainable Development (UNESCO, 2005). According to UNESCO, Education for Sustainable Development allows every human being to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future. It includes key sustainable development issues in teaching and learning, for example, climate change, disaster risk reduction, biodiversity, poverty reduction and sustainable consumption. It requires far-reaching changes in the way education is often practised today, and calls for participatory teaching and learning methods that motivate and empower learners to change their behaviour and take action for sustainable development. In the same way, for the concept of STREAM to be introduced into higher education would require changes to the existing curriculum and approaches. A focus solely on disciplinary knowledge is insufficient; rather, there is a need to consider broader approaches such as liberal arts education and whole person education in reawakening the 'conscience' and 'soul' in a balanced form of higher education (Dzul kifli, 2015a). In fact, in the context of Education for Sustainable Development, in addition to competencies like critical thinking, imagining future scenarios and making decisions in a collaborative way are also crucial. This approach requires far-reaching changes in the way education is often practiced today (UNESCO, 2005).

Waqf

Waqf is not a new concept. It refers to a voluntary and irrevocable Islamic endowment which is managed by an Islamic finance institution within the specified objective of disposition (Kahf, 2011; Nur Rafidah and Abdul Razak, 2015). With the increased influence of neoliberalism and the commodification

of higher education, waqf has re-emerged as a viable alternative means of funding and financing higher education institutions. In Islamic history, waqf has been the financing model for universities dating back to the oldest surviving university of al-Qarawiyyin in Morocco. Other notable examples of waqf and Islamic-based universities include the University of al-Azhar in Egypt, Fatih University in Turkey, Fatoni University (formerly known as Yala Islamic University) in Thailand and the University of Muhammadiyah in Indonesia (Nur Rafidah and Abdul Razak, 2015), and the Islamic endowment concept has been key to the survival and sustainability of these institutions over decades and centuries without relying on state funding. Although the concept of waqf is Islamic in principles, it can be emulated as a legitimate and sustainable way for funding universities, shifting away from reliance on the state, as well as the influence of neoliberalism, the commodification and marketization of higher education.

Conclusion

University is a gift from our ancestors. From the ancient universities in Taxila and the Academy in Greece, to al-Qarawiyyin in Morocco, the medieval universities in Bologna, Paris and Oxford, and the thousands of universities around the world today, this is an institution that the current generation has inherited. Universities need to be ever mindful that they are custodians of an important institution that conserves, understands, extends and passes on the intellectual, scientific and artistic heritage of societies and humankind to the future generations (Collini, 2012). In so doing, the sanctity of the institution must be fully appreciated in order to bring a balanced meaning to education as a sustainable public asset, despite the rapidly changing world. If the economic role of universities is to create the impetus for economic progress through ideas and innovation, then the other side of the coin is its societal role, for instance building a just and equitable society by creating or thinking of mechanisms to redistribute wealth. In this modern world, paradoxically, university graduates are instituting mechanisms to further widen the gaps and inequity in society, both at the national and global level. The logic of neoliberalism is pure and simple; it is unsustainable at the national and global level, where neoliberalism is inherently unbalancing in its tendency towards the idea of competitiveness as primarily 'winner takes all'. Thus, it is even more important to address the great challenges facing society and the planet that put the neoliberal logic of economics in a very untenable state. Moving forward, economic progress and prosperity must no longer be detrimental to the fundamental elements and long-term sustainability of this institution and the societal mission embedded in it. In other words, economic progress must remain within the confines of social needs so that, as Nelson Mandela once said, "history will judge us by the difference we make".

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1.5. The Strategic Positioning of Cities in 21st Century Challenges: the Civic University and the City

John Goddard

Abstract

In the context of the ongoing globalization of the economy and society – a process in which higher education is an active player –, questions are being asked in many circles about the contribution that universities can make to the public good, not least in the places where they are located. More specifically, not only what is a particular university 'good at' in terms of the quality of its research and teaching (as reflected in national and international league tables), but also what is it 'good for' in terms of its active contribution to the wider society globally and locally.

The local dimension is particularly relevant when universities are directly or indirectly funded from the public purse and where governments are accountable to their electorates via territorially-based governance systems. Politicians might be heard to ask: 'I have a university in my constituency or local authority area but how does it actively contribute to the development of my area?' A typical response is that while the university is not formally bound to a particular area it can be a key link for that area to the wider world, connecting the global and the local.

As key institutions in society, all universities have a unique location (mostly in cities) and cannot avoid a relationship with the myriad of other institutions and communities that also inhabit that place, particularly others also involved in the production and distribution of knowledge and public bodies like local authorities responsible for the place in the round and the wellbeing of its citizens.

“As key institutions in society, all universities have a unique location (mostly in cities) and cannot avoid a relationship with the myriad of other institutions and communities that also inhabit that place.

Introduction: the global and the local

In the context of the ongoing globalization of the economy and society – a process in which higher education is an active player –, questions are being asked in many circles about the contribution that universities can make to the public good, not least in the places where they are located. More specifically, not only what is a particular university 'good at' in terms of the quality of its research and teaching (as reflected in national and international league tables) but also what is it 'good for' in terms of its active contribution to the wider society globally and locally.

The local dimension is particularly relevant when universities are directly or indirectly funded from the public purse and where governments are accountable to their electorates via territorially-based governance systems. Politicians might be heard to ask: 'I have a university in my constituency or local authority area but how does it actively contribute to the development of my area?' A typical response is that while the university is not formally bound to a particular area it can be a key link for that area to the wider world, connecting the global and the local.

This response chimes with a growing recognition of the link between globalization and localization. As Grau points out: "Although communication is now global, location, proximity and uniqueness still matter". He quotes the distinguished urbanist Manuel Castells who notes that "the network society diffuses selectively, working on the pre-existing sites, organizations and institutions which still make most of the material environment of people's lives. The social structure is global but most of human experience is local, both in territorial and cultural terms" (Grau, 2015). As key institutions in society, all universities have a unique location (mostly in cities) and cannot avoid a relationship with the myriad of other institutions and communities that also inhabit that place, particularly others also involved in the production and distribution of knowledge and public bodies like local authorities responsible for the place in the round and the wellbeing of its citizens.

The university as an urban anchor institution

In promoting dialogue between universities and policymakers responsible for territorial development, the notion of the university as an 'anchor' institution can be helpful. Anchor institutions might be characterized as not just *in* the place but *of* the place.

Anchor institutions can be defined as: "Large locally-embedded institutions, typically non-governmental public sector, cultural or other civic institutions that are of significant importance to the economy and the wider community life of the cities in which they are based. They generate positive externalities and relationships that can support or 'anchor' wider economic activity in the locality. Anchor institutions do not have a democratic mandate and their primary missions do not involve regeneration or local economic development. Nonetheless their scale, local rootedness and community links are such that they can play a key role in local development and economic growth representing the 'sticky capital' around which economic growth strategies can be built" (Goddard et. al., 2014).

In the case of universities, their main location, in comparison with private firms, is fixed within the current home location. Notwithstanding possible expansion to other nearby or far away campuses, it is where they have sunk considerable investment into buildings and there is

“They can therefore act as a source of stability in local economies, buffering against the worst effects of periodic downturns. They are particularly important as anchor institutions in weaker economies.

strong identification with place through the name of the institution. On past experience, universities have generally been immune to institutional failure or sudden contractions in size. **They can therefore**

act as a source of stability in local economies, buffering against the worst effects of periodic downturns. They are particularly important as anchor institutions in weaker economies.

Being anchored in a particular location does raise normative questions for the university about the requirement for academic practice to be of relevance to the place in which academics live and work as citizens. The former director of the LSE, Craig Calhoun, in a famous paper entitled 'The University and the Public Good' makes an important point when he writes: "We treat our opportunities to do research not as a public trust but as a reward for success in past studies. Rewards for research are deeply tied up with the production of academic hierarchy and the relative standing of institutions".

But, significantly, Calhoun goes on to say: "Public support for universities is based on the effort to educate citizens in general, to share knowledge, to distribute it as widely as possible in accord with publically articulated purposes" (Calhoun, 2006).

More recently in his treatise on 'The Public Value of the Social Sciences', John Brewer unpacks the word 'public': "Use of the adjective 'public' not only implies fundamental questions about accountability but also poses additional queries about to whom should we as social scientists feel accountable... Public social science has both a research and teaching agenda and involves a commitment to promote the public good through civic engagement" (Brewer, 2013).

Although neither of these authors are specifically writing about territorial issues or indeed all disciplines within the university, they are relevant to a narrative about the civic university and its relation to the wider society, locally as well as globally. In relation to the local, much academic writing on territorial development recognizes that we cannot only view the city as an economic engine or physical place – which it is – but also a node in a network of local and global social, cultural and political interactions. Put more simply, **the development of the city is about businesses that generate jobs, the people who live there and the institutions of urban governance connecting these domains. The civic university is therefore engaged with the city in the round.**

The university and the development of the city in the round

How are universities actively contributing to place-making, innovation, economic and social development?

Thomas Bender in his seminal 1988 book on the university and the city referred to campuses as "semi-cloistered" spaces in the midst of the city to meet the work and leisure needs of students and academic communities" (Bender, 1988). In terms of place-making, the expansion of universities has led to a demand for more space. In some cases, university sites have been dispersed all over a city, reducing their impact. Science parks developed to accommodate businesses linked to universities have often been established on the urban periphery. However, there has been recent and growing pressure to open out university campuses to the city. Even science parks have been experiencing an urban turn towards sites that are more mixed in function and integrated into the fabric of the city. In this trend

universities have become involved in local regeneration projects and the development of initiatives such as cultural quarters, science zones and media hubs.

In terms of the contribution of universities to business innovation, the UK innovation think tank NESTA notes that the way innovation takes place is changing (Fig. 1). **We are moving from a linear model to a co-production model which highlights the important role of users, service, open and social innovation.** Ac-

According to the European Commission, open innovation can be defined as “A new paradigm based on a Quadruple Helix Model, where government, industry, academia and civil participants work together to co-create the future and drive structural changes far beyond the scope of what any one organization or person could do alone. This model encompasses also user-oriented innovation models to take full advantage of idea cross-fertilization leading to experimentation and prototyping in real world settings”.¹

“We are moving from a linear model to a co-production model which highlights the important role of users, service, open and social innovation.



Figure 1 New Modes of Innovation (Source: NESTA)

This model refers to a wider range of knowledge inputs, additional entrepreneurs and different selection mechanisms and ways of allocating capital and people to projects. **NESTA suggests a range of partners including local authorities, public service organizations (NHS, schools etc.), charities and social enterprises and civic universities can be involved.** This new reality for innovation gives even greater salience to the role of personal contacts between a wide range of actors and agents, which underscores the advantages of urban agglomeration. Students can be a key part of this mix. They can act as knowledge transfer agents through work placements linked to their courses. If these students are subsequently employed in the organization this will establish the social relations with their teachers on which subsequent links can be built.

Turning to social development, universities cannot avoid the inequalities present in most large cities where they are located, not least because of their likely impact on attracting students and staff from elsewhere. They are also expected to recruit more students from disadvantaged backgrounds and this can be done by working with schools within the city. Cities are also under fiscal stress and expected to

1 <https://ec.europa.eu/digital-agenda/en/growth-jobs/open-innovation>

deliver more services in a joined up way to the local population. As NESTA suggest, social innovation can be seen as one focus for university collaboration with the city.

The influential European Commission's Board of European Policy Advisors (BEPA) has defined social innovation as: "Innovations that are social in both their ends and their means. Specifically, we define social innovations as new ideas (products, services and models) that simultaneously meet social needs (more effectively than alternatives) and create new social relationships or collaborations. They are innovations that are not only good for society but also enhance society's capacity to act. The process of social interactions between individuals undertaken to reach certain outcomes is participative, involves a number of actors and stakeholders who have a vested interest in solving a social problem" (BEPA, 2010).

Social innovation can embrace three perspectives:

1. A social demand perspective in terms of the needs of vulnerable groups traditionally not met by the market and where there is a strong role for social entrepreneurs.
2. A societal challenge perspective through which societal problems are addressed by means of new coalitions and where the boundaries between the economic and social blur.
3. A systematic change perspective where social innovation is reshaping society itself.

Social innovation implies extending the dominant model for university external collaboration from the so called 'triple helix' of university, business and government to a 'quadruple helix' which embraces civil society. More specifically, to quote two recent reports for the European Commission: "The Quadruple Helix, with its emphasis on broad cooperation in innovation, represents a shift towards systemic, open and user-centric innovation policy. An era of linear, top-down, expert-driven development, production and services is giving way to different forms and levels of coproduction with consumers, customers and citizens" (Arnkil et al., 2010).

"The shift towards social innovation also implies that the dynamics of ICT-innovation have changed. Innovation has shifted downstream and is becoming increasingly distributed; new stakeholder groups are joining the party, and combinatorial innovation is becoming an important source for rapid growth and commercial success. Continuous learning, exploration, co-creation, experimentation, collaborative demand articulation, and user contexts are becoming critical sources of knowledge for all actors in R&D & Innovation" (ISTAG, 2011).

According to Arnkil et.al., the quadruple helix model can have four variants depending on whether the focus is on citizens, firms, the public service sector or simply the better commercialization of university research by testing products and services with users:

1. A triple helix model with users added on.
2. A firm-centred 'living lab' model.
3. A public-sector-centred 'living lab' model.
4. A citizen-centred model.

Although the role of digital technologies is central to the quadruple helix, this does not necessarily mean that geography no longer matters. Indeed the city as a living lab for testing new ways of organizing the delivery of services in a sustainable and inclusive way, for example to an ageing population, is influencing public policy all over Europe.

Part of the growing expectation of universities is that they will contribute to addressing the major challenges facing society. Such an approach characterizes the European Union's Horizon 2020 programme, designed to contribute to the Europe 2020 agenda of 'smart sustainable and inclusive growth'. Many of the themes within the programme such as **health, demographic change and wellbeing; smart, green and integrated transport; and inclusive, innovative and secure societies** each have an explicit or implicit territorial dimension.

“Part of the growing expectation of universities is that they will contribute to addressing the major challenges facing society.

Horizon 2020 also has a cross-cutting theme of 'Science With and For Society' which recognizes that "betting on technology acceptance by way of good marketing is no longer a valid option ... Early and continuous iterative engagement with society in research and innovation is key to innovation adequacy and acceptability" (SWAFS, 2014)

With these points in mind the Commission has endorsed the concept of Responsible Research and Innovation: "RRI is a process where all societal actors (researchers, citizens, policymakers, business) work together during the whole R&I process in order to align R&I outcomes to the values, needs and expectations of European society... **There is a need for a new narrative drawing on a broad-based innovation strategy encompassing both technological and non-technological innovation at all levels of European society, and with a stronger focus on the citizen and responsible and sustainable business – a quadruple helix and place-based approach to science, research and innovation**" (SWAFS, 2014).

These principles have been embodied in the Rome Declaration adopted by the European Council in December 2014, which calls on public and private research and innovation performing organizations to implement institutional changes that foster RRI by:

- » Reviewing their own procedures and practices in order to identify possible RRI barriers and opportunities at organization level;
- » Creating experimental spaces to engage civil society actors in the research process as sources of knowledge and partners in innovation;
- » Developing and implementing strategies and guidelines for the acknowledgment and promotion of RRI;

- » Adapting curricula and developing training to foster awareness, know-how, expertise and competence in RRI;
- » Including RRI criteria in the evaluation and assessment of research staff.

Tensioned themes

Developing a quadruple helix approach to science, research and innovation within the city is not without both challenges and opportunities. This is inevitable. To once again refer to Thomas Bender: “I propose that we understand the university as semi-cloistered heterogeneity in the midst of uncloistered heterogeneity (that is to say the city...). Because of this difference, relations between the two are necessarily tense, and they cannot be assimilated into one another. To do so, either practically or conceptually, is to empty each of its distinctive cultural meaning and falsify the sociology of each” (Bender, 1998).

In terms of physical development there may be tensions between the optimal strategy for the expansion of the university estate in terms of location and function and with projects that have an urban development or regeneration focus targeted at the needs of the city. This includes issues around student housing.

Universities as institutions partly protected by public funding can be sources of ‘slack’ in metropolitan innovation systems. By virtue of harbouring non-commercial activities that cannot be supported by the local private sector, universities can potentially add to the adaptive capacity of the metropolitan economy, particularly SMEs. But this potential is tensioned against the immediate opportunities of working with the best companies regardless of location and the (low) level of absorptive capacity of local businesses.

These specific tensions are underpinned by those between the external civic role of the university and the internal processes within the university, which are heavily influenced by the higher education policy environment within which it operates. Public universities are principally influenced by national governments. A city may have several higher education institutions within its boundary but no powers to develop a city- or region-wide higher education system to meet a range of local needs. It could be said that this is because the work of a university is not bounded by any specific territory. **It operates within a national higher education system which does not have an explicit concern with territorial development issues. Because higher education is now a global business, a key driver for many universities is position in national and international league tables. These are heavily weighted in favour of recognition for research with its very straightforward metrics of citations and pay little regard to contributions to civil society where the metrics are much more complex.**

Whilst city interests might expect a corporate response from the university, this does not recognize that the traditional university is a loosely-coupled organization composed of disciplinary-based units driven by higher education metrics and with only limited horizontal or vertical coordination. In such universities, responding to external needs is easier at the level of the academic unit than the entire university.

As the Director of the Royal Society of Arts in the UK, Matthew Taylor has commented in his blog: “Local public agencies (like councils) often find the authority structure of universities opaque and diffuse; this is a barrier to collaboration. While the relative autonomy of faculty from the university administration is a virtue, and the tendency of academics to view the hierarchy of their discipline as more important than the hierarchy of university leadership is inevitable, it still leaves the problem for universities of how – as institutions – to mobilize to meet shared challenges and pursue overarching objectives”.

Addressing the ‘shared challenges’ to which Taylor refers requires an institutional response from a wide range of disciplines and strong institutional leadership. This raises questions around the business models of the university.

Business models of the university

One well-established model is that of the entrepreneurial university model outlined by the American sociologist Robert Burton Clark in 1998. This was designed to help the traditional university become a more corporate and outward-facing institution, hence its subtitle ‘organizational pathways to institutional transformation.’ His model consists of a strengthened steering core (or what we would now call an executive board), an enhanced developmental periphery (composed of intermediate organizations like science parks and centres for continuing professional development), a diversified funding base (reducing dependence on state funding) and a stimulated and more entrepreneurial academic heartland. It is this model that underpins the triple helix framework extolled by Henry Etzkovitz of universities, business and the state and now adopted by governments across the world.

However, the shortcomings of this model are increasingly being recognized not least for its focus on research in science and technology and links to business. It neglects teaching except in the field of student entrepreneurship, the role of humanities and social sciences, place-based communities and civil society more generally. We have suggested an alternative model of the civic university which is best introduced by defining first a non-civic university (Goddard et al. 2016) (Figure 2).

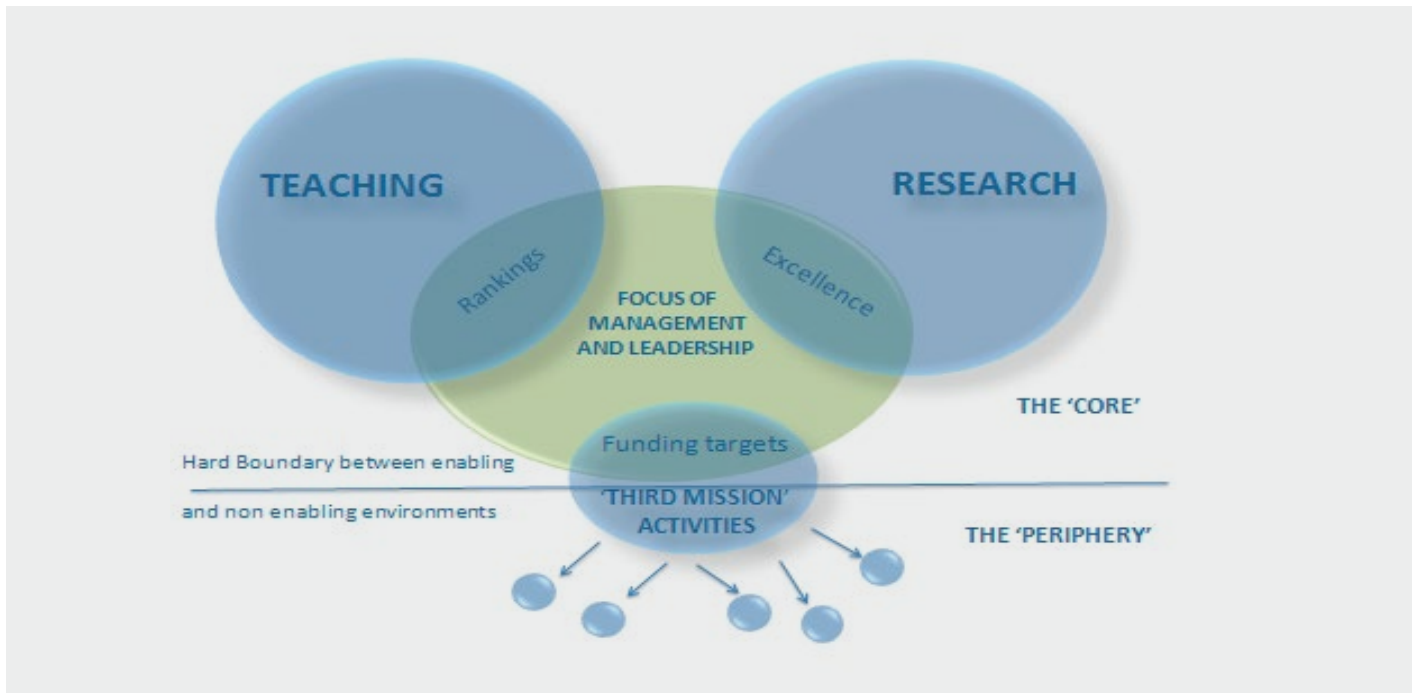


Figure 2: The 'un-civic' university (Source: Goddard, Hazelkorn, Kempton and Vallance, 2016)

Such a university maintains a strict separation of its teaching and research, with research performance judged by academic publications in peer-reviewed journals and teaching judged by student satisfaction scores. Third mission activities are only seen as 'core' where there are hard funding targets attached. Activities outside the core areas of focus are not enabled through incentives and other kinds of support, so are often seen as 'below the radar' of management. The outcome of this is that the results of this work are not absorbed back into the teaching or research taking place in the university and impacts are not tracked or measured.

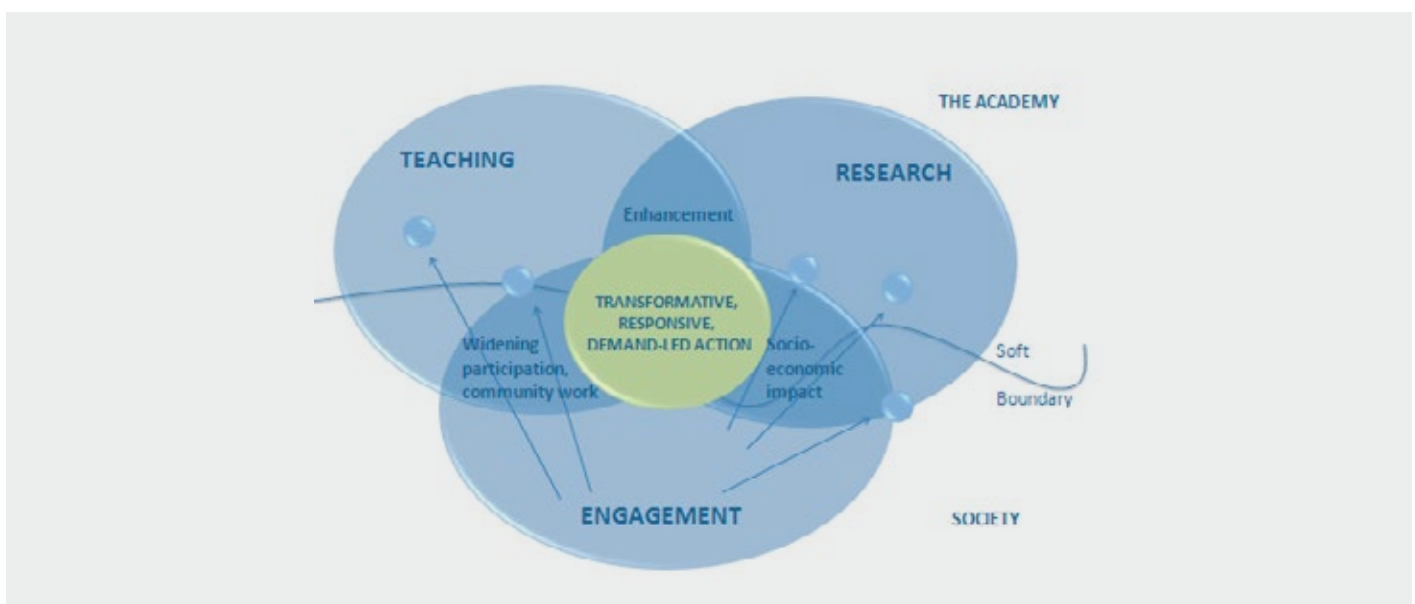


Figure 3: The Civic University (Source: Goddard, Hazelkorn, Kempton and Vallance, 2016)

In contrast, the civic university integrates teaching, research and engagement with the outside world so that each enhances the other (Figure 3). Research has socio-economic impact designed in from the start and teaching has a strong community involvement with the long term objective of widening participation in higher education. Most importantly there is a soft, flexible boundary between the institution and society.

To turn this into a practical way in which institutional leaders and managers can appraise their own organizations we have identified seven dimensions of the civic university. These are:

1. It is *actively engaged* with the wider world as well as the local community of the place in which it is located.
2. It takes a *holistic approach* to engagement, seeing it as institution-wide activity and not confined to specific individuals or teams.
3. It has a strong *sense of place* – it recognizes the extent to which its location helps to form its unique identity as an institution.
4. It has a *sense of purpose* – understanding not just what it is good at, but what it is good for.
5. It is *willing to invest* in order to have impact beyond the academy.
6. It is *transparent and accountable* to its stakeholders and the wider public.
7. It uses *innovative methodologies* such as social media and team building in its engagement activities with the world at large.

We recognize that universities are on a journey of institutional transformation and may position themselves at different points along a spectrum against each of these dimensions, from embryonic to fully embedded in the customs and practices of the institution. In an international comparative study on the leadership and management of aspiring civic universities we are using this framework as a means of developing a shared understanding between the participating institutions of the challenges they may be confronting on this journey and how these might be overcome. (The participating universities are Newcastle and UCL in the UK; Amsterdam and Groningen in the Netherlands; Aalto and Tampere in Finland and Trinity College Dublin and Dublin Institute of Technology in Ireland).

Linking the university to the city and the city to the university

Realizing the potential of the civic university will not only depend on what the university does, but also on the capacity of its city partners in the public and private sector. In a review of university partnerships with their regions that we undertook for the European Commission, we developed a framework to characterize the connected region (European Commission, 2011). The review sought to identify how best to mobilize universities in support of regional development. Significantly, most of the regions we reviewed had city-based universities at their core.

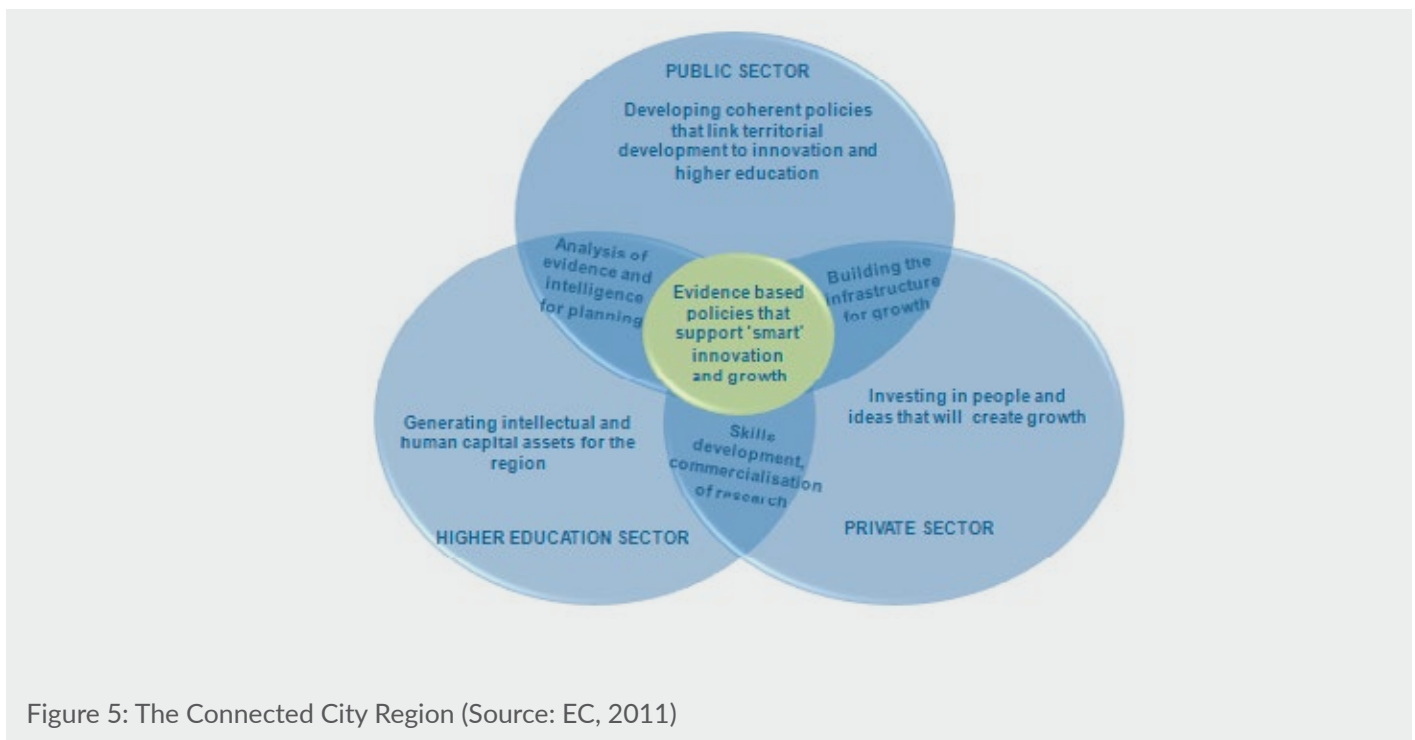
As in the case of the civic university, it is best to start by characterizing the disconnected region. In terms of higher education, universities were seen as 'in' the region but not 'of' the region. Their policies and practices discourage engagement with a focus on rewards for academic research and teaching. In terms of the public sector there was a lack of coherence between national and regional/local policies, a lack of political leadership and a lack of a shared voice and vision at city region level. In the case of the private sector, there was no coordination or representative voice with which universities could engage; firms were motivated by narrow self-interest and short-term goals and with low demand or absorptive capacity for innovation. Lastly, in terms of the mechanisms for connecting Higher Education to the development of the city and region, there were no 'boundary spanning' people; relations with universities focused on supply side, transactional links; ineffective or non-existent partnerships; a lack of a shared understanding about the challenges; and last but not least, entrepreneurs were 'locked out' of regional planning.

“Realizing the potential of the civic university will not only depend on what the university does but also on the capacity of its city partners in the public and private sector.

By way of contrast, **in the connected city region the university is generating intellectual and human capital assets for the city region. The public sector is developing coherent policies that link territorial development to innovation and higher education and the private sector is investing in people and ideas that will create growth.**



Figure 4: The Disconnected City Region (Source: EC, 2011)



Conclusion

Across the world universities are increasingly being expected to be active contributors to city development – in place making, in business innovation and in economic and social development in the round. With society increasingly facing complex challenges (for example ageing and climate change) which have both local and global dimensions, the role of universities in addressing these problems must come to the fore. To meet these demands universities will need to work in new ways. Frameworks and methodologies such as the ‘quadruple helix’, social innovation, living laboratories and city futures are just some emerging tools for the new forms of multi-disciplinary and trans-partner working that can help.

“The civic university should be characterized by its ability to integrate its teaching, research and engagement with the outside world in such a way that each enhances the other without diminishing their quality.

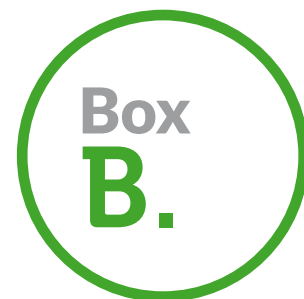
Developing a quadruple helix approach to science, research and innovation within the city will not be easy. There will be tensions between the external civic role of the university and its internal processes, with the latter being heavily influenced by the higher education policy environment in which it operates, one which in many countries is quite detached from other policy areas, not least those relating to city and regional development. Addressing societal challenges requires an institutional response from a wide range of disciplines and clear institutional leadership. This raises questions about the business models of the university. A new set of models may therefore be needed, of which the ‘civic’ university is one.

The civic university should be characterized by its ability to integrate its teaching, research and engagement with the outside world in such a way that each enhances the other without diminishing their quality. Civic research will have socio-economic impact designed in from the start and teaching will have a strong community involvement with the long term objective of widening the participation in higher education of disadvantaged groups and producing civic-minded graduates. Most importantly, taken together this will require a soft, flexible boundary between the institution and society.

Nevertheless, realizing the potential of the civic university will not only depend on what the university does, but also on the capacity of its city partners. **Where there is weak city leadership, ineffective partnerships and lack of a shared vision, the university may need to take a leadership role and over the long term help other public and private institutions in the city and beyond to build their capacity to absorb knowledge generated within the academy, to co-produce knowledge and articulate knowledge demands. Or to put it another way, to both anchor the university in the city and the city in the university.**

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The UNESCO Global Network of Learning Cities. Building sustainable learning cities

Raúl Valdés, Yan Fan

Since 2008, half of the world's population lives in urban areas and the other half is increasingly depending on cities for economic, social, cultural and political progress. It is expected that by 2050, 70% of the world's population will live in cities. Despite generating enormous economic outputs and immense breakthroughs in culture and science, urbanization is, however, often linked with environmental degradation, unemployment, excessive consumption of resources, violence and social transformations that create inequalities. As cities expand, municipal governments are under increasing pressure to find solutions to such challenges. In response, a growing number of cities are developing innovative strategies that allow citizens of all ages to learn new skills and competencies throughout life, thereby transforming their cities into 'learning cities'.

In 2013, the UNESCO Institute for Lifelong Learning (UIL), a centre of excellence in this field, established the UNESCO Global Network of Learning Cities (GNLC). The UNESCO GNLC aims to become the first ever global network to mobilize cities to improve their learning facilities and help them use their resources more effectively in every sector. The goal of the project is to enrich human potential, promote equality and social justice, maintain social cohesion, and create sustainable prosperity, which requires the UNESCO Global Network of Learning Cities to take the lead in the following actions:

- » Facilitating and disseminating research on the enrichment of the concept of the learning city;
- » Developing tools and instruments for building learning cities;
- » Serving as a clearing house for successful practices in establishing learning cities;
- » Developing and providing capacity-development programmes for members and partners;
- » Promoting policy dialogue and peer learning among member cities; and
- » Advocating the importance of lifelong learning for all as an organizing principle for education policy and promoting policy reforms that support the building of learning cities.

To facilitate this process, together with the Ministry of Education of China and Beijing Municipal Government, UNESCO co-organized the first International Conference on Learning Cities (ICLC) in Beijing in October 2013. The participants of the conference adopted two key documents: The Beijing Declaration on Building Learning Cities and the Key Features of Learning Cities. The first document defines a learning city as: a city, town, village or community that effectively (1) mobilizes its resources in every sector to promote inclusive learning from basic to higher education; (2) revitalizes learning in families and communities; (3) facilitates learning for and in the workplace; (4) extends the use of modern

learning technologies; (5) enhances quality and excellence in learning; and (6) fosters a culture of learning throughout life. In doing so, it will create and reinforce individual empowerment and social cohesion, economic and cultural prosperity and sustainable development.

In fulfilling the mandate of the network, the UNESCO GNLC secretariat has published a collection of case studies of learning cities entitled *Unlocking the Potential of Urban Communities: Case Studies of Twelve Learning Cities*. This volume showcases successful practices in building learning cities in all five UNESCO regions. The showcased cities share their motivations for building learning cities, their vision, their legislative frameworks and their implementation approaches. In addition, the report draws on insights emerging from the case studies collected and provides guidelines for building learning cities. The guidelines contain a set of actionable recommendations that can be referred to at every stage of the process of becoming a learning city.

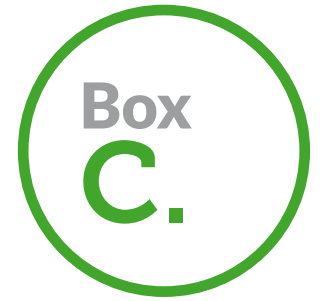
Two years after the establishment of the UNESCO GNLC, participants from 95 countries gathered in Mexico City for the second International Conference on Learning Cities in September 2015, to celebrate the progress that had been made in promoting lifelong learning in cities across the world since the first conference and to discuss strategic directions for sustainable

learning cities. The conference gave participants an opportunity to discuss ideas, share experiences and build synergies.

As a milestone, the conference witnessed the UNESCO Global Network of Learning Cities officially open up to membership. One month after the conference in Mexico, the secretariat of the UNESCO GNLC started receiving the first membership application forms. Since then, the network has continued to grow at enormous speed, with dozens of cities from all five UNESCO regions eager to become part of the initiative every single month.

During the past month, UNESCO GNLC launched the biennial UNESCO Learning City Award 2017 to recognize and reward outstanding efforts devoted to developing learning cities in communities around the world. It will be awarded to cities that, by putting in place the building blocks of a learning city, have achieved exceptional progress in promoting lifelong learning.

The increased number of learning cities all over the world exemplifies how lifelong learning is tackling current social, economic and environmental challenges. The UNESCO Global Network of Learning Cities will continue supporting the practice of lifelong learning at the local level, by promoting the creation of inclusive, sustainable, creative and entrepreneurial societies.



An Entrepreneurial Learning City. Three cases

Raúl Valdés, Yan Fan

Case 1: Swansea – United Kingdom. An entrepreneurial learning city

Aiming to become ‘a confident, ambitious and connected European city region, recognized internationally for [its] emerging knowledge and innovation economy’ by 2030, the Swansea Bay City Region Board is working hand in hand with the universities and research institutes in the region, and exploring how, by embedding entrepreneurial skills into lifelong learning through higher education, it can create innovation, improve the regional economy, and narrow the economic, education and skills gaps between deprived and affluent areas.

Facing the challenges of an underperforming economy and a high youth unemployment rate, the Swansea Bay City Region adopted a collaborative approach to learning based on a partnership with the higher education system and other sectors to develop entrepreneurial skills and attitudes to meet the identified challenges.

In exemplifying strong leadership and the will to build an entrepreneurial learning city, the city recently established Swansea University’s new Science and Innovation Bay Campus, which increases innovation and research impacts resulting from growing capacity, industry collaborations, spin-ins and spin-outs, and the development of high-tech clusters in the region. The key feature of Swansea University’s US \$677-million beach-front second campus will be inbuilt support for entrepreneurship and the commercialization of research-led opportunities, creating

around 12,000 permanent jobs by 2020, thus transforming this region from the heavy industry economy of yesterday to the hi-tech knowledge economy of tomorrow. The initiative will enhance the capacity for innovation through entrepreneurial leadership, providing a unique opportunity for the region to develop a knowledge economy and enhance opportunities for growth and new employment.

Swansea Bay City Region has developed a comprehensive framework in partnering with the region’s higher education institutions, offering a wide range of programmes to educators and trainers, youth and start-up businesses. The higher education system contributes to providing professional development opportunities for educators and trainers with a focus on entrepreneurial learning. The University of Wales Trinity St David established an International Institute for Creative Entrepreneurial Development (IICED) that brings together international experts in entrepreneurial education to contribute to policy-making and practice. It also established the first validated teacher training module in entrepreneurial education. On this basis, Swansea Bay City Region is making good progress in developing entrepreneurial skills among young people. The Entrepreneurship Academy Wales, led by Gower College Swansea, provides enterprise and entrepreneurship education for people aged between 18 and 30, in the way that enterprise education is embedded in Swansea’s overall education system. Research centres and institutions also provide support for start-up businesses and regional companies with growth potential under the framework with Swansea Bay City Region.

The Data Science building at Swansea University was opened in 2015 to unleash the potential of large-scale data to support meditech enterprises.

At the moment, the impact of the Entrepreneurial Learning City initiative in collaboration with higher education institutions may not be obvious and measurable at this early stage. However, it is clear that it is important to raise aspirations and ambition among the residents of the Swansea Bay City Region and to ensure that everybody – including people living in disadvantaged communities – can take advantage of opportunities arising from an improving economy.

Case 2: Bahir Dar – Ethiopia. A university-led model

Though the concept of learning cities is still at a very early stage of development in Africa, some cities have taken the lead in harnessing the power of higher education institutions to bring together the currently isolated and uncoordinated learning initiatives run by the city's various organizations. The city of Bahir Dar has adopted the idea of becoming a learning city with a vision to help it tackle some of its major challenges, which include poverty, unemployment, illiteracy, gender and socioeconomic inequality, and a lack of environmental awareness.

Bahir Dar's development as a learning city is being spearheaded by Bahir Dar University.

Structure-wise, Bahir Dar University is highly involved in the planning, implementation and evaluation of learning city policies and activities, in cooperation with city administration, the Amhara National Regional State Administration, NGOs, civil society organizations, and community-based organizations. Inspired by one of the key publications from the UNESCO Global

Network of Learning Cities, the Key Features of Learning Cities, Bahir Dar University has established seven units for building a learning city, including Research; Intervention; Institutional Linkage; Mobilization and Events; Implementation; Monitoring and Evaluation; and Communication and Promotional Affairs.

The contribution of higher education institutions to regional development is demonstrated by the Learning Community Programme, conducted by Bahir Dar University. The Learning Community Programme's current priorities include informing citizens about the learning city concept, encouraging stakeholders to become actively involved, and finding innovative ways of mobilizing resources to realize the learning city ideal in Bahir Dar. The city partners itself with the university to work towards bringing about positive change in the city and the lives of its citizens.

One of its feature programmes, Bahir Dar University's 'Dengel' (Papyrus) Protection and Development Project, posits environmental awareness as its core objective. The project focuses on the communities that live next to bodies of water and unemployed citizens in the surrounding area. Its objectives include purifying the water that goes into rivers and lakes; preventing soil erosion and silting in lakes, dams and other water bodies; protecting fish by reducing harmful invasive seaweed; and creating and expanding green, clean and attractive spaces. The main activities in the papyrus protection and development project include consultations with city and local administrative bodies and members of the local community; identification and preparation of planting areas; recruitment of unemployed individuals to participate in the project; planting of papyrus seedlings; provision of craft training; and promotion of the project and raising of environmental awareness. By doing so, it has significantly enhanced community awareness of

environmental issues; provided skills training for the city's unemployed citizens by teaching them how to craft various household utensils out of papyrus; and created job opportunities through the sale of these papyrus products.

The joint effort between the city of Bahir Dar and its university is helping individuals to become more knowledgeable, skilled, democratic and enlightened as well as more concerned about their environment and their fellow citizens. Through the educational and training opportunities offered by the higher education institutions, citizens are trying out new technologies and are more interconnected as part of a global society, which gives more mobility, thus enabling them to realize their potential and helping them to succeed in their careers.

Case 3: Shanghai – China. Ensuring a ubiquitous and accessible lifelong learning system

The Shanghai Medium and Long-term Education Reform and Development Programme (2010-2020) put forward as a core concept developing a lifelong education system and building a learning city that is integrated into the fundamental strategic goals for the current decades.

Benefiting from the accumulative effect of quality educational resources and the confluence of diverse eastern and western culture and trends, Shanghai has established a relatively comprehensive lifelong learning system which is led by the Shanghai Municipal Government in partnership with multi-dimensional stakeholders from different sectors. Among these partners, the role of higher education institutions is exemplified by its strength in vigorous research and extensive networks to reach every citizen.

Established by the East China Normal University, the Shanghai Municipal Institute for Lifelong Education (SMILE) serves as a think-tank entrusted by the Shanghai Municipal Education Committee to advise on research and decision-making on local and national lifelong learning education policies and practices. By integrating correlational research resources from the local university, SMILE is one of the first specialized research institutions in lifelong learning working towards theoretical and practical innovation in lifelong learning and the process of building a learning city.

In addition to its research on lifelong learning, SMILE offers a variety of service centres its expertise and technical guidance on building capacity for educators and trainers, and supporting and satisfying the learning needs of citizens. These centres include the Ageing Education Service Centre, Teacher Training Centre, Distance Learning Guide Centre, and the Teaching Material Research and Development Guide Centre, among others.

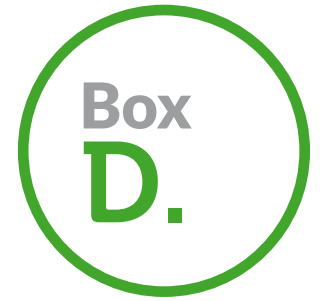
Apart from research institutions affiliated with the local university, Shanghai Open University is another innovative mechanism in providing formal and non-formal higher education for citizens. It provides adults with open distance education supported by modern information technology, and offers academic and non-academic education, vocational and higher education for adults, as well as leisure and cultural education. With a history of more than 50 years, Shanghai Open University has offered degree and non-degree programmes for more than 1,000,000 learners from different age groups, and 110,000 learners are currently actively enrolled in the programmes, with the support of 4,210 teachers.

Shanghai Open University's core value is 'for all learners and all for the learners', which aims to

provide lifelong learning opportunities for everyone and enable all citizens to learn anytime and anywhere. To achieve this goal, the university established a network of 17 district-level community colleges, 216 town and sub-district-level community schools, and more than 5,000 learning centres across the city. It has also set up a College for Disabled People that specializes in offering appropriate provisions for marginalized groups and individuals. The university serves the city not only as a bridge between formal and non-formal education but, more importantly, as a bridge that connects urban and rural areas and extends to the grass-root communities and en-

terprises, thus creating a lifelong learning environment in the city.

The initiative of building learning cities in Shanghai has made a remarkable impact over the past decades. The mechanism has successfully mobilized resources from higher education institutions and integrated them into the lifelong learning system. It has enriched the theory and research capacity of lifelong education, facilitated connection and communication between areas with disparity in their stages of development, promoted adult formal and non-formal education, and will ensure an enjoyable, accessible and inclusive learning experience for all.



The Path to Real Partnerships: Exploring the Relationship between Academics and Social Movements

Jack Makau and Sheela Patel

The challenges of creating partnerships to produce true peer behaviour between formal and non-formal knowledge

In the absence of incentives in systems of formal education and learning within university frameworks, the examination of what social movements do in the production of knowledge, its refinement and its usage, remains a hit and miss process. There is an urgent need to examine the sensitivity of development, and training in development, to the practices and strategies of social movements of the poor and indeed of communities, and to reassess the values of such training in order to correct a basic assumption that treats the poor unequally, as if they were empty vessels to be filled with knowledge and wisdom from the mainstream. The failure to understand how community practice contributes to knowledge is a missed opportunity for understanding why seemingly sensible insights emerging from educational curricula are not accepted by the poor. The most significant consequence of this failure is the lack of critical analysis of policies and legal frameworks, which are underpinned by university-produced knowledge and are exclusionary, such as property rights, entitlements and delivery of goods and services.

The Indian alliance and Slum Dwellers International

The alliance of the Society for the Promotion of Area Resource Centers (SPARC), the National Slum Dwellers Federation (NSDF) and Mahila Milan is now about 30 years old. It reflects a new form of alliance between organizations of the urban poor and their social movements and professionals seeking to work with them in a spirit of partnership. While such relationships may have been explored to a greater degree in rural tribal and trade union movements, the manner of exploring this partnership is relatively new and less researched and articulated in the urban context. While the urban poor have occasional access to health, welfare and educational activities arranged by NGOs, their need for secure tenure, basic amenities and identity in the city has largely been unexplored as they fall into the realm of political action which needs to change regulatory frameworks that are exclusionary and make the urban poor invisible in the eyes of the law (see www.sparcindia.org and www.sdinet.org for further information).

Slum Dwellers International (SDI) is a transnational institution whose primary members are national federations leading social movements of the urban poor to fight exclusion in their cities and countries. It emerged formally in 1996 through the reproduction of variations of the Indian alliance; first in South Africa and now in

over 42 countries in Africa, Asia and Latin America. This paper explores SDI's national federations' attempts to engage academia – originally initiated in India and South Africa, but our case study specifically focuses on SDI's Kenyan federations' association with the University of Nairobi.

The production of knowledge and the urban poor

Without dwelling on the semantics of why this attitude and value framework results in the urban poor being excluded in cities and urban areas, the reality is that cities and towns were created for trading and commerce and governance of cities emerged to manage this and produce finance in the form of taxes to make cities work for traders. The poor were expected to fend for themselves and legal frameworks emerging from this historic fact reflect this, as does the knowledge that informs the regulatory framework. The urban poor are impacted by this perspective in many ways: they face evictions, destruction of their humble dwellings, lack of access to water and sanitation and are trapped in situations of informality and invisibility of their habitats and livelihoods.

The urban poor's desire for change needs new narratives, a new exploration of reality through their own pursuits to produce knowledge and insights that do not trap them in the paradigm of mainstream city planning and knowledge. Instead they need to begin to utilize the modern governance framework in which democratically elected national and local bodies are made accountable to all their citizens. In order to facilitate this transformation and produce social movements that make demands on their cities and states, the alliance began to explore rituals and practices that change the narrative of how the poor perceive themselves through the eyes of the mainstream. As unwelcome intruders, mi-

grants undertake jobs others are unwilling to do, but the city appears not to tolerate their presence, as they are seen as undesirable elements in cities.

The challenge of embedding this new insight and knowledge in mainstream knowledge

This process of engagement has evolved over the years, but in summary the alliance highlights:

- » Women-centred collective peer dialogues which help individuals (men and women) to learn to tell their stories of growing up, their lives in cities and transition from rural areas, and begin to see amazing value in how they survived, including their contribution to their city.
- » The strategies these people have developed to produce communities and raise children and find livelihoods in cities without assets or skills and with no initial knowledge of the city.
- » This sharing is then expanded to network levels, where acts of violence in the city, evictions by the city authorities, confiscation of informal livelihoods, the exploitation of labour through various means and dealing with constantly being invisible in the eyes of the city impacts on people whose real survival increasingly depends on their labour, leading the alliance to understand that this is a universal reality and combating it requires networks for solidarity and new knowledge for change.

Gradually, practices of knowledge creation emerged from this reflection. The urban poor's invisibility was countered by communities mimicking data collection in the form of a census, only now it was conducted by individual households, asking questions that addressed their col-

lective story. This process had many impacts, it produced networks and organizational mobilization; it helped communities understand how data was valuable for setting priorities and exploring possibilities and how they could make representations about their demands through this method. It was the beginning of creating identity and challenging the manner in which others, the state and researchers portrayed them.

The Indian alliance began to explore alternatives to how it could create identity, manage money, explore solutions to the problems of the poor and make representations. Gradually this created a very solid and robust set of practices which in turn expanded the movement across cities in India as well as internationally, as other poor communities in cities entered this peer-learning circle and learnt of these practices and created their own federations, ultimately leading to the formation of SDI. Cities and national governments began to heed their demands and expectations (not as quickly as would have been liked), but engagement with the state was initiated and reflected in many policy changes in various cities and regions in India and around the world.

The potential role of higher education and academics in this process

In the case of universities, researchers and academics, the movement faces many challenges. Clearly the strong rural gap is evident and the theory-building base came from that experience. Today, even if the world is now more urban, there is continuing disagreement about focusing on rural development to stop urbanization and treating urban and rural investments as competing rather than being a continuum. By that we observe that most of the theory building in advanced education and its research is based on rural issues, located in rural areas (and rightly

so, as in the last five decades rural development has been the basis of development investment). Inversely, the laws which govern cities and their development in the Global South, especially those former colonies, end up legitimating the existing legal framework, which includes developmental regulations that were framed around making cities work for commerce, secure trade, and development laws around these needs, ignoring, for the last several centuries, the migrants who could work in the city but did not have citizenship rights. This made all the urban poor, who squatted on land for lack of allocated lands, illegal and criminal. We have identified several educational/academic streams to initiate dialogue, planning, architecture, engineering and development education. In our opinion, the jury is still out on how much we can explore and contest their ways of knowledge production and how this impacts on state laws and strengthens the bias against the urban poor. However, after at least two decades, we can now create a road map of our processes with several milestones with which to hopefully develop a partnership.

In Kenya (where we present the case study), from looking at the newspapers, there seemed to be a correlation between the eviction notices served on slum dwellers and announcements by various banks auctioning the land. Further enquiry, especially in one urgent eviction context, led to a stunning revelation. The government had given the land in question to an industrialist to set up a business, but it was instead used as surety with the bank to borrow money which was never returned. The agreement stated that the land would have to be returned to the government if the job-creating industry was not set up. Yet neither the government that facilitated the evictions, nor the courts that initially did not hear the appeal, acknowledged this fact and the law only saw the poor as encroachers.

Colonial rule in Kenya, as in other countries, appropriated land and gave it to those it chose. After independence in Kenya, the new government gave this land to industrialists, army officials, judges and politicians to stabilize the new state. More recently, the International Development Research Centre (IDRC) has commissioned a study prompting the university's law department, School of Management, Planning School and the community federations to launch a deeper investigation which should definitely shed light on how land is owned and transferred, mortgaged and auctioned, thus producing new insight and knowledge to address the issues of land use in the city.

The experiences of the Indian alliance and SDI to explore this partnership

It all begins with presenting our work, which is initially done by professionals associated with federations, and later by community leaders who give lectures about their processes and strategies in university departments, or work with a researcher who may conduct a study. In most instances there is interest, but this does not lead to any follow up. In a few cases, where there is follow up, it is only meaningful if there is a two-way exploration seeking each other's views and paradigms. Often, a long time passes before each side can ask the correct questions. Even at this stage, many educational institutions that come to visit communities, do not feel the need to send feedback or copies of what they have written or documented back to communities. Both within the alliance and the SDI network, often this initial experience produces a feeling of time wasted.

However, this process has, in some instances, led to gradual but fruitful joint work that is meaningful. Professor Appadurai (then at Uni-

versity of Chicago and now with NYU) (Appadurai, 2011) even took a sabbatical to spend a year exploring what the alliance in India does and he has written extensively about us in ways that have given us new language and concepts to describe what we do. James Coburn, from Berkeley University, and Professor Peter Ngau, from the University of Nairobi, have worked together over several years, undertaking studies with slum dwellers and assisting them with planning and design challenges. In addition, SDI sends a delegation to the University of Manchester each year to spend a week with multidisciplinary students where they lecture to students. The Development Planning Unit (London), the New School (New York), the University of Melbourne and the University of Cape Town, among others, send students to visit our association and are now exploring these possibilities with us.

The Kenya link to universities

As much about individual efforts as it is about organizational strategies

In 1995, Peter Ngau, a Nairobi University lecturer who would later head the Department of Rural and Urban Planning, carried out an academic study on informal settlement in Nairobi. The study showed that 50 per cent of the city's population lived in informal settlements occupying five percent of the city's land. An emerging urban social movement in Nairobi against forced eviction took up these figures from slum land. The university, meanwhile, remained in the realm of scholarship, separate and dissociated from the politics of the urban land movement it had inadvertently helped catalyse.

Over the next 10 years, slum communities consolidated their advocacy under the movement, Muunganowa Wanavijiji (Swahili for Slum Dwellers Federation) and deepened links with civil so-

ciety. The movement affiliated to SDI in 1999. This link added community enumeration to the movement's set of strategies. Collecting data about slums became the way the movement builds relationships with city and national government.

Meanwhile, the university set up a centre for alternative building technology – a platform that assumed a critical tone for the fledgling, often loud, efforts of civil society to address urban informality; a position that added up to questioning whether poor communities had anything to contribute to solving the city's problems. The study of materials for incremental housing upgrading, valuing design options selected by the communities and other such reality checks changed focus and choices for explorations.

By 2004, Muungano was a regular visitor at the Kenyan Ministry of Lands and Housing to present community enumeration data. That year, several seemingly unrelated events occurred that would later converge into a joint university/community process of coproducing slum upgrading.

Firstly, the Land and Housing Ministry's slum upgrading programme, supported by the Swedish International Development Cooperation Agency (SIDA), acquired a satellite map of Nairobi and started to develop a slum GIS database parallel to the Muungano database. GIS mapping was new, and the ministry drew in interns from Nairobi University's Planning School to assist it. Whenever Muungano went to the ministry to present its data, it ended up in the GIS lab working out how to share data with the university interns. When the ministry planner in charge of the GIS lab, Musyimi Mbathi, left to join UN Habitat, Muungano was left to a large extent to remotely mentor the interns. Ten years later, Mbathi would reconnect with the movement as

a lecturer in the Department of Rural and Urban Planning at Nairobi University.

Secondly, Cities Alliance launched their 'Cities Without Slums' programme in the same year. SDI introduced Muungano to Cities Alliance manager Mark Hildebrand. Muungano was a possible candidate to undertake the citywide enumeration in an African city that Cities Alliance wanted to achieve. A few years later, Mark Hildebrand, former manager of Cities Alliance now teaching at Berkeley, would help to form a link between Muungano and the University of California at Berkeley.

As a result of these discussions Kisumu, Kenya's third city, was selected as a pilot for the Cities Without Slums programme. Then needing to deliver GIS maps of Kisumu's slums, and lacking this capacity, Muungano like the ministry did before, turned to the University of Nairobi's planning students. The sheer scale of enumerating and mapping slums in the whole city required Muungano to engage the entire undergraduate planning class of 2005.

The university's planning faculty remained disinterested in this engagement. The faculty's involvement was limited to declaring that internships with civil society were admissible for fulfilment of the students' course work. The students, on the other hand, were particularly keen to undertake an internship that removed them from government offices and gave them a real-life field experience in the slums. Half a dozen years later, five students from the planning class of 2005 would be employed as city planners in five cities where Muungano works.

In 2006, eight planning students from the University of Nairobi wrote their final-year thesis on slum-related topics. Two of the best planning students were then absorbed into Muungano's

support organization as community enumeration programme officers. The move seemed potentially explosive in SDI cycles, where communities and not professionals were supposed to collect data. The Kenyan movement was unsure how to broach this discussion with SDI, until it emerged that the far more established SDI affiliates in India and South Africa had similar links to academic institutions. For instance, the Indian SDI affiliate was working with the Royal College in Stockholm to produce plans for Dharavi slum in India. This provided an affirmation to the linkages that Muungano was starting to explore.

In 2007, Chair of the Nairobi University Planning Department, Peter Ngau, called a meeting with Muungano. He observed that something interesting was happening in the slum space. The students' final-year thesis papers on slum topics were of exceptional quality. Professor Ngau therefore proposed that for the next class, Muungano provide small grants for students taking up slum topics and that the faculty get more involved in the way the students developed their research. The Rockefeller Foundation supported the small academic grants programme.

Later in 2007, Mark Hildebrand, now a visiting lecturer at UCB, came to Kenya as part of a scoping study on community-generated data practices. He visited Nairobi with a team that included planning and public health professor Jason Corburn.

The backdrop to the visit was a community without water and the building of a national infrastructure programme for informal settlements. In order to root out the Mungiki, a cultish organization sustained by controlling services in slums, the government had switched off the water supply to the Mathare slum. The slum had 26,000 households and the situation was critical, so the community leaders asked Muungano

to assist them in renegotiating water supply with the city authorities.

At the same time, Muungano was participating in discussions between the government and the World Bank to set up a \$300 million infrastructure fund known as the Kenya Informal Settlements Improvement Project (KISIP).¹

In both instances the skill sets that universities offer were exactly what Muungano required. In Mathare, Muungano negotiated with the city for some free water stand points and promised to deliver a long-term water reticulation plan. For KISIP, Muungano was negotiating that community enumeration data be used as the baseline for the KISIP project. By working with the universities, it was hoped that the government and the World Bank would see community data as a legitimate.

Within three months of the visit, the planning schools in Berkeley and Nairobi had developed a joint urban studio¹ class to develop a water reticulation system² for a cluster of 2,400 homes in Mathare. In a completely unprecedented move, the Mathare community uprooted all informal water connections and created pathways for laying new pipes as per the plan. For its part, the city and the water utility company installed water pipes so that the furthest each shack was from a possible connection was 15 feet. In six months Mathare had 400 new individually metered household water connections.

This may not have happened without a rare funding arrangement by the Rockefeller Foundation, where the Universities of Nairobi and

1 <http://www.projects.worldbank.org/P113542/kenya-informal-settlements-improvement-project-kisip?lang=en>

2 An urban studio is a conventional practice in schools of architecture and planning to undertake a field visit to document the field experience and develop design or planning changes; only now, the communities of slum dwellers would be partners rather than objects of study.

Berkeley and Muungano received grants that allowed them to collaborate. The early success of the partnership was dampened when the KISIP project decided to work with private consultants rather than civil society, communities and universities. Yet, this disappointment also served to strengthen the view that public universities lend the movement different and powerful access and advocacy. The terms of reference for the KISIP project had been greatly influenced by the joint contributions of the universities and Muungano.

Fuelled by its earlier success with water, the partnership embarked on a more ambitious plan in 2010. Again the vehicle for planning was an urban planning studio supported by organized community groups. The partnership set out to undertake a zoning plan. Rather than responding to conditions within the settlement, the plan sought to integrate Mathare into the city. The plan demonstrated how the city's trunk infrastructure (water, sewer, electricity, transport, etc.) could be extended and laid out in Mathare. Through successive urban studios the Mathare zoning plan was completed in 2012. It has been the basis for the installation of a trunk sewer line

in Mathare, reticulation of water trunks throughout the settlement and the opening up of access roads.

Even as the collaboration continued in Kenya, SDI and the Rockefeller Foundation facilitated exchange visits with universities in Uganda, Tanzania, Zimbabwe and South Africa. This aimed at encouraging slum federations and public universities in those countries to work together. Significantly, the African Association of Planning Schools adopted the community-university planning studio as a key element of their mandate. On the other hand, the federations adopted the studios as a tool that picks up from community enumerations and allows slum communities to participate in planning, while ensuring that the future generation of planners and city managers are sensitive to, and know how to approach situations of informality.

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Regional Engagement and Global Positioning. The University of Warwick

Chris Duke



Perhaps the only university that has global engagement as its sole mission is the UN University. Many engage locally in myriad ways across countless issues now including those of the SDGs. Local enactment of SDG priorities with civil society partners is essential to their attainment. Individuals in universities, and some institutional administrative and academic units, also play key roles.

University contexts vary hugely, enabling and constraining what can be done. Governance varies too: external forces influence, lead, shape or control mission. The chief executive often plays a decisive part, driving, supporting, allowing or preventing. Universities may make engagement an explicit identifier, or quietly allow good practices in quiet corners so long as they cause no trouble.¹

The University of Warwick was created in the early 1960s on a green-fields site: a typical new foundation among sixties new generation campus universities on the outskirts of industrial Coventry, on land jointly donated by rural Warwickshire in the British West Midlands car

industry belt. There was a dramatic start-up period when the vice-chancellor's office was ransacked by students and Warwick was damned as a business university by older institutions. It relied heavily on local industrial support, and purposefully anchored itself in its local region. Within conservative Britain, Warwick was a highly entrepreneurial university much disliked by traditional adult education departments. It won the Bertelsmann award for best managed European university, and featured later in Burton Clark's study of five leading European entrepreneurial universities. Nevertheless, in the early eighties Warwick created a new position and the university committed itself in its policy, strategy and resources to engagement and adult learning institution-wide; and to social development including widening participation and adults' access through local partnerships. The new position carried the dual identity of academic department head and founding professor of a new Department of Continuing Education (DCE), and University Director for Engagement with membership of council and senate as well as a faculty.

The University wrote 'regional community engagement' explicitly into its annually-reviewed mission statement. This survived four changes of vice-chancellor. National and regional partners included major public authorities, private manufacturing and commercial businesses linked into its departments; a locally formed

¹ The University of Victoria, British Columbia, Canada (UVic), is a fine engagement example combining international development priorities with local engagement, through the partnership between Budd Hall at UVic and civil society activist PRIA leader Rajesh Tandon. The long-standing partnership is now recognized, celebrated and enabled through their joint UNESCO Chair in Community-based Research and Social Responsibility in Higher Education. In this case the university has, I think, helped and blessed the arrangement as part of its orientation, without it belonging to the university as such. In other places, especially in the rather neo-liberal Anglo-Saxon 'North', such work may survive invisibly in university crevices in a less friendly environment.

network of further education (FE) colleges with whom, together with other regional agencies, it created and led a Community University Board. The specialized DCE developed a suite of graduate and doctoral programmes for local and international mid-career academics practising participatory action research often involving workplace and community settings, and action research projects often on 'social justice', access and wider participation themes. FE partnership supported local two-plus-two undergraduate degrees. These drew adults into the second year of internal degree study alongside other full- and part-time young and mature students coming through DCE courses. Warwick became a national leader in university access practice and participatory research, contributing to its standing in the UK and then globally. A wide and diverse 'local studies' evening and weekend programme catered for many community learning needs: from the ecological through social and political issues, some jointly with local associations, and the full gamut of 'liberal-cultural' courses in skill-focused and job-seeking studies. Not all departments in all faculties contributed to the local programme, but most did in the Arts, Education and Social Studies faculties, including its world-leading Business School. From the Sciences, including the huge Manufacturing Systems Engineering Group, some taught locally as well as conducting professional programmes. Every department practised engagement in one form or another, loosely linked and often advised by the CE Department working closely with Central Administration and reporting to the Council. For the comfortably retired, but also for struggling inner-city immigrant and other unemployed communities seeking new opportunities, the university came to be known as a very good thing. Its Arts Centre was highly successful and popular across a broad cultural spectrum, its engagement with local towns and services much valued.

At the same time, as a national Research Assessment Exercise (RAE) came to shape UK university status and rank order, Warwick excelled, competing with the top few in most subject areas and holding aggregated national ranking around fifth-seventh place among the most prestigious. High global status followed naturally, with overseas partnerships and joint teaching and research programmes. Warwick enjoyed extraordinarily high status as a young university. There is no suggestion of 'engagement' here, or SDGs, just a strong place in the emergent free market economy that we call global. Before, and then in the MDG and now the SDG era, there was no explicit mission for equitable development and fulfilling UN goals. But a by-now embedded Warwick culture meant that a sense of public service and social duty combined with tough business acumen to infuse much overseas work and partnership with duty-of-engagement.

Warwick took to heart a hard business ethic combined with an urge for iconoclastic innovation from its early days. Self-interest dictated a close embrace with 'the local community', including powerful stakeholders. Internal financing included a 'Robin Hood' instinct to tax the wealthy to support areas of need. Financial planning and resource allocation was always hard-fought; but austerity did not come to mean taking from those in greatest need. Changes in CEO leadership did mean changing fortunes and a difficult period of 'managerialism' from which Warwick has moved on. The deeply embedded culture included high quality administration of integrity and engagement was little harmed.

In summary: Looking locally from outside, the university appears to sustain a balance in the inescapable tension between global triumph and public-minded regional service. Other institutions also sustain this purpose through a

culture deeper than the reach of most come-and-go modern chief executives, and siren calls to sacrifice for global reputation. One is RMIT, since the late nineteenth century Melbourne's 'people's university' for all, teaching by all modes at all levels in the one institution. Far down a conventional status scale is deeply-engaged locally Wolverhampton in the impoverished English West Midlands' Black Country: England's little Detroit. Here another vice-chancellor,

Geoff Layer, former head of the UK Action on Access Project, insists that its world is the Black Country; global league tables are for others and to be ignored. Few are so firm. For many universities the temptation of research-led global rankings of stature is irresistible: a high road to internal schism and the sacrifice of socially purposeful local engagement, in a race that only few in the top few per cent can ever win.



PART II
GLOBAL ISSUES

1

Changing the Role of Higher Education Institutions in the Light of Globalization; Trends and Challenges

1.1. Local and Global Engagement: Balancing Needs at Global, National and Local Level

Jaana Puukka

Abstract

In the context of twin processes of globalization and localization, there is a growing need to ensure that universities and other higher education institutions (HEIs) actively contribute to tackling global and local challenges by ensuring availability of knowledge and skills as well as the transfer of technology and innovation to industry and society. Drawing on the experience of the OECD multi-annum work on higher education in cities and regions 2005-2013 and the subsequent studies sponsored by organizations such as the European Commission and the Association of University Research Parks, this chapter presents an analysis of how higher education institutions can match their local engagement with a global role through ten practical steps. Case studies from different parts of the world highlight the wide range of contexts yet similarity of issues that HEIs face when developing relevant skills, research and innovation to meet the local and global challenges.

Introduction: a growing focus on local and global development

Universities and other higher education institutions (HEIs) are faced with increasing expectations to drive local and national socio-economic development and address global challenges. **The**

policy context in Europe and many countries worldwide increasingly emphasizes the role of higher education in local development due to the shift in regional policy from reducing regional disparities towards indigenous local development – skills, innovation and entrepreneurship. The Europe 2020 Strategy also highlights the role that higher education and innovation play in smart, sustainable and inclusive growth. Smart specialization strategies based on local partnerships between higher education institutions, public sector and industry are also a prerequisite for receiving European Structural and Investment Funding (ESIF).¹

“The policy context in Europe and many countries worldwide increasingly emphasizes the role of higher education in local development.

At the same time, the United Nations, World Bank, European Commission and other groups and governments are calling for universities to play a greater role in resolving global challenges such as poverty, food scarcity, climate change, energy and water security. Universities’ action is needed to achieve the UN Sustainable Development Goals, which relate to challenges in poverty and inequity, hunger and food security, energy and climate change, health and education and peace and justice (United Nations 2015).² In Europe, the Horizon 2020 programme targets not only excellence in research but also research on societal challenges such as climate change, food security, clean energy, integrated transport and cyber security.

Many higher education institutions have made efforts to respond to these demands and expectations and have developed policies, activities and services that address the needs of local industry and communities, as well as global challenges. Their responses take different forms depending on the university’s mission and operational environment, but typically encompass human capital and skills development, research and development (R&D) cooperation, entrepreneurship and knowledge transfer, and sometimes also broader civic engagement. These actions may take the shape of fixed-term transactional services in addressing clearly articulated external demands or longer term transformational activities which may focus on sustainable development needs or building a new knowledge-based industry (European Commission 2011).

	'Transactional' services	Transformational activities
Type of need/demand	Stated need or demand in the local community either in the HEI's or international partner's location	Latent or unstated needs or 'grand' challenges facing the world
Type of approach	Output-driven approach	Outcome-driven approach
Type of objectives	clear objectives	less explicit objectives
Link to time	usually time-bound	less clear timelines

Table 1. Transactional vs. Transformational global and local interventions by universities, own development based on European Commission 2011

1 Smart specialization is a place-based development policy that aims to concentrate scarce public resources on a limited number of strength areas and knowledge assets. Without an active role by higher education institutions, designing and implementing effective smart specialization strategies is difficult. For more details see e.g. Puukka 2014.
 2 <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

A topic of many reviews

The contribution of higher education institutions to socio-economic development has been the topic of many studies, reviews and projects in the past decades, addressing the linkages of local and global challenges, mostly from the competitiveness perspective (ESMU, 2011; Goddard et al., 2013), but to some extent also from the perspective of sustainable development. From 2005 to 2013, a seminal work by the OECD with 35 Reviews of Higher Education in City and Regional Development investigated the role of higher education systems in regional and city development in six continents, highlighting examples where higher education institutions were combining their global and local roles, often driven by institutional or local necessity for economic competitiveness, but in some cases also by social responsibility.³

The unwritten stories which unfolded during the long review processes revealed some of the challenges and risks of local and global engagement strategies for higher education institutions (HEIs). In one case, a Malaysian HEI combined its global competitiveness ambitions with global responsibility, focusing on the challenges of the 'bottom billions' rather than the needs of the local population groups. In Mexico, a higher education leader was subjected to enormous external pressure and a political campaign partly because of a strategy to empower disadvantaged groups and because his institution had ventured to investigate alternative options for an environmentally unsustainable decision in order to avoid an ecocatastrophe. Other challenges were revealed later when some of the cities and regions in the OECD reviews were revisited in 2013 by researchers sponsored by the Association of University Research Parks. The interviews highlighted critical sustainability issues of triple helix constellations which did not stand the test of leadership changes in the local government or universities. For instance, decade-long investments in the international brand and partnership development of Barcelona22@ were abandoned when the city leadership changed. In the same manner, the higher education driven cross-border collaboration in the Oresund region came to an end with a change of university leaders in Denmark, who prioritized the global brand of Copenhagen. Investments into Snowpolis, an early experiment in a smart-specialization type of collaboration in Finland, came to an end when Finland's regional policy focus changed; the peripheral area had not sufficiently improved its attractiveness for business and R&D and the conflicting priorities of the ageing low-skilled population and a small number of highly skilled newcomers from abroad were not resolved.

Developing a strategy for global and local engagement for a sustainable future

Becoming a locally and globally engaged university can be a challenging journey, particularly if the aim is to achieve economic, social and environmental sustainability; higher education institutions are often slow to change due to institutional and other barriers and constraints which may be out of their control. Institutions may also need to prioritize other pursuits which are vital for their survival or because of funding systems and increasingly competitive environments. The OECD reviews highlighted the greatest issues in three domains: i) there may be a lack of institutional autonomy in terms of programme offer and curricula design, funding, human resources and university estate; ii) there may

³ The OECD work produced a flagship publication 'Higher Education and Regions: Globally Competitive, Locally Engaged' (OECD 2007) and over 30 city-/region-specific review reports with practical recommendations for HEIs as well as national and regional policy makers. For city- and region-specific review reports see OECD iLibrary: www.oecd-ilibrary.org and search for 'higher education in regional and city development'.

be limited incentives for institutions and individuals; and iii) evaluation and measuring progress remain underdeveloped.

If HEIs want to make meaningful progress on the Sustainable Development Goals (SDGs), **traditional solutions, research projects and isolated community projects will not be enough. HEIs need to contribute to the development of innovative and financially sustainable solutions that help build economic, social and environmental wellbeing and deliver the changes that the global community and the people need.**

“Traditional solutions, research projects and isolated community projects will not be enough. Higher education institutions need to contribute to the development of innovative and financially sustainable solutions that help build economic, social and environmental wellbeing and deliver the changes that the global community and the people need.

Evidence from the OECD reviews also suggested that for many institutions the only practical way to move forward is to take a strategic approach to partnerships and engagement that combine global and local action. Strategic collaboration between a HEI and its partners implies balancing or shifting from the ad hoc one-on-one collaborations between individuals to collaborations between organizations in the public sector, NGOs or business and industry. Strategic collaboration also implies a move away from short-term relationships to long-term partnerships based on interdisciplinary action, commitment as well as shared responsibility and benefits. To address the challenges of globalization and localization and to work towards the Sustainable Development Goals (SDGs), which seek to end poverty, ensure quality education for all, advance gender equality and make significant progress in environmental sustainability, there is a need to coordinate existing and new collaborative projects and to build long-term partnerships, not only with communities, but also with social enterprise which can help lift these communities.

A recent study covering over 200 higher education institutions across 12 countries in four continents showed that HEIs and social enterprises around the world are collaborating and engaging with each other to address social problems. 75% of the institutions surveyed are actively involved with at least one social enterprise and over half of these are also engaged in an international social enterprise partnership. The engagement can take many forms, including student placements, support for student- and faculty-led social enterprises, accredited courses, incubation spaces, support services and research expertise for social enterprises and inviting social entrepreneurs to serve as student mentors (British Council 2016).

Ten steps to build a globally and locally engaged higher education institution for a sustainable future

In simple terms, developing a global and local engagement role for HEIs can be based on ten strategic steps: 1. institutional commitment; 2. needs assessment; 3. institutional capacity assessment; 4. institutional activity audit; 5. gap analysis; 6. target setting and role definition; 7. organization de-

velopment; 8. policy development; 9. policy implementation; and 10. monitoring, evaluation and improvement.⁴ The OECD reviews and international experience elsewhere show that these steps partly overlap and may appear in a different order depending on the institution's mission, experience in engagement, operational environment and policy framework. While action may be constrained by national policy, experience shows that entrepreneurial university leaders and institutions are able to find a way for the institution to make progress, pushing the limits and sometimes paving the way for changes, even in the legislation. The ten steps are all the more challenging when issues such as social responsibility and the Sustainable Development Goals need to be respected.

Table 2. An institutional strategy for university global and local engagement: Ten steps to designing and implementing the strategy

Steps	Tasks
1. Institutional commitment	Make an institutional commitment to local and global development. Develop an overall vision as a globally and locally engaged institution.
2. Needs assessment	Conduct a needs assessment, i.e. foresight exercise of technological, scientific and societal, cultural, environmental needs and development trajectories with partners.
3. Capacity assessment	Assess the institutional capacity, strengths and weaknesses in terms of the potential to address local and global sustainable development needs.
4. Activity audit	Map the HEI's engagement activities and local and global linkages.
5. Gap analysis	Perform a gap analysis based on the previous steps (2-4).
6. Target setting and role definition	Determine involvement, select priorities for strategy and define objectives. Determine target of opportunity in which HEI involvement will bring added value.
7. Organization development	Develop an organization for the new roles.
8. Policy development	Define a coherent policy mix, roadmap and action plan.
9. Policy implementation	Implement new policies and the new engagement role. Align resources with the goals.
10. Evaluation	Develop monitoring and evaluation mechanisms.

Source: Own elaboration based on Puukka 2015.

Step 1. Institutional commitment: making a commitment to sustainable local and global engagement

Given the growing demands and expectations, **higher education institutions need to reflect on how their engagement can relate to their core missions – teaching, research and service – and how they can address both local and global challenges.** International evidence shows that HEIs that have embarked on this journey have made better progress if they carefully considered their own institutional

“Local and global engagement can bring higher education institutions many benefits (...) but there also potential risks.

interest in and commitment to local and global engagement, reflecting on what they could gain and potentially lose from such an engagement.

⁴ These steps were presented by Puukka in 2015, but revisited for this article to cover both local and global engagement.

Local and global engagement can bring HEIs many benefits, such as new resources, a stronger and more attractive brand or more attractive and relevant study programmes or research activities, but there are also potential risks – for instance, a dilution of scientific capacity, distraction from the pursuit of excellence and other objectives, or serious ethical issues linked to industry collaboration.

For many universities, funding is a major element in determining research priorities in the areas of engineering, science and medicine. **While universities should do their duty as institutions that promote peace and understanding, in practice university research helps arms companies to develop weapons which are then sold to governments and armed groups across the world.** For example, from 2008-2011 Britain's elite Russell Group universities received at least £83 m worth of funds from firms involved in the arms trade, according to data from Campaign Against the Arms Trade (CAAT) (Huffington Post, 2012)⁵. Private companies provided £62.8 m, with the rest coming from the Ministry of Defence. More recent CAAT evidence shows that only one of the UK universities has not collaborated with arms companies. Arms companies fund university research for three reasons: to gain a competitive advantage over commercial rivals; to develop goodwill among scientists and engineers; and to recruit new professionals to develop new weapons systems through internships, projects and recruitment campaigns. For a higher education institution committed to the Sustainable Development Goals this would require refocusing their research efforts on sustainable and renewable energy and lobbying governments to change their funding priorities accordingly.

Developing an institutional commitment to sustainable local and global engagement requires a consensus-building process to define – or redefine – a vision and mission, and in many cases the role of the institutional leader has been critical in heading this process. The vision and mission should take into account the perspectives, concerns and diverse views of university staff, students, alumni, government, community and industry. International experience also shows that explicit recognition of local and global engagement in the institutional mission will enhance its legitimacy within the university community and among external stakeholders, as is evident in the University of Aalborg's Knowledge for the World strategy.

⁵ Campaign Against the Arms Trade (CAAT) is a UK-based organization working to end the international arms trade. United Kingdom. See www.caat.org.uk.

The University of Aalborg's long-term commitment to the region and the new Knowledge for the World strategy

After a long campaign for a local university in Denmark's northern Jutland, Aalborg University (AAU) was established in 1974. The local campaign set a basis for a continuing dialogue with business and industry, trade unions and local governments. An important decision was to focus on interdisciplinary research and education and problem- and project-based learning. Forty years later, the university offers half its course work in multidisciplinary project teams where students from different disciplines work together to solve problems identified by industry. AAU is actively disseminating its learning model globally and also hosts a related UNESCO chair. Internationalization is seen as a means to achieve the key goals of the university, which takes part in international higher education networks, programmes and exchanges. AAU is a member of the European Consortium of Innovative Universities (ECIU) and Building Stronger Universities in Developing Countries (BSU). AAU now has three campuses – Aalborg, Esbjerg and Copenhagen – but remains committed to northern Jutland, nurturing partnerships with the municipalities based on formalized collaboration. The new AAU strategy for 2016-2021, 'Knowledge for the world', covers research, education and knowledge collaboration and was conceived in an open, inclusive process with university staff, students and external stakeholders. The aim is to contribute to “the knowledge build-up of the global society as well as to the development of the prosperity, welfare and culture of Danish society” (<http://www.e-pages.dk/aalborguniversitet/383/>)

Source: OECD, 2007 and interviews by the author. Aalborg University 2015.

Step 2. Needs assessment: analysing community and industry needs

A number of HEIs which have made the commitment to local and global engagement have also developed knowledge and understanding of local and global needs and development trajectories using both their own expertise and external knowledge resources. While the focus may be on the local and regional needs, these institutions often take a broader look at the national, supra-national and global contexts which impact on the development of universities, as well as the cities and regions where they are located. Good results have been achieved by analysing the community and industry in collaboration with the stakeholders. Collaborative efforts will help HEIs to understand how the economy and society are changing and how globalization is impacting on local development. Examples in this respect come from Victoria University in Australia, Maejo University in Thailand and Mondragon University in the Spanish Basque Country.

Widening access and improving success in Victoria University, Australia

One of the pressing local demands that universities must address is the need to raise, improve and upgrade the skills of the local population. Victoria University offers higher education and technical and further education to over 50,000 students who are enrolled at campuses across the city-centre and western suburbs of Melbourne. These areas have the fastest growing population in Melbourne, many from migrant backgrounds and with low educational outcomes. Victoria University has developed a multifaceted approach to widening access and increasing the success of this population: It works with schools in the west of Melbourne to improve access to and successful participation in tertiary education. Different policies involve both university staff and students who work in collaboration with the schools and communities, offering professional development and teacher leadership via postgraduate education, collaborating with local youth to support and raise their aspirations and access to tertiary education and employment, increasing the engagement of children and families with education and community life and developing and disseminating evidence-based knowledge on access and access research. Victoria University uses unorthodox methods, meeting potential students in shopping centres, organizing events and training opportunities in non-hostile environments and partnering with a broad range of communities, including the local football team, to reach out to disadvantaged youth.

Source: OECD, 2010.

Maejo University's commitment to social enterprise in Thailand

Founded in 1934 as an agricultural teacher training school, Maejo University is the oldest agricultural institution in Thailand with 18,252 undergraduate and postgraduate students (2016). The university has a comprehensive approach to social enterprise. It specializes in social enterprises which protect the environment and focus on improving health and wellbeing and which aim to address the Sustainable Development Goals. It is a member of a social enterprise network. It has an incubation space and supports student- and staff-led social enterprises. Social enterprise is mainstreamed in all courses. For the enterprises, Maejo University provides funding, expertise, access to its facilities, training, student placement and research collaboration. The university also uses its purchasing power to buy and promote the products or services of the social enterprises it supports. In international collaboration, Maejo University's partnerships have encountered some challenges, such as access to funding, differences in religion, cultural beliefs and traditions as well as language barriers, which have led to misunderstanding.

Source: British Council 2016. https://www.britishcouncil.org/sites/default/files/social_enterprise_in_a_global_context_-_the_role_of_heis_british_council.pdf

Mondragon University: bringing high quality industry-relevant education to the Spanish Basque Country and Latin America

In many countries in the Global South, private institutions have absorbed a significant part of the demand for higher education, which may have led to quality concerns. One of the institutions that is helping to address such quality issues is Mondragon University, a non-elitist cooperative institution which is part of the Mondragon Corporation, the largest business group in the Basque Country. Mondragon Corporation expects its university to respond to both local and global needs for high quality education, soft skills development and sustainable development. Mondragon University is helping develop the governance and management systems of higher education institutions in Latin America, building a Network of International Higher Education Institutions that share the same principles, educational model and university-business relationship. This action is coordinated via Mondragon Educación Internacional (MEI), which is a joint venture promoted by Mondragon University, Alecop and Mondragon Corporation. Currently the network encompasses two institutions in Colombia and Mexico. The university is sharing its experience of running a cooperative university (each employee is a co-owner), by embedding soft skills and work-based learning in curricula and fostering collaborative research based on a four-year industry-driven forecast which helps align the university's R&D with industry needs and leads to genuine collaboration, rather than the typical customer-supplier model.

Source: Puukka et al. 2013; For Mondragon University's governance, see <http://www.mondragon.edu/en/international/mondragon-cooperatives/cooperative-university>

For MEI, see <http://www.mondragon.edu/en/international/international-profile/mei-mondragon-educacion-internacional>

Step 3. Institutional capacity assessment

The OECD reviews showed that in addition to needs assessment, HEIs also need to determine to what extent they have the capacity – resources and expertise – to meet these needs and how they can best contribute to local and global development. The capacity assessment should cover not only education, R&D and service, but also facilities and infrastructure. Capacity assessment typically focuses on areas of expertise where the institution's capacity to contribute is likely to be strongest. In addition, potential and/or emerging areas of strength should also be identified and analysed, as these can be built upon if they become more closely connected with local and global needs.

No single institution can meet all the needs and expectations emerging in the local community and industry, let alone global challenges. Some HEIs could consider undertaking the capacity assessment review in collaboration with neighbouring higher education and vocational education and training institutions, as was also the guiding principle in the OECD reviews. This type of higher education system perspective can help identify strengths and expertise in other institutions which can then contribute to – or even take the lead in – specific areas of local and global development, as is evident in the following examples from Bielefeld and Malmo universities, which are responding to the massive

displacement of people with more than one million people seeking an asylum in the European Union in 2015 (OECD, 2015).

“Widening higher education opportunities to refugees and newly-arrived migrants is important, not only for global humanitarian reasons, but also because skilled workers and universities play an important role in the rebuilding efforts in their home countries after the conflict.

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Higher education for refugees

Germany’s whole-of-government approach to the refugee crisis has been backed up and supported by voluntary action including universities which are expecting to enrol tens of thousands of refugees. Universities are developing programmes ranging from legal and psycho-social support to language learning and recognition of prior learning, and opening their space and networks to the newcomers. Around 60 universities are offering free courses, some waiving the fees for Syrian nationals, including three institutions in Berlin and 16 in north-eastern Germany. Out of the 60 universities, the University of Bielefeld aims to partner with other higher education institutions in the region to help all eligible refugees access higher education. It offers free courses in sciences and mathematics and a crash course in spoken German. Refugees are paired with local students to ease the integration process. In Jordan, students at the German Jordanian University near Madaba have adopted a particularly active approach with Syrian refugees. Students spend half of their fourth year in a German university of Applied Sciences and another half in industry. All students are expected to learn Arabic, English and German.

Sweden has extensive experience of programmes for refugees, which generally last two to three years and include recognition of prior learning, language learning and, increasingly, also support for employability. Malmo University in southern Sweden has a long-term commitment to diversity and widening access and improving the success of its students, one third of whom are from foreign backgrounds. Malmo has developed a comprehensive approach to newly-arrived migrants and refugees in collaboration with national and local governments and different education providers covering: recognition of prior learning, training in Swedish as a second language, bridging courses and complementary training programmes for highly educated refugees to complete their higher education degree and/or enter the labour market. <http://www.mah.se/english>

⁶ The European Commission is collecting good practice examples on the integration of newly-arrived migrants with the help of higher education. These examples can be sent to the email address: eac-higher-education-for-refugees@ec.europa.eu. The contributions will be shared on a dedicated website: http://ec.europa.eu/education/policy/migration/higher-education-refugees_en.htm

Step 4. Institutional activity audit

Some HEIs have made efforts to carefully map their partnerships, projects and activities with the community and industry whether at local, national or global level. This type of mapping exercise can help the institution build a strategic approach to regional development, as it helps determine the focus for engagement. Mapping should involve identifying both current and past areas of collaboration and engagement activities and a review to determine how well these address the current and emerging needs. This is important because such collaborative efforts can form the basis of new, more effective initiatives. Existing areas of strength which are not involved in local economic or community development or global outreach should also be reviewed to determine their potential. The mapping of linkages is important because some of the engagement activities, projects and linkages are small-scale and may be conducted below the radar of the higher education institution's leadership or central administration. This exercise should also flag activities which may stand in conflict with the Sustainable Development Goals.

Higher education institutions have usually taken advantage of the existing accountability and reporting systems, but have also developed dedicated surveys, sometimes supported by interviews, to highlight other activity which is not usually covered by these systems, such as staff and student union engagement in associations, NGOs, business and industry and public sector organizations. The institutional activity audit has, in some cases, led to formalizing ad hoc activities or tailoring, expanding and developing new or existing activities to better meet the local and global development challenges, as is also evident in the above examples from Bielefeld and Malmo universities, which have expanded and customized their existing policies to meet the needs of the newly-arrived immigrants.

Step 5. Gap analysis

What often seems to be missing is an institutional gap analysis to assess the need for new or enhanced capacity to address the unmet or emerging community and industry needs, as well as global challenges. Meeting these needs could mean developing new study programmes, an enhanced focus on soft skills and social and civic competencies in existing programmes, a new focus on R&D activities, projects that would benefit the local community and industry, services for students or external stakeholders, or infrastructure and facilities that can meet the immediate needs of the local community or industry or build long-term capacity. These needs could also include helping to link local industry, such as social enterprise, to the institution's global knowledge networks and supply chains and vice versa.

There are also likely to be gaps which the institution can bridge with relative ease, whereas others may take greater efforts and significant time investment. Long-term efforts are needed to build transferable skills, social and civic competencies and global citizenship skills. Due to radicalization tendencies, the need to develop transferable and civic skills has recently gained new political impetus. HEIs may not be able to reframe how people think, but they can increase their efforts towards widening access and ensuring success in higher education, and improving graduate employability. They can also reform their curricula in order to embed transferable skills and social and civic competencies (such as conflict management and social entrepreneurship skills), employability skills and exposure to interdisciplinary learning and team-building.

Reasons for the radicalization of youth with higher education studies in fields such engineering may lie in the frustrated aspirations for jobs and lack of social mobility of individuals who feel that they have been denied their due, but also to the 'culture of disengagement' in these fields. These challenges need to be addressed by both immediate and long-term approaches.

Against radicalization: from the culture of disengagement to active citizenship

Research shows an overrepresentation of university students and graduates in all types of radical groups, while students with more demanding professional degrees, particularly engineering, have a greater likelihood of joining these groups (Gambetta and Hertog, 2015). US research shows that engineering curricula may unintentionally narrow minds: according to Cech (2014), between the freshman year and graduation, the self-reported answers by 326 students in four engineering programmes showed a decrease in measures of public-mindedness, such as a commitment to professional and ethical responsibilities and a social consciousness. This may relate to a 'culture of disengagement' that defines public welfare concerns and non-technical factors as irrelevant, and a lack of exposure to humanities and social sciences which can make nascent engineers less able to appreciate the perspectives of others. Engineering and other programmes would benefit from embedding communication and teamwork skills to help learners understand what motivates people. Purdue University offers first-year engineering students authentic problem-solving experiences focusing on open-ended, user-driven problems, building empathy and tolerance for ambiguity. Authentic engineering aims to find a satisfactory solution among competing priorities and constraints, including social solutions (Berret, 2016).

Step 6. Role definition and target setting

Once the base line analysis is completed, the higher education institution can start making strategic decisions about its specific role locally and globally in terms of economic, societal, cultural and environmental development. The OECD evidence shows that this role should support the institution's basic missions – teaching, research and service – and build on the strengths and expertise of the institution in areas with competitive advantage or specific resources. Investing in selected areas of comparative advantage can contribute to long-term benefits and payoffs. This could involve developing entire new study programmes to support a knowledge-based industry or a new research focus. This role can equally require action in areas where there are identified gaps in the current capacity and the needs of the regional community and industry.

In order to be able to make a meaningful contribution both locally and globally, the higher education institution will need not only to define the objectives, but also back them up with appropriate resources. While project funding can be used to launch operations, key activities should be embedded in the normal business of the institution and receive core funding. A helpful approach is to embed local and global activities into the institution's core functions. National governments can help capacity-building in this domain; notable examples come from the United Kingdom where the Higher Education Fund-

ing Council of England (HEFCE) has promoted HEIs' knowledge exchange activities with a dedicated programme called the Higher Education Innovation Fund (HEIF) (see Step 10).

Riara University in Kenya embeds social enterprise in actions

Riara is a private institution in Nairobi (est. 2012) with 1,100 students. The University recognizes social enterprises as businesses and embeds social enterprise throughout the academic curriculum and has recently introduced a Higher Diploma in Social Entrepreneurship. Riara also partners in joint projects with existing social enterprises, such as a firm which provides high quality processed banana flour through sustainable and equitable farmer relations, in order to reorient their business plan towards being an all-inclusive supply chain model and socially responsible enterprise. The university is also part of the UNCTAD 'Business Schools for Impact Project', in which they collaborate with other business schools in Europe, Asia and Latin America in order to address and promote sustainable development goals. This project facilitates international internships and fosters collaborative learning with other HEIs.

Source: British Council 2016.

https://www.britishcouncil.org/sites/default/files/british_council_social_enterprise_brochure_draft_11_interactive_version_25_05_15.pdf

Step 7. Organization development

An important step for a higher education institution on the journey to global and local engagement is to determine how to organize the supporting activities. In some cases, existing organizational arrangements may be sufficient, but often there is a need for new arrangements. The HEI will need to determine who will lead the engagement agenda and ensure that line management, assignments and communication arrangements are clear. Some HEIs have a deputy vice-chancellor or vice-rector who leads local and global development engagement and/or staff members who have a dedicated task to communicate/cooperate with the external stakeholders. Higher education institutions also need to publicize and inform the community, industry and NGOs as well as public sector leaders about the resources and expertise that they can offer.

Encouraging staff and student involvement in local and global engagement is of crucial importance. Identifying and celebrating 'quick wins' and early indicators of success (Kotter, 1995) help build confidence among the staff and students and stimulate the generation of new ideas. While addressing global sustainability challenges may appear a daunting responsibility, **investment in frugal innovation skills by university staff and students can bring incremental improvements to the lives of the poorest populations and develop entrepreneurial and civic skills at both ends.** The Frugal Innovation Lab at Santa Clara University and Stanford University's Entrepreneurial Design for Extreme Affordability programme combine young talent with the needs of disadvantaged communities across the world.

Frugal innovation benefiting from north-south collaboration

Frugal innovation typically refers to affordable versions of existing technologies which combine leading-edge research with low technology or create new, more efficient systems for delivering technology, which makes them cheaper. This may involve using technology and cutting-edge science to help create social and economic value from waste (see, for example, Bound and Thornton, 2012). Many low cost, high quality products and services have been created by highly skilled entrepreneurs or have benefited from university collaboration.

Extreme - Design for Extreme Affordability is a Stanford University project-based course where multidisciplinary teams of graduate students work together using design thinking to develop products and services to address the needs of the world's poorest citizens. During the nine year-history of Extreme, 325 graduate students have worked on 80 high-impact projects with 22 partners in 14 countries, learning to design solutions to real problems. Each year, 40 students from across campus engage with five global partners to produce 10 transformative projects in a human-centred design process. Post-Extreme solutions create impact either through implementation by the partner, new independent student-led organizations or other appropriate organizations. See more at: <http://extreme.stanford.edu/#sthash.i00wZk4G.dpuf>

Tata Chemicals' research centre in India and the Massachusetts Institute of Technology (MIT) developed a low cost **Swach water filter** targeted at rural families. At \$20, it is 50% cheaper than its nearest competitor and functions without electricity or running water. The Swach water filter combines one of India's most common waste products – rice husk ash – with a coating of silver nano-particles to filter water. Sales opportunities span Africa, Latin America and South East Asia. See more at: <http://www.nesta.org.uk/news/frugal-innovations/tata-swach#sthash.rzxQfMkV.dpuf>

The **Jaipur knee** was developed in 2009 by a team of Stanford University students, an Indian NGO (BMVSS Bhagwan Mahaveer Viklang Sahayata Samiti) and the Jaipur Foot group. In the developing world poor patients who lose a knee joint cannot afford a titanium replacement worth \$10,000, and crude models do not work very well. The Jaipur knee costs only \$20 and mimics the joint's natural movements. It is made of self-lubricating, oil-filled nylon and comprises five pieces of plastic and four nuts and bolts. It requires no special tools. The Jaipur knee was selected by Time magazine as one of the world's best 50 inventions in 2009. See more at: <http://www.nesta.org.uk/news/frugal-innovations/jaipur-prosthetics>; http://www.time.com/time/specials/packages/article/0,28804,1934027_1934003_1933963,00.html

Developed by a Stanford engineer, **FoldScope** is a waterproof foldable origami microscope, assembled from a sheet of paper and a lens. This print-and-fold microscope is low-cost (50 cents) and enables tests and diagnosis for treatment by remote health workers. It can also be used for educational purposes, providing a hands-on science education to marginalized groups. See more at: <https://www.technologyreview.com/s/525471/the-1-origami-microscope/>

Step 8. Policy development

An engaged higher education institution is an agile and nimble organization which enables engagement and responds to new needs. The HEI will need to develop policies to become more agile in order to support its new local and global role. In some cases, establishing a culture of engagement may require

“An engaged higher education institution is an agile and nimble organization which enables engagement and responds to new needs. The higher education institution will need to develop policies to become more agile in order to support its new local and global role.

a new model of leadership and a shift towards a learning organization which is constantly evolving. For many institutions these changes would involve balancing the focus on excellence in basic research and/or education with relevance, embedding innovation and engagement in research, education and service and learning at the local and global level.

Without committed staff and students, the new engagement policy is likely to fail. An engaged HEI encourages, promotes and rewards outreach, engagement and risk-sharing. Revisiting human resources policies and developing a stronger recognition and rewards policy for local and global engagement is often needed. The institution will also need an enterprise policy which ensures that the staff's entrepreneurial, consulting and community engagement activities are permitted and balanced with academic responsibilities, and that policies covering patents, licensing, royalties etc. are put in place. Higher education institutions also need to create incentives for students or student unions to participate in local and global engagement. These steps will be difficult to take if the national policy framework allows limited or no scope in human resources development or funding policies.

University Rovira i Virgili's human resource systems acknowledge staff engagement

The University of Rovira i Virgili has mobilized its knowledge resources to address the challenges and opportunities in Tarragona and southern Catalonia by aligning its education provision and R&D with the key industries in the region, and is also increasingly active globally. An important element that supports regional engagement and strategic goals is the academic staff contract which sets a basic expectation for staff performance by enhancing, recognizing, rewarding and evaluating engagement along with excellence in teaching, research and management. This system creates the flexibility that allows all staff members to contribute to institution-building and regional engagement activities. Staff members are allowed to spend time working in local firms during their leave periods and have ongoing relationships with these firms. The academic staff contract is based on a ten-point system; all staff members are expected to research and teach, with the minimum contractual obligations constituting six of the expected ten points. To reach the expected ten points, the university staff member can work with SMEs to implement technology transfer or technology commercialization projects or additional research and publication. All criteria for performance constitute a unit contributing to the ten-point base. The results are available on the university intranet and visible to staff in each respective department.

Fotakis et al., 2014; OECD, 2011

Step 9. Policy implementation

The local and global engagement role of a higher education institution is likely to fail in its goals if it is not well implemented. International experience shows that if significant changes are expected then policy implementation must be guided by the academic leader. The pace of change can be accelerated with the help of dedicated leadership programmes, as the experience from England shows, or programmes for change agents or enablers who can act as catalysts of change by engaging with business and industry and the civil society at local and/or global level. These individuals could comprise staff from different roles and levels, working together to bring forward a change in their own departments and institutes, or students who could take up a key role in local and global development, industry collaboration, civic engagement or entrepreneurship activities.

Student-led entrepreneurship in Aalto University

In Finland, Aalto University has empowered a student association to take ownership of developing student entrepreneurship activities by offering space for the activities free of charge. The Aalto.es student association provides a wide range of services and activities for students to develop, test and grow their entrepreneurial ideas. Voluntary action has contributed to one of the world biggest start-up conferences. In 2015, the high profile SLUSH conference was attended by 1,700 tech start-ups from 100 countries, who had the opportunity to meet investors, media and potential corporate partners in over 5,400 pre-booked meetings.

<http://www.slush.org>

Step 10. Monitoring, evaluation and improvement

The OECD reviews showed that procedures to monitor and evaluate the effectiveness and impact of the engagement activities are essential. It is important to ensure that monitoring and evaluation will lead to improvements in the systems and mechanisms in place and, where necessary, termination of programmes and activities. Steps also need to be taken to ensure that the institution and individuals receive credit for the contributions made. National-level examples of funding and monitoring systems for knowledge engagement come from England where the Higher Education and Innovation Fund for England (HEIF, established 2001) and the Higher Education and Business and the Community Interaction Survey (HEBCIS) are funding and monitoring mechanisms that support university industry and community engagement.

Funding and monitoring industry and community engagement: tools used by the Higher Education Funding Agency in England

Higher Education and Innovation Fund for England (HEIF), est. 2001, is a funding mechanism that supports university, industry and community engagement in England. HEIF funding represents a small component of the budgets of English universities, but it has had a significant cumulative impact on the behaviour of universities. HEIF has gone through several phases; since 2011, the funding has been performance-based: 99 English universities have received support on condition that they meet external income threshold and performance as captured in the HEBCIS. In 2015, the Higher Education Funding Council for England (HEFCE) acknowledged different approaches to knowledge-based interactions between universities and colleges and the wider world, all of which are publicly available on the website: <http://www.hefce.ac.uk/kess/heif/strategies/>

The HEBCIS (Higher Education and Business and the Community Interaction Survey) monitoring system covers a range of higher education institution activities, from the commercialization of new knowledge, to the delivery of professional training, consultancy and services, to activities intended to have direct social benefits. Data collection has been the responsibility of the Higher Education Statistics Agency (HESA) since 2011. For HEBCIS records see https://www.hesa.ac.uk/index.php?option=com_studrec&Itemid=232&menl=15032

In 2014, HEFCE introduced tools to identify higher education 'cold spots' in the form of data maps on education provision, student numbers and characteristics, graduate employment, and university interaction with business and the community at local and regional level. The maps show the scale and impact that universities have on an area, and the contribution they make to the delivery of the local development plans. They help universities and local partners identify effective delivery of local economic plans and monitor the progress in widening participation. <http://www.hefce.ac.uk/analysis/maps/>

HEFCE is also funding **the Student Engagement Partnership** (<http://tsep.org.uk/>) with the help of a central resource hosted by the National Union of Students, which coordinates national-level knowledge sharing in student engagement. GBP 770,000 has been allocated for a three-year period. For further information see: <http://www.hefce.ac.uk/reg/forstudents/sp/se/>

Conclusions

Universities and other higher education institutions are places of learning, discovery and innovation which can potentially play an important role in both local and global development and the advancement of the Sustainable Development Goals. Many HEIs are in the early stages of seeking an appropriate role in local and global development and combining these two roles which can encompass human capital and skills, knowledge exchange, innovation and enterprise formation, community development and local and global outreach.

The extent to which a HEI is able to effectively take part in local and global development depends on the broader policy context, institutional autonomy, incentives and monitoring and evaluation. It also depends on local industry structures and community characteristics in the places where the university itself is located and where its partners are based. Finally it depends on the decisions made and approaches taken by the institution itself.

The key to a successful local and global engagement role for HEIs lies in effectively combining both local and global engagement, as well as the ability to forge mutually beneficial partnerships. In order to take full advantage of these partnerships, universities and other HEIs need to become more open and entrepreneurial, socially-engaged, civic-minded and strategic, by identifying local and global challenges and opportunities and development trajectories.

Given the limited incentives for locally- and globally-relevant action and financial constraints in general, HEIs should explore ways to address local and global challenges and opportunities through their core missions of teaching and research. Strategic planning in an increasingly competitive situation requires careful examination and development of universities' capacities, understanding the need and demand for university contribution, mapping local and global linkages, and scaling up isolated examples of good practice into a system. Strategic engagement also requires a long-term commitment to local and global development; a readiness to engage and 'grow' with partners, whether industry or population; and the capacity to anticipate and adjust to changes in the higher education institution's operational environment.

Barriers to opening up to local and global engagement include reductions in resources, shrinking government investment in education, research and innovation and a 'Small World' attitude, leading to disengagement. In R&D and enterprise creation some institutions have focused on leading-edge research, others on knowledge transfer, high-tech spinouts and IT-based start-ups. While these actions are commendable, from the perspective of the Global South, the slow cycle of innovation in fields such as health, the 'more with more' approach with heavy investment in high-tech solutions, or 'uberisation' of collaborative consumption tools that share resources between like-minded customers, fail to respond to the needs of the bottom billions. In practice, research conducted at universities also helps arms companies to develop weapons which are then sold indiscriminately to governments and armed groups across the world.

Challenges like the current displacement of millions of people, growing and diversifying immigration flows and risks of radicalization show how the global and local are increasingly intertwined and re-

quire long-term approaches by policymakers and all stakeholders to customize integration policy instruments and embed transferable and employability skills in learning programmes. Higher education institutions can play an important role in enabling newcomers to become language proficient; recognizing their educational and professional credentials and complementing their skills and competencies with additional training will be critical for successful integration, positive economic impact and rebuilding home countries after the conflict.

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1.2. Social Innovation, Universities and the Quest for Social Transformation

Juan Luis Klein

Abstract

In this text we address the topic of social innovation with regard to higher education institutions (HEIs). We seek above all to identify to what extent universities and other institutions of higher education can contribute to making social innovation the centrepiece of a development model that is more democratic and fair than the one that currently prevails on a global scale. We are well aware of the role that universities can and do play in terms of technological innovation, be it with regard to technology itself or to its social dimension. Many studies have examined which types of arrangements among stakeholders are the most likely to promote and support technological or scientific innovation. Concepts such as national and regional systems of innovation, innovative milieus, industrial districts, local production systems or competitive clusters have been presented as combinations of businesses, higher education centres, political bodies and civil society organizations that promote innovative production and competitiveness. However, what we are addressing is different. We are targeting **social innovation** as a concept that **does not, at least directly, focus on productivity or competitiveness, but on the collective wellbeing.**

From our perspective, **social innovation constitutes a social phenomenon that is distinct from productive or technological innovation. We postulate that while it is true that there is the social in any innovation, not all innovations are social.** The *Centre de recherche sur les innovations sociales (CRISES)* defines social innovation as **new social, organizational and institutional arrangements or new products or services with an explicit social mandate that result, voluntarily or not, from an action initiated by an individual or a group of individuals to respond to an aspiration, meet a need, provide a solution to a problem or benefit from an opportunity of action to change social relations, transform a framework of action, or propose new cultural orientations.**

These social innovations may be incremental or radical; however, what is essential for analysing their place in the configuration of new development paths is, from a broader perspective, to view them as milestones in processes in which alternatives are explored at the local level, such as in organizations and communities. Once disseminated, these innovations can contribute to social transformations on larger scales. It should be noted, moreover, that universities and other HEIs are part of the institutional frameworks that often constrain these types of transformations, even if their professors and students take part in the experiences that stimulate them. In addition, these **institutions help to produce and replicate those frameworks, namely through the promotion of values and knowledge that shape society as a whole and standardize citizens' actions and their ability to analyse problems and aspirations.** We believe this to be the level where we must situate the analysis of the role of universities

in social innovation, that is to say, the level of their relationship with knowledge and the cognitive dimension of the institutional framework. It is in this sense that our approach has epistemological perspectives.

The question we attempt to answer is: Can the involvement of universities in social innovation contribute to the development of a new model of society? To answer this question, we proceed in three steps. Firstly, we discuss social innovation as such and present two perspectives of it – a humanitarian perspective and a transformist perspective. These two perspectives have different possibilities in terms of their ability to change the institutional framework, a framework in which the universities are a major player. In a second step, we discuss the role of universities more directly by presenting the options facing them – options that can lead them either to become major actors in the transformation of society through social innovation, or to inhibit this transformation by obstructing the cognitive changes required for it. In a third step, we present two focused analyses that contain examples of innovative actions involving universities engaged in processes of social transformation. This will allow us, in the conclusion of our text, to answer our overarching question about the place of universities as agents of social transformation.

“The question we attempt to answer is: Can the involvement of universities in social innovation contribute to the development of a new model of society?”

Social innovation as a response to crisis

Reflection on social innovation has taken time to develop. In the last years of the 20th century, only a handful of researchers were interested in social innovation. However, since the beginning of the 21st century, the importance accorded to this topic by major international institutions as well as by researchers and social actors has not ceased to grow (Moulaert et al., 2013; Klein et al., 2014; Lévesque et al., 2014; Nichols et al., 2015). This attention stems from the fact that the main technological innovations realized in the productive sectors related to the so-called new economy, being the productive sectors and services based on the intensive use of knowledge (Doloreux et al., 2010), have led to social transformations that, rather than offering solutions to the problems facing society, have gener-

“The fact that the crisis extended over to the social, political and geopolitical realms reveals that the methods available for dealing with such crises are no longer efficient and function, at best, as palliatives for the major problems of our time, but not as solutions.

ated or intensified them (Klein et al., 2016). As has been documented, despite a significant increase in wealth on a global scale, the innovations and transformations of recent decades were not driven by a focus on social progress. The flexibility and mobility of capital, the segmentation of the labour market

and fierce competition have given rise to new forms of precariousness. All these characteristics of the current development model have been intensified by neoliberal-inspired management reforms of public policy, adopted by governments and applied across all entities of societal governance, including universities (Lévesque, 2013). The 2008 crisis revealed the aberrations of this development model (Klein and Roy, 2013). **The fact that the crisis extended over to the social, political and geopolitical realms reveals that the methods available for dealing with such crises are no longer efficient and function, at best, as palliatives for the major problems of our time, but not as solutions. A paradigm shift is therefore required** (Fontan, 2011; Santos, 2011; Unger, 2015).

Creative activity through the crisis

As a Schumpeterian storm of 'creative destruction' (Schumpeter, 1942: 113–120), this crisis, like all major social crises, reveals what is destroyed but also what is being built by social actors seeking solutions to the main problems of their communities and who are experimenting with new ways to meet the growing needs of communities (Lévesque, 2013). It is these experiments that constitute the source of social innovations and that can transform society and serve as a basis for a more democratic and participatory development model (Klein and Harrison, 2007; Levesque et al., 2014). However, at the same time, they can also reinforce capitalism as an inegalitarian model (Fine, 2003; Amin, 2005; Peck, 2013). The effect of social innovations is unpredictable (Servet, 2010). They are invariably intertwined with processes that have many facets, from experimentation to institutionalization (Bouchard, 2015), and that interact and influence each other in an incessant whirlwind-like motion (Callon, 2004). The choice of which social innovations and transformations to favour therefore depends on the collective capacity of actors to implement and channel them.

Social innovation: humanitarian action or milestone in social transformation?

For most social scientists dealing with this topic, social innovations are, by and large, new responses to social needs that are not, or only partially, resolved by the institutional and organizational system in place (Klein and Harrison, 2007; Mulgan, 2007; Murray et al., 2010). Most of them acknowledge the important role played by civil society and the social economy in the formation and implementation of social innovations. However, as regards the scope and significance of social innovations, two main perspectives can be identified (Klein et al., 2014). The first one focuses on humanitarian actions for solving specific problems of precarious and vulnerable social groups. In this way, social innovation is confined to a social sphere where its scope is limited to attending to the plight of vulnerable and poor people, mainly through action of the third sector.

By contrast, a **more ambitious vision situates social innovations in a broader context** where they constitute experiments **that can lead to models for action to be adopted by society as a whole – all without denying the role of the third sector and civil society in the formation and implementation of social innovations.** This second vision, which we favour in this text, sees social innovations as the foundation of a 'social movement' that aspires to transform society (Unger, 2015). According to this vision, social innovation is part of a web of actors rooted in different spheres (public, social and private) and of a social movement that defines itself in terms of inclusive development and that calls for the

social embeddedness of the economy (Bouchard, 2013; Lavielle, 2014; Gaiger, 2016). This vision aims to improve the quality of life of citizens across all dimensions of human life (cultural, social, environmental, economic, etc.), as discussed by Santos (2011) with reference to the 'buen vivir' social model conceived in South America.

Social innovation and the institutional framework

The transformative potential of social innovations is conditioned by the institutional context in which they operate. This context appears as a set of variables that engage with the internal and external relationships of the actors and which pose constraints, yet can also promote transformation when the actors create new codes and rules and establish new institutional paths (Fontan et al., 2008). This latter process, however, is not one-sided. As innovations are diffused and adopted, they evolve through conflicting social relationships and compromises, adapting according to needs, aspirations and power relationships. Reflecting on social innovations as a factor of social change thus requires us to examine the relationships that actors who carry out such social innovations maintain not only with other social actors, who may be allies or opponents, but also with the institutional contexts in which they operate. Essentially, these actors confront and question the institutional framework while at the same time contributing to building and reproducing it.

We would point out that the institutional framework is not a homogeneous structure (Hollingsworth, 2000). Instead, it is a set of systems and subsystems of institutions that do not always converge and that have a differentiated permeability to the diffusion and adoption of innovative practices (Unger, 2015). Institutions reflect the social hierarchies, the inequalities between social groups, and the relationships between public authorities and social actors. Educational institutions, and especially those of higher education, are not separated from this institutional context, quite the contrary. **It is thus at this level that we must rethink the role of universities so that they may become agents of social transformation through social innovation.**

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Universities and the transformative effect of social innovation

Universities are part of a normative and cognitive framework. They validate institutional governance by establishing the values and myths that render them legitimate. Also, analysing the cognitive dimension of the institutional framework is crucial to the endeavour of rethinking the social integration of universities with regard to social innovation.

Ad hoc interventions

Indeed, universities play a role in the formation and support of social innovations that improve the lives of citizens. However, the analysis of this role must consider the two visions of social innovation presented above. Academic centres and research teams with ties to social actors initiate and participate in localized projects that mobilize knowledge and skills for the benefit of the public good, which promotes social experimentation. They adapt their training programmes so as to enable students (and in some cases, through university outreach modules involving citizens) to develop the skills needed for revitalizing devitalized or peripheral areas (Surikova et al., 2015; Nichols et al., 2013; Elliott, 2013).

In this regard, an interesting experiment is taking place in France, in the region of Rhône-Alpes, a region affected by the devitalization of rural areas due to human capital being siphoned off by the main universities. The latter are luring the youth away from those rural areas, resulting in the concentration of human capital in the major cities. To counter this trend, the University of Grenoble created the StaRTer platform, which coordinates training placements in projects that take place outside those cities. In a context dominated by the metropolization and concentration of resources, such a platform encourages universities to assume territorial responsibility. The objective is to foster the development of rural territories and to thereby re-establish the link between the university, with its global aspirations, and community-based stakeholders, who are generally concerned with local problems, namely in rural areas (Feyt, 2015).¹

University units are also involved in the transfer of useful knowledge for social experimentation (TEP-SIE, 2015). However, remaining limited to this type of intervention, although undoubtedly important, especially for the communities involved, would move us away from our objective of highlighting the role that universities should play in broader innovation processes aiming for the configuration of new social alternatives.

University institutions and alternative development paths

Benneworth and Cunha (2015) have shown the paradox in which universities find themselves in the context of the crisis of the dominant economic model. **On the one hand, their social mission should induce them to actively pursue the development of alternative and solidarity-based approaches and strategies for overcoming the failure of the dominant economic paradigm; yet on the other hand, universities often adhere to strategies defined by global and national bodies that promote elitism and competition, somehow making them promoters of this model.** The model of the 'world class university', which the majority of universities, encouraged by their principal economic and political partners, have come to acknowledge as the main standard, imposes on them not only teaching and research methods but also values. As a consequence of this model, these universities adopt utilitarian strategies that hinder them from generating and disseminating social innovations likely to change society (Elliott, 2013).

¹ See also: <http://uniter.rhonealpes.fr/spip.php?rubrique68>

Universities, moreover, have a major role in establishing the epistemological framework within which development activities are embedded. Through the knowledge produced in them, or through them, they contribute to the definition of what is 'real' and 'right' and to establishing the legitimacy of actions and actors. As Unger noted (2015: 250), this framework could turn out to inhibit the emergence of alternatives. In other words, **institutions of higher learning, to which the institutional framework confers the role of legitimate knowledge producers, tend to impose approaches and methods that consider change only within the limits of the existing institutional framework and that do not call the established order into question.**

However, the analysis of the place of universities within the institutional framework also allows us to see the role these could assume in establishing an ecosystem of innovation. Thus, by participating in the experimentation with solutions to concrete problems encountered in specific conditions, universities would also be contributing to the vast effort of transforming the conditions that cause these problems and that inhibit the capacity of citizens to change their world. In the next section, we give examples that show how alternatives to the existing order can be designed with the support of universities, provided, as underlined by Elliot (2013), they make social innovation a strategic priority.

Social innovations and the changing relationship between universities and communities

The view that we defend here is that **universities, through their bodies of research and knowledge production, can contribute to building a cognitive framework that enables alternatives that already exist, but that are either ignored or discredited, to be recognized (Santos, 2011). This implies a paradigm shift in that it allows unofficial knowledge – knowledge of a different cognitive order, co-constructed from diverse knowledge, both academic and practical, and generated, among others, by the stakeholders and actors of social innovation – to seize the day.** This is the meaning we give to the co-construction of knowledge. The co-construction of knowledge corresponds to an epistemological vision that considers the relationships between universities and the political, social and economic agents in societies, including civil society representatives, and that challenges the cognitive framework institutionalized by academia and professionals (Hulgard and Shajahan, 2013).

The co-construction of knowledge calls for the development of reflexiveness (Jessop et al., 2013), which constitutes a collective capacity needed for conceiving of new development paths. In particular, it **concerns the ability of researchers and actors to imagine new institutional frameworks for social transformation** (Fontan, 2011). Two further focused analyses illustrating different styles and kinds of interactions between the university and social actors will serve as examples of our stance with regard to the construction of these new paths.

The first focused analysis concerns the function of university extension programmes in Latin America. In particular, we will point out what, according to us, appear to be the most revealing experiences of implementing transformative social action by universities. One older and, alas, violently interrupted example, took place in Chile at the beginning of the 1970s and resulted in a redefinition of the scale and scope of the university (Kirberg, 1981). Another refers to attempts to define a new approach for

intertwining academic research and technology carried out since the turn of the 21st century in Brazil (Dagnino, 2011).

The second focused analysis points to a knowledge-sharing experience that took place in Quebec, Canada, as a result of collaboration between an academic research centre and a local community. This experience could serve as a base for conceptualizing a new model for action in territorial development (Klein et al., 2015). This experience is embedded in the co-construction of knowledge method favoured by the *Centre de recherche sur les innovations sociales* (CRISES). In the following, each of the focused analyses are presented in detail in a box.

Conclusion

Reflecting on the role universities should play in social transformation through social innovation means thinking about how these might intervene so as to ensure that experiments taking place in civil society, understood to include marginalized segments of the population, lead to the transformation of society and end up changing the world (Unger, 2015). In this text, we have sought to reflect on how the rela-

“Universities can contribute to building a more democratic, fairer society in which the recognition of knowledge is not determined by competitive ends, performance and productivity, but by improvement in the quality of the life and work of communities and citizens.

tionship between universities and the community in the context of a knowledge economy must be part of a new paradigm. **We have shown the need for an epistemological change that promotes social innovation and social transformation.** Knowledge production is part of a network of interrelationships that can change the way we see things and our values. In this way, the **university can contribute to building a more democratic, fairer society in which the recognition of knowledge is not determined by competitive ends, performance and productivity but by improvement in the quality of the life and work of communities and citizens. This requires continuous attention to new aspirations that emerge in society.**

The current crisis is in fact an opportunity to launch a wave of innovations and to co-construct new knowledge between researchers and practice settings to change the existing order (Lévesque, 2014). These innovations should encourage citizens to work towards identifying and fulfilling new aspirations, including the fight against poverty and exclusion, respect for the environment, the recognition of experiential knowledge and participation. The current crisis poses a new challenge, since the new wave of innovations will have to be embedded in a new context. Most government authorities have lost their ability to influence development with protectionist or redistributive policies. The labour market has been completely transformed, leaving only vulnerable and precarious jobs, at least in many areas. This reduces the possibilities of promoting the wellbeing of communities exclusively through job creation and inclusion policies in the labour market. The new forms of growth under capitalism generate new divides (cultural, food, digital, etc.). While the remaining options appear to dwindle, they do exist (San-

tos, 2011) and need to be re-examined. The challenge facing the actors involved, including academic actors, is to build a cognitive framework, or knowledge framework, that renders these options visible and viable. In this way, they may cease to be options and become the norm.

Social innovation is primarily based on a collective learning process. It thus appears as a necessary ingredient of an alternative development strategy for generating new values.

The constant reference to social innovation that we are currently seeing demonstrates that it is not merely a fad but a prominent feature of an emerging model. However, social innovations will not, in and of themselves, lead to a new development model unless they are rooted in a unifying perspective that, as advocated by Unger (2015: 239), gradually shifts its focus away from the resolution of specific local problems and towards a more holistic, comprehensive transformation. The university can contribute to such a shift by producing new knowledge through social experimentation and by disseminating it. The challenge is to produce and disseminate knowledge that is relevant not only for understanding this innovation and transformation process but also for initiating and guiding it. **Meeting this challenge – which comprises the challenge facing universities at the dawn of the 21st century – will require a new epistemological outlook that links theory and practice on the one hand and research and education on the other.**

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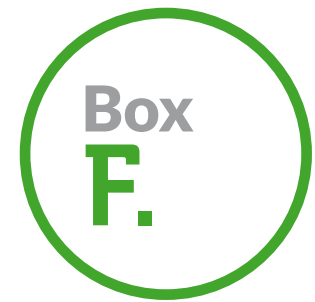
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Knowledge Sharing in Latin America and Quebec

Juan Luis Klein



The university extension in Latin America

The involvement of Latin American universities in their communities is a tradition dating back nearly a century. The starting point of this tradition was the movement for university reform in Cordoba in 1918, the effects of which spread through most of the universities of South America. As part of the reform, these universities incorporated university extension units, in other words, the link to the community, as part of their mission. In several countries, this tradition led to quite innovative experiments.

One of these experiments was initiated in Chile at the end of the 1960s and was in full swing under the government led by Salvador Allende (1970–1973). The experiment consisted of a protocol signed by the Universidad Técnica del Estado (today Universidad de Santiago) and the country's largest workers' union, the Central Única de Trabajadores. The protocol implemented an extensive university education programme for workers and launched social, economic and cultural cooperation that contributed to strengthening the role that workers played in the social revolution that was taking place in the country. The programme included the creation of new university programmes and courses suitable for training workers, including centres preparing those who had not completed high school to undertake academic studies. One of the distinct features of this experience was that most of those centres were located in workplaces.¹ In this way, the univer-

¹ I had the privilege of being the director of one of these centres, from 1971 to 1973, in one of the industrial districts of Santiago. The centre was located within the *Manufacturas del Cobre* (MADECO) factory and also integrated some workers from the MADEMSA factory located in its vicinity.

sity ventured beyond its traditional boundaries and met the workers in their workplace, thereby enlarging the academic space and participating in building what was called the *Universidad in situ*. The latter eventually comprised 37 centres throughout the country and engaged a total of 4,550 students (Kirberg, 1981: 335, 358).

It goes without saying that the *coup d'état* of Augusto Pinochet in 1973 abruptly ended this experiment. Nor did the 17 years of dictatorship that followed allow for an analysis and assessment of this experience. Moreover, the neoliberal approach imposed by the dictatorship and which dominates the Chilean university system to this day virtually destroyed the possibility of resuming this experience. Nevertheless, it is worth referring to it because it did, at the time, represent a radical redefinition of the relationship between the university and society.

More recently, it is in Brazil that the university extension model has had a great impact in terms of changing the institutional framework. In this country, universities and communities gradually set up a system that draws on professors, students and social actors to build what are in Brazil called 'social technologies', defined as products, techniques or methods developed in interaction with citizens and offering effective solutions to their problems and contributing to social transformation (Dubeux, 2013: 303). Seen from this perspective, social technologies correspond quite well to social innovation, as we understand it in this text. According to Pozzebon (2015: 33), the term *social technology*, in the sense used in Latin America, 'is applied to refer to those socio-ma-

terial arrangements or assemblages whose goal is to promote social transformation'. Throughout the University Network of Technological Incubators for Popular Cooperatives (Rede universitária de incubadoras tecnológicas de cooperativas populares), the concept of social technology can be seen as a strong conceptual tool for establishing closer ties between universities and civil society-based organizations (Dubeux, 2013; Fernandez et al., 2013).

University incubators for cooperatives have emerged as an alternative to the interrelation between science and the business community in Brazil, which was strengthened in the 1980s. With reference to a conversation, Dagnino says, "Because there were incubators for private businesses, in other words, for the rich, it was only fair that incubators should also be implemented for the poor"² (Dagnino, 2012: 184). The first incubator of cooperatives was established in 1995. Since then, more than one hundred organizations of the kind have been bringing together universities and the most disadvantaged communities. These incubators have certainly made improvements to the quality of life of citizens where they have been implanted. Moreover, since they mobilize students, they are also involved in the education of professionals, including those from technical fields, who acquire solid expertise regarding the needs of communities. It has even happened that technological changes are made as a direct result of students' involvement in the needs and experiences of communities.

These incubators comprise several partners, including university researchers and students and various community organizations. They also encompass a wide range of fields of action (culture, technology, economics, politics, environment, etc.) and operate at various territorial scales, making them powerful agents in the

² Our translation.

networking and diffusion of social innovation. More than seventy universities, organized into two networks, are involved in the implementation of these organizations. These universities, in demonstrating the pertinence of these incubators, obtained the recognition of the solidarity economy by the government of Brazil.

The collaboration between the universities and civil society initiatives has contributed to the co-construction of knowledge, which promotes the development of specific and appropriate technologies that respond to the problems of the most deprived communities and that provide social actors with a greater capacity for action.

Collaboration between numerous stakeholders from different social movements, all campaigning for a new kind of development, obliges universities to step out of academia and into society, thereby helping build and democratize a new type of knowledge and thus foster empowerment. (Dubeux, 2013: 301)

In the same way as the Chilean experience before, the Brazilian one shows the need to bring the university out of its traditional academic scope in order to really contribute to social transformation. Both experiences gave the university extension a transformative sense of the society as well as of the university as such.

The knowledge-sharing experience in Quebec

The second case we examine is embedded in the social innovation system in Quebec, where the social economy plays a significant role (Klein et al., 2014). Entitled *Ateliers de savoirs partagés* (knowledge-sharing workshops), this experiment consisted of a project conducted by a team of researchers from the Center for Research on

Social Innovations (CRISES) and a group of social actors from the municipality of Saint-Camille in the province of Quebec. Prior to this project, this rural Quebec municipality had already launched numerous social actions aiming primarily at the protection of infrastructure assets (services, schools) whose existence was endangered by social, economic and demographic devitalization. These actions then triggered a development process that led to the creation of a large number of organizations that have since set up agricultural cooperatives; services for the elderly and for children; real estate projects inspired by an environmentally and collectivity-oriented 'residential economy' approach (Davezies, 2009); and cultural activities of various kinds – all of which are embedded in local, regional, national and international networks.

The experiment of the CRISES team and the leaders of the municipality then consisted of analysing these successful efforts and of conceiving of a model that would allow such action to be implemented in other devitalized communities. The project design was realized with the support of the Service aux collectivités de l'Université du Québec à Montréal (De Grosbois and Mauffette, 2015), and the execution of the project with the financial support of the Ministry of Education, Recreation and Sports of Quebec. The work began in 2012 and officially took place until 2014. Meanwhile, efforts are underway to initiate a new phase of the project dedicated to applying the methodology across the province of Quebec. From CRISES, seven researchers from three universities participated in the project.³ On the part of the municipality, the team included the

participation of the mayor, several directors of community and socioeconomic organizations, as well as a number of residents. In total, a core of thirty residents regularly participated in the work. In addition, meetings bringing together all stakeholders were held at the beginning and at the end of the project, which allowed the objectives of the approach, the planning and the results to be validated.

During the first year, the work consisted mainly of brainstorming sessions on themes considered to be priorities by the stakeholders. These themes touched on several points, including: identity building, sense of belonging and local identity, learning, leadership (individual, collective and shared), governance, and development of a learning community. Each session was guided by a researcher and a member of the local community and gave considerable room to discussions with the leaders and residents.

In the second year, the sessions took the form of working groups. These were prepared by persons in charge appointed by the municipality, together with one or more researchers. Their aim was to arrive at courses of action that were to be discussed in the workshops attended by, in addition to the regular core, residents concerned more directly by the project topics. These working groups focused on the following themes: development of natural resources integrated in the territorial economy, governance and leadership, social cohesion and inclusion, memory, recognition and quality of life.

Finally, the chief components of the Saint-Camille experience were identified, described and modelled. The element that emerged as essential was what we refer to as 'shared leadership', meaning the ability of leaders to converge the spheres of the political, the social and the private. The work identified the process that ini-

³ The researchers who worked on this project are the professors Jacques Caillouette, Mélanie Doyon, Jean-Marc Fontan, Juan-Luis Klein, Isabelle Mahy, Diane-Gabrielle Tremblay and Pierre-André Tremblay. They were assisted by Denis Bussiès, research assistant. A further project participant was Vincent Van Schendel, director general of the liaison and transfer organization *Territoires innovants en économie sociale et solidaire*. Representatives of the municipality Joël Nadeau and Sylvain Laroche were involved in the project management and planning of activities.

tially led to the establishment in Saint-Camille of a socially innovative environment characterized by the collective learning of actors and their interconnection. It is the learning process that allowed the actors to draw lessons from former projects and to launch other projects, while improving their capacities for collective action (Klein et al., 2015).

The observations and analyses realized in the Ateliers de savoirs partagés allowed an understanding of the workings of a number of social innovations that led the community to a 'local social transformation', that is to say, to the modification of its institutional and social framework. These experiments, which qualify as a true social innovation laboratory, allowed the actors and citizens to discover and develop new individual and collective capabilities and new ways to create and design their community.

The knowledge co-constructed by the researchers and stakeholders in the municipality reinforced the community's capacity for action and its power to participate in decisions about its future. At the same time, at the university such knowledge became incorporated within the set of theoretical and practical tools transmitted, be it through courses or field training, to future specialists in regional planning and local development. This experiment mobilized various forms of development of reflexivity where the merging of professional, academic and experiential knowledge contributes to the development of inclusive communities as well as to a better university education.

From a Technological Push Model to Social Innovation, the Example of Hong Kong

Alfred Tan



At the Knowledge Transfer Office (KTO) of Hong Kong Baptist University (HKBU), one of the ways we support knowledge transfer (KT) initiatives is by seed funding KT initiatives via a Knowledge Transfer Partnership Seed Fund (KTPSD). Funded KT projects are comprised of three elements, namely a knowledge source which is based on faculty research outcomes, a partner in the community who is motivated to continue the knowledge transfer beyond the expiry of the project, and most importantly the project should make a positive impact on the community.

Of the many KTPSD projects we have funded over the past years, we wish to highlight three as examples of practical approaches that combined both technological and social innovation to contribute to the community. In each of the following projects, we have listed their source of knowledge, community partner and served community:

Project Title	Pocket Cinema Hong Kong
Principal Investigator / Department	Dr Annie WAN On-ni, Academy of Film
External Partners	Art in Hospital, Hulu Culture
Community served	Local cultural community and film industry

This is a social and cultural impact case. In recent years, there have been disputes among different groups of people in society about preserving tangible heritage from our own colonial history. The media often highlights tangible heritage such as historical buildings, but it pays less attention to the value of our own culture and intangible heri-

tage. The project introduced the idea of considering local films as well as popular Augmented Reality (AR) technology as intangible cultural heritage.

Student helpers and the external partners co-organized multiple workshops for teacher training and cultural tours, which included a brief introduction to local films, the history of the local culture and the AR technology used in mobile applications. The general public were invited to join cultural tours specifically to understand the selected films, such as Chung King Express, and download a mobile phone application before the tours began. During the tours, the participants enjoyed walking in well-known areas, such as SoHo, and the application would notify them when they were near the Central-Mid Levels escalator. As a result, they were able to experience a particular scene from the chosen film by using mobile phones. They learned not only how to master the application but also how such ubiquitous technology could assist cultural tourism and eventually advocate the idea of films as intangible heritage and the importance of technology-aided cultural tourism.

Project Title	Easy992 – Emergency call mobile application for hearing-impaired persons
Principal Investigator / Department	Dr Carmen LAM Ka-man, Department of Computer Science
External Partner	Chinese YMCA of Hong Kong - Y's Men's Centre for the Deaf
Community served	Hearing-impaired community in Hong Kong

This is a social and public health impact case. Easy992 is a mobile application for hearing-impaired persons to make emergency calls easily and conveniently. As hearing-impaired people cannot speak well, or in some cases, at all, they are currently using the 992 Short Message Service (SMS) Emergency Call Service, developed and managed by the Hong Kong Government, to make emergency calls through SMS.

The current 992 SMS Emergency Call Service requires users to type in all their details such as name, address, description of the emergency situation, before sending the SMS to 992. However, it would be difficult for users to type in details during an emergency. With Easy992, users can introduce their personal information, medical history and descriptions of some common emergency situations into the application. In case of emergency, the application can automatically fill in this saved information as well as the person's location using GPS in the SMS so that users just need a few clicks to send an emergency call. This allows users to make emergency calls more easily and send information to the police more precisely. This new application works on top of the current 992 SMS system, thereby reducing the effort required to shift from the current system to a new one.

In addition, the Hong Kong Police Force and representatives from the existing 992 SMS telecom service provider have agreed to resolve their technical concerns before giving their consensus and support to the adoption of Easy992. They are also responsible for the software maintenance and updates.

Project Title	Effective health communication using narrative animation
Principal Investigator /Department	Dr Timothy FUNG Kai-fung, Department of Communication Studies

External Partner	Renal Companion Association
Community served	Patients with renal disease and their families

This is a social and public health impact case. Engaging with Dr LAM Man-fa, a specialist in nephrology, and Dr Fung from the Department of Communication Studies, Dr Lee developed a nine-minute animation illustrating the basic knowledge that can lower the risk of life-threatening infection for patients with end-stage renal failure during the peritoneal dialysis (PD) exchange. This pioneering project between health communication and media production aimed to promote effective health communications for patients with renal disease.

In general, this project generated huge implications for health communication campaigns, since the narrative animation has been used for diverse health issues, from encouraging people to seek early diagnosis to addressing sensitive issues to survivorship. The narrative animation is now available at YouTube (<https://www.youtube.com/watch?v=DiRQ6L6KINK>) as a reference for patients, their families and care-givers. This animation has been shown to patients through the channels of seven renal patient support groups. Eventually, the project team obtained a General Research Fund (GRF) grant to conduct an experiment to examine the narrative persuasion based on this project.

From the above three examples, it is evident that knowledge from research at tertiary institutions can and does have applications that will bring positive impacts to the community when transferred and applied in an effective manner via technological and social innovations.

2

Reframing the Curriculum for the 21st Century

2.1. Preparing the Global Citizenry, Implications for the Curriculum

Josep Joan Moreso, Martí Casadesús

Abstract

Universities are a key success factor in achieving the Global Agenda 2030 that was approved by all United Nations members. In order to ensure global citizen engagement, the goals included in this agenda must be delivered via the curriculum in a way that considers local needs. Making openness to global citizenship compatible with accountability to local demands is one of the most crucial challenges of the day. Within this framework, global citizenship can be considered as a four dimensional ideal: political, ethical, economic and cultural. The present contribution, therefore, consists of a conceptualization of this ideal in the four dimensions. This task enables us to rethink our curricula in three crucial aspects: a) the introduction of new courses directed at achieving a *global outlook*; b) changes in current courses in order to adopt global perspectives; and, c) mobility policies and international cooperation. Finally, it is necessary to design metrics for the outcomes within a solid assessment framework from the outset.

The concept of global citizenship

One of the most significant challenges for universities at the beginning of the first century of the new millennium is to build compatibility between the strong demands of local presence and increase the quality of teaching research in

“The need to build new global and democratic institutions able to give meaning to our local and constitutive practices.

line with the Global Agenda 2030, as approved by all United Nations members. Such an approach will actively contribute to a society with higher levels of wellbeing and a stronger democratic culture better able to meet the demands of globalization in terms of openness and individual capability to become a global actor in the international scene. In this era

of global citizenship, and within the framework of a UN Global Agenda that summarizes global human problems for the first time, internationalization of the curriculum offers an opportunity to reinforce both aspects in an coherently linked way.

Global citizenship can be considered as a four dimensional ideal: political, ethical, economic and cultural. These dimensions are not isolated, but form an articulated network.

Political global citizenship: cosmopolitanism and global democracy

Apart from the important historical precedents – the term ‘cosmopolitan’ can be traced back to Diogenes of Sinope and generally reflects Greek Stoic philosophy on protecting people from war and the principle of universal hospitality, as expressed by Immanuel Kant in *Perpetual Peace* (1795) –, contemporary cosmopolitanism can perhaps be summarized by these words by Appiah (2006):

So there are two strands that intertwine in the notion of cosmopolitanism. One is the idea that we have obligations that stretch beyond those to whom we are related by the ties of kith and kin, or even the more formal ties of a shared citizenship. The other is that we take seriously the value not just of human life, but of particular human lives, which means taking an interest in the practices and beliefs that lend them significance.

Thus, we can understand the necessity to build new global and democratic institutions able to give meaning to our local and constitutive practices.

Ethical global citizenship: the ethics of universal human rights

This new open and inclusive policy needs a basis, a set of shared values in which it can develop and grow. Ideally, these founding values should be human rights. We can consider human rights either as being rooted in the notion of normative human agency (Gewirth, 1982; Griffin 1997) or as political instruments which trigger the mechanisms of international protection (Rawls, 1999; Beitz 2009). Be that as it may, the United Nations Universal Declaration of Human Rights (1948) can be viewed as an appropriate summary of these. Global citizenship can only be enduring if it is established on a basis that respects and honours these human rights.

“Global citizenship can only be enduring if it is established on a basis that respects and honours these human rights.

Economic global citizenship: economic growth, distributive justice, tensions: environmental issues, poverty and inequality, immigration

The idea of a global market can be traced back to the father of the economic discipline, Adam Smith, and no doubt this expansion of markets contributes to economic growth. However, this process is not harmless. According to Joseph E. Stiglitz (2002):

Behind the free market ideology there is a model, often attributed to Adam Smith, which argues that market forces (the profit motive) drive the economy to efficient outcomes *as if by an invisible hand*. One of the great achievements of modern economics is to show the sense in which, and the conditions under which Smith's conclusion is correct. It turns out that these conditions are highly restrictive. Indeed, more recent advances in economic theory – ironically occurring precisely during the period of the most relentless pursuit of the Washington Consensus policies – have shown that whenever information is imperfect and markets incomplete, which is to say always, *and especially in developing countries*, then the invisible hand works most imperfectly. Significantly, there are desirable government interventions which, in principle, can improve on the efficiency of the market. These restrictions on the conditions under which markets result in efficiency are important – many of the key activities of government can be understood as responses to the resulting market failures.

Competitive markets are blind to issues of distributive justice, such as inequality and poverty, to environmental issues and other questions referred on to future generations. In parallel, a global market calls for global political institutions.

Cultural global citizenship: openness to other traditions and values, diversity of inheritances, cross-cultural relationships

In a recent book on globalization and culture, John Tomlinson (1999) asserts:

The huge transformative processes of our time that globalization describes cannot be properly understood until they are grasped through the conceptual vocabulary of culture; likewise that these transformations change the very fabric of cultural experience and, indeed, affect our sense of what culture actually is in the modern world.

Globalization provides both opportunities and risks for our cultural traditions and heritage. New opportunities arise for cross-fertilization processes, learning from the traditions and values of others and understanding other heritages. However, these are balanced by threats to our self-understanding, fears of becoming subordinate to or being swallowed up by other strong cultural traditions and languages.

“New opportunities arise for cross-fertilization processes, learning from the traditions and values of others and understanding other heritages

Changing the curriculum

A global outlook: salvaging the humanities

Recently, the Japanese Minister of Education, Hakubun Shimomura, sent a letter to Japan's national universities calling on them to take 'active steps to abolish [social science and humanities] organizations or to convert them to serve areas that better meet society's needs'. In many locations around the world, the pressure is on to improve the scientific and technological competencies and skills of university students in a way that represents a threat to the position of the social sciences and humanities in the university curriculum.

This approach is also a threat to the open-mindedness and global outlook of our future citizens. In fact, a global citizenry requires a curriculum that can integrate issues tackled by disciplines such as philosophy, history, art, literature, economics, politics, sociology and law. Programmes such as the 'Ethics of Human Rights', 'Contemporary History', 'Comparative Literature', 'International Economy' or 'Constitutional Democracies' should figure in all university bachelor degrees.

Examples of excellence in this approach exist in the most acknowledged technological university in the world, MIT, where: 'The MIT SHASS disciplines – the humanities, arts, and social sciences – are central to the Institute's mission to provide all MIT undergraduates with the knowledge, skills and perspectives to make lasting contributions to the nation and the world.'

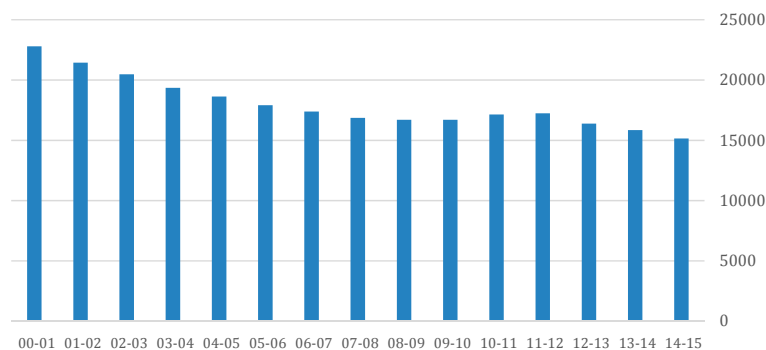
All MIT undergraduates spend substantial time on subjects such as literature, languages, economics, music and history. In fact, every MIT undergraduate takes a minimum of eight such classes – about 25% of their total class time. This provides conclusive evidence that it is possible to combine the best technological education with an excellent grounding in humanities and social sciences.

“This provides conclusive evidence that it is possible to combine the best technological education with an excellent grounding in humanities and social sciences.

While the liberal arts are still central in college education in the USA, the space for the humanities is increasingly narrowing in Europe. In Catalonia, for example, humanities courses are only present in scientific or technological programmes in highly exceptional cases and, moreover, the number of humanities students is dramatically decreasing. For instance, enrolment in the Catalan public university system has decreased by 1% overall in the past four years, while in humanities that percentage has been 12%. Over the past decade, Catalan humanities degrees have lost a third of their students, making up 11% of the total.

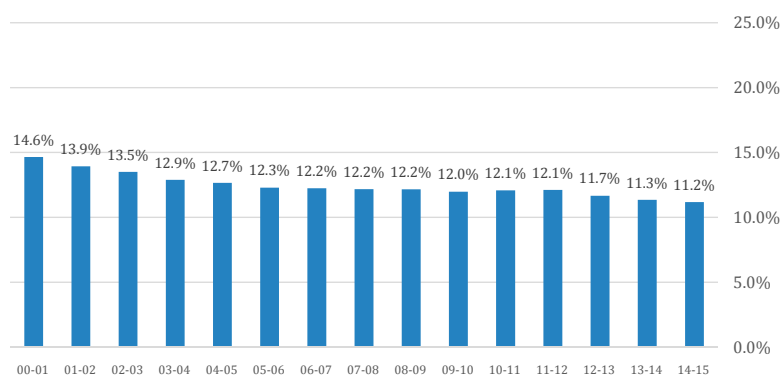
In Europe, internationalization is used as a tool to foster awareness of shared values and belonging to a common social and cultural space. The first reference to the social dimension of Higher Education appears in the Prague communiqué of 2001. This position is reaffirmed in the communiqués from Berlin (2003), London (2007), Bucharest (2012) and Yerevan (2015). According to these documents, Higher education should contribute to a sustainable and democratic knowledge-based society.

Figure 1. Humanities enrolment evolution in Catalonia (public universities only) (Source: UNEIX)



Source: UNEIX

Figure 2. Percentage of student enrolment in Humanities degrees, in relation to total enrolment in the Catalan public university system



Source: UNEIX

For some years now, various European and US governments and universities have been concerned over the causes of the decline in the humanities and have been looking at how to reinvent the curriculum and achieve a stronger position in the world.

Cross-curricular subjects

One major challenge for education is to encourage a way of learning that is able to grasp general, fundamental problems, but also to insert circumscribed knowledge within these. Morin (1999) cautioned

against the risks of hyper-specialization. Specialization, he argued, keeps us from seeing the global (which it fragments) and the essential (with its dissolves), and thus, it keeps us from correctly treating specific problems that cannot be raised and thoughtfully considered out of context. The humanities is a disciplinary field that emphasizes the mastery of a broad range of transferable skills as well as knowledge. Intertwining them with more specialized disciplines, such as social sciences or applied areas is the way to overcome Morin's paradox.

One option for guaranteeing the place of humanities in the curriculum is to introduce a sufficient number of cross-curricular subjects into all undergraduate programmes and make a significant number of these compulsory for all students. The content of such courses could range from 'Greek Philosophy' and 'Medieval Art' to 'International Relations' and 'Gender Equality'. Courses should be sensitive to cultural diversity and the pluralism of our societies, meaning that learning other languages and understanding other cultures is necessary.

“One option for guaranteeing the place of humanities in the curriculum is to introduce a sufficient number of cross-curricular subjects into all undergraduate programmes and make a significant number of these compulsory for all students.

Recent historical events have made the need to combat misinformation and radicalization abundantly clear and a utilitarian design for Higher Education would totally miss the transformative potential of the sector. Education offers the key ingredients to tackle ill-informed thinking and counters push-pull factors such as low self-esteem. Delors (1996) stressed the need to regard education as a unitary whole (i.e. learning to learn at a cognitive level, and learning to live together at a social level), and warned that is not appropriate to develop cognitive skills unconnected from the ethical and social values that guide the building of these.

Changes in traditional courses and programmes

New courses must be introduced to train a global citizenry, but this alone will not be sufficient. We also need to change the methodological approaches. Traditional courses should be more participatory, able to enhance virtues such as a love of the truth in the students, but also impartiality, openness of mind, courage and intellectual humility. Unfortunately, these traits are not always present in the traditional education system, although concrete steps have been taken and are outlined in reports such as the UK Department for Education's 'Teaching approaches that help to build resilience to extremism among young people' (2010).

As a result of the LEAP project (Liberal Education and America's Promise), the Association of American Colleges provides an interesting array of resources, including a list of essential learning outcomes, with corresponding rubrics, as well as high-impact educational practices. The governing bodies of Catalan universities should consider the introduction of these resources and the new methodologies in all their programmes.

Also, the humanities have to take new technologies more into account. Our students are digital natives. It is imperative to firmly introduce, to rethink and question digital technologies.

Dual and joint programmes

Joint degrees programmes have been at the top of the European ministerial agenda from the beginning of the Bologna process, as these offer a conduit to deepen inter-institutional connections and accelerate human mobility in support of the European Higher Education Area; a key element in promoting citizen mobility and employability and the overall development of the continent.

Universities promote dual and joint programmes. A joint programme is one which is developed and implemented jointly by several institutions in different countries, whereas a dual degree is defined as two degrees awarded individually, attesting to the successful completion of two separate curricula. The second option offers potential overlap and efficiency in course-taking, and, where more than one institution is involved, each institution is primarily responsible for its own degree.

A good example of this type of degree can be seen in the Catalan University 'Joint Master's Programme in Women, Gender and Citizenship.' This master's course provides credit of 90 ECTS and involves Catalonia's eight public universities along with the University of Vic-Central University of Catalonia. This master's course is promoted by the Interuniversity Institute for Women's Studies and Gender (IIEDG) and provides training in the development of interdisciplinary approaches in feminist research, with the aim of inserting the feminist perspective into research and teaching in all knowledge areas. It provides the theoretical and technical instruments for the design, implementation and evaluation of policies published from a feminist perspective, and delivers preparation for the assessment and implementation of policies aimed at eliminating differentiation. The 2014-2015 cohort included more than 40 new students.

The introduction of this kind of joint master's could be promoted by the Catalan Government in order to strengthen this crucial function in the Catalan university system.

Increasing mobility in Higher Education

Student and teacher mobility has been one of the key concerns of European Union policy. Initiatives were initially heavily focused on credit mobility and it took until 2004 to translate the partial widening of the focus from credit mobility inside of Europe to degree mobility in the Union (Ferencz and Wächter, 2012).

Over recent decades, universities and the European Union have worked to promote joint programmes.

One of the most renowned European programmes is Erasmus Mundus. This programme has been running for nearly 30 years and it has enabled over three million European students to spend part of their study time at another HEI or with an organization in Europe.

Today, the European Commission promotes Erasmus+ which provides opportunities to a broader population of students, staff, trainees, teachers, volunteers, and others, with Erasmus+ extending the base of beneficiaries to include people from all over the world.

The Erasmus Mundus programme offers students support to study abroad. This experience provides an opportunity for them to improve language skills, gain self-confidence and independence and immerse themselves in a new culture. As a result, it favours the development of global citizens. Erasmus does, however, face its own challenges, one of them being that most of its programmes are highly dependent on EU funding, endangering its long-term sustainability.

Over the past eight years, the Catalan universities have launched 48 Erasmus Mundus programmes, 33 of which were added in the last five years, with the most recent ones still active. In 2015, the Catalan universities offered a total of 1,019 bachelor's and master's degrees, meaning that the Erasmus Mundus programmes only represent 3% of the total. Furthermore, only just over half of the 48 programmes are still offered.

Table 1. Erasmus Mundus Programmes in Catalan Universities

Course introduction	Active	Deactivated	Total	% Active/Total
2006-2007	2	4	6	33%
2007-2008	1	5	6	17%
2008-2009		3	3	0%
2010-2011	2	8	10	20%
2011-2012	5		5	100%
2012-2013	7		7	100%
2013-2014	9	1	10	90%
2014-2015	1		1	100%
TOTAL	27	21	48	

Obviously, there is plenty of room to increase this number, as the majority of Catalan university students do not take part in any exchange and every effort should be made to bring this figure up to 50%.

Another form of indirect mobility can be seen in the number of graduates who work abroad. Every three years from 2000, AQU Catalunya has carried out a survey on the labour market outcomes of graduates from all Catalan universities with their support (both public and private). The database for graduate employment outcomes in Catalonia currently has the most representative data in the whole of Europe.

In terms of job location, 9 out of 10 bachelor graduates were working within Catalonia, the majority in Barcelona. Of the 3% of students working abroad, 82% were working in Europe (mainly the UK, France and Germany) and 12% in North America and Latin America. For master's graduates, 8 out of

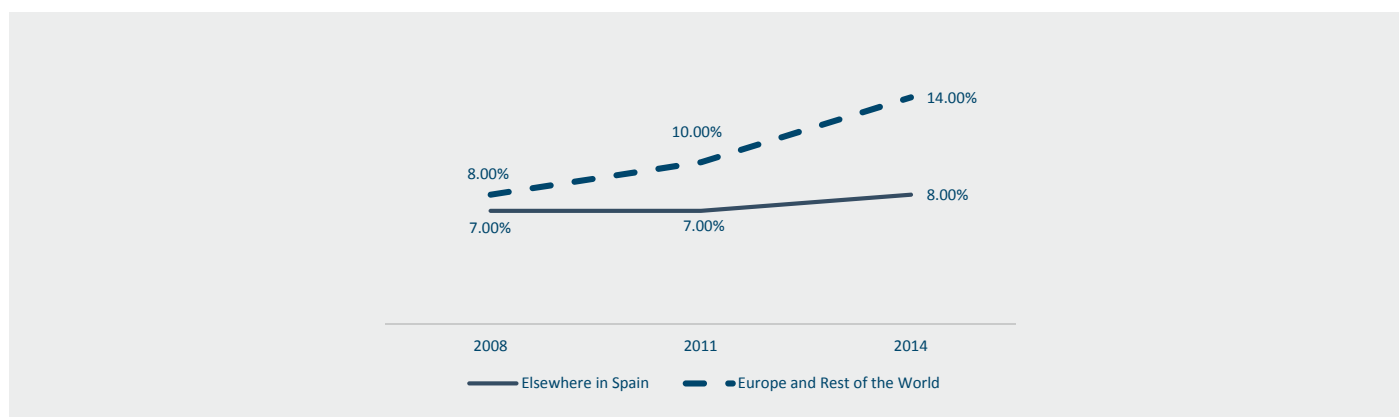
10 were working in Catalonia, the majority also in Barcelona. The percentage of students working in the rest of Spain was also higher, and only 3.8% of master's graduates were working abroad. This data changes significantly for doctoral graduates, where 8 out of 10 were working in Catalonia. Only 14% of doctorate holders were working abroad, a percentage that has increased over time, but is still far from being widespread. Thus, the higher the education degree, the higher the mobility rates.

Table 2. Catalan graduates - job location

	(n)	Barcelona	Rest of Catalonia	Elsewhere in Spain	Abroad
Bachelors	15556	67.54%	21.28%	79.80%	3.20%
Masters	6096	62.02%	21.52%	12.66%	3.79%
PhD graduates	1418	64.70%	13.20%	7.80%	14.30%

Source: AQU Catalunya (2014)

Figure 3. Evolution of job location pattern for PhD graduates



Source: AQU Catalunya (2014)

Increase volunteering to enhance cooperation

In its Strategy 2020, the European Union confirms the importance of promoting smart, sustainable and inclusive growth, setting higher education, research and innovation policy priorities for the growth and competitiveness of member countries.

The 'European higher education in the world strategy', launched in 2013, aims to promote mobility and cooperation between universities, EU member states and non-EU countries with the following key objectives:

- » Enhancing the overall quality of European education by facilitating peer learning, cooperation and comparison with other education providers worldwide;
- » Boosting innovation and job creation in Europe by attracting internationally mobile students and skilled migrants;
- » Broadening horizons, increasing employability and preparing students to become global citizens;
- » Influencing and engaging new audiences in a way that advances the EU's position in the world.

The 2014 CRUE report on university cooperation for development states that official development assistance from Spanish universities (public and private) was about €10.3 million in 2014. The Catalan public universities contributed with close to €1.5 million; a figure that represents 0.17% of their total budget. In times of economic crisis it can be difficult to increase support for cooperation, but efforts must be made to fix and consolidate a strategy that will enhance and strengthen this.

Measuring outcomes

Adding indicators for evaluation

Indicators should be easy to measure, allowing information to be monitored over time. Ehrlich (2000) recommends building indicators on existing student and institutional assessment instruments to access information that can provide a proxy for the civic role and be extrapolated to indicators on global citizenship.

According to our theoretical approach, the indicators should encompass:

- » Humanities or Liberal Arts enrolment indicators, such as the percentage of credits for liberal education courses;
- » Indicators related to cross-curricular subjects, dual and joint programmes;
- » Mobility and internationalization policies and their corresponding indicators; and,
- » Specific learning outcomes, such as community involvement, knowledge of other languages, etc.

Regarding the monitoring of learning outcomes, one set of questions included in the 2014 AQU Catalunya labour market survey (AQU, 2014) was related to graduate satisfaction with degree studies and skills acquisition, and the usefulness of these skills in the workplace. The results showed there was an overall increase in the rating of skills acquisition for all competencies. With the exception of leadership and languages, all competencies were rated as 'satisfactory' or 'highly satisfactory'. In general terms, there was a drop in the deficit in core competencies in the 2014 survey. The fact that there has been an improvement in the rating for computer skills is particularly noteworthy, with these rated as 'satisfactory' in the 2014 survey.

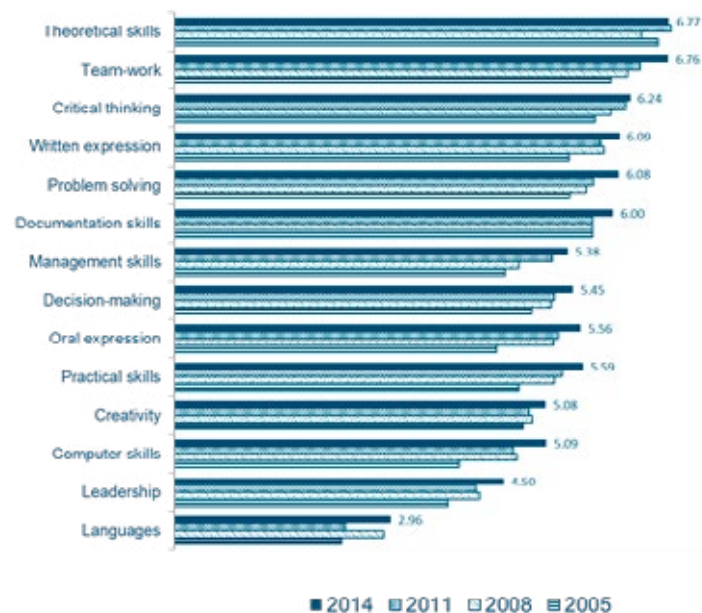
The skills with the highest deficit were:

- » Languages (English, basic in a global world)
- » Decision making
- » Computer skills
- » Leadership
- » Problem solving

Conversely, the five skills rated as being the most useful and necessary in the workplace were:

- » Problem solving
- » Decision making
- » Team work
- » Management skills
- » Oral expression

Figure 4. Assessment of the level of skills acquired (core competencies, from 0-10)



Source: AQU Catalunya (2014)

It is important to mention that this survey does not ask about global knowledge, cultural awareness, intercultural competencies and skills. Future monitoring of these areas would be interesting, given the pressing need for society to prepare global citizens.

Identifying several hindrances: national state traditions, local outlook, short-term programmes, ill-funded universities

Some obstacles stand in the way of achieving a critical mass of trained global citizens in the short term. Some of these are due to national state traditions that are transformed into regulations. For example, in May 2015, the European Higher Education Area (EHEA) ministers approved the European Approach for Quality Assurance of Joint Programmes with the aim of:

- » Dismantling an important obstacle to the development of joint programmes by setting standards for these programmes that are based on the agreed tools of the EHEA, without applying additional national criteria, and
- » Facilitating integrated approaches to quality assurance of joint programmes that genuinely reflect and mirror their joint character.

However, this is still far from actual implementation today. For example, very few university quality agencies have conducted assessments of transnational programmes. The majority are evaluated by the programme coordination agency in the country; this generally entails the agency coordinator in that country measuring outcomes against national standards.

Only a small number of international experts are qualified to monitor the evaluations carried out in each country, although the number is growing slowly, meaning that it is difficult to introduce an international perspective into teaching focused on the continuous improvement of each degree.

Local outlook is another obstacle, as it is difficult to achieve a balance between local and global perspectives in locally-focused programmes. Adaptation to short-term programmes and the context of economic crisis also make it difficult for ill-funded universities to introduce a global perspective into their curricula.

Conclusion

Global citizenship can be considered a four dimensional and articulated ideal with political, ethical, economic and cultural aspects. At present, the governments of many countries know the importance of introducing competencies for global citizenship into the curricula, where humanities should be given greater priority.

Universities have several means by which to incorporate global competencies into the curriculum, such as: introducing cross-curricular subjects; changing traditional courses and programmes; and, in-

creasing dual and joint programmes. At the same time, strategic government policies should act to increase mobility in higher education and volunteering to enhance cooperation. The process must be monitored to guarantee success and to measure the advances achieved. Universities and governments should identify obstacles in order to reduce these and succeed in developing global citizens.

In times of crisis, regardless of the difficulties, investment in higher education is essential as the value for money is socially worthwhile.

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2.2. Preparing Glocal Citizenry, Implications for the Curriculum

Emmanuel Jean François

Abstract

Growing pressures on the environment caused by human activities, through high energy demands, fresh water extraction, waste production, greenhouse gas emissions, air pollution, and exploitation of biodiversity have provided the rationale for call to action addressed to leaders, policymakers, scholars, practitioners, and citizens of every country in the world to develop policies and curricula that can help sustain the future of the common planet we share. However, most higher education institutions are also dealing with the pressures of local stakeholders to provide students primarily with conventional knowledge and skills to respond to immediate local/national needs.

This chapter argues that colleges and universities responsible for training the workforce for the 21st century must provide graduates with the knowledge, skills, attitudes, and understanding to respond to such environmental issues at both the global and local levels, in ways that account for technological innovation and the economic impact of addressing environmental threats. While the employability of graduates is important, it may be problematic once it becomes the main goal of most colleges and universities, and almost the sole focus of many of policymakers and public officials.

Therefore the curriculum must be locally integrated and globally engaged at the same time, by embracing frameworks oriented towards human economic activities that do not degrade global and local environments. This chapter suggests that the curriculum in higher education must be reframed by departing from the market-driven agendas and aggressive focus on employability mindset to additionally incorporate the breadth and depth of communitarian glocal citizenry. Such an endeavor requires bold leadership decisions by higher learning leaders to integrate sustainable development into teaching, research, campus, and community engagement activities.

Introduction

The marketization of higher education has put the focus of higher learning on providing the skills to enable graduates to integrate into the job market. Many higher education institutions are dealing with pressure from local stakeholders to provide students primarily with conventional knowledge and skills that would prepare them to respond to immediate local/national needs. Employers are not open to change for sustainability that they perceive may affect their bottom line. Therefore, knowledge and skills related to sustainability are not necessarily sought in candidates during the hiring process. While the employability of graduates is important, it may be problematic once it becomes the main goal of most colleges and universities, or almost the sole focus of policymakers and public officials. Given the environmental threats that may jeopardize the future of our planet, and the role of knowledge in shaping social, economic and political activities across the globe, the curriculum in higher education

must be globally engaged and locally integrated at the same time, by embracing frameworks oriented towards human economic activities that do not degrade global environments. This chapter emphasizes the role of knowledge in preparing global planetary citizenry through the internationalization of the curriculum in ways that are responsive to global, regional and local environmental challenges, societal changes and changing market environments.

A defining moment for higher education in the 21st century

Leaders, policymakers, scholars, practitioners and citizens of every country in the world are faced with the challenge of addressing growing pressure on the environment. This pressure is mainly caused by human activity, through high energy demand, fresh water extraction, waste production, greenhouse gas emissions, air pollution and exploitation of biodiversity. Colleges and universities responsible for training the workforce of the 21st century must provide graduates with the knowledge and skills to address environmental issues at both the global and local levels. More importantly, such knowledge and skills must account for technological innovation and the economic impact of responding to environmental threats. However, higher education institutions are struggling to adapt to the need to internationalize their curricula and integrate sustainability into this internationalization, within the complex context of global environmental challenges, fast societal changes and changing market environments.

Curriculum change in higher education: key drivers

Employability issues, the internationalization of post-secondary institutions, the demand for higher education and for talent and the need for specializations are the main drivers behind curriculum change in higher education. Employability has served as a key driver for curriculum revision or change in both local and global contexts. Employability contributes to making higher education institutions think about ways to revise their curricula so that the learning-employment link can be established and graduates can become more competitive in the labour market. Globalization has influenced many higher education institutions in various countries to engage in a process of internationalization in order to connect students with the rest of the world, seek opportunities to generate alternative income in the face of budget cuts and compete to keep post-secondary education institutions academically relevant in an increasingly interdependent world. Globalization has also facilitated the emergence of a high performance workplace that stresses not only demands for talent, but also presses for specializations everywhere, especially in economically advanced countries. The development of new talents and specializations has implications for the global citizenry, given that new graduates will be more educated and may benefit from privileges of functional leadership that place the highest responsibility on experts to be responsible global citizens.

Demand for higher education has significantly increased over recent decades (Schofer and Meyer, 2005), especially in economically advanced countries. The increasing demand for higher education is mainly due to new waves of non-traditional adult students (Choy, 2002), improvements in basic and secondary education indicators (Schofer and Meyer, 2005) and demographic shifts in the coun-

tries and regions of the world (UNESCO, 2015). This has prompted colleges and universities to revise their existing programmes and develop new offerings. Furthermore, issues of high energy demand, fresh water extraction, waste production, greenhouse gas emissions, air pollution and exploitation of biodiversity have *shifted the focus onto sustainable development* and drawn attention to education for sustainability. The Association for the Advancement of Sustainability in Higher Education (ASSHE, 2010), the United Nations Conference on Sustainable Development (2012), and the '2030 agenda for sustainable development' resolution adopted by the General Assembly on 25 September 2015 have called for higher education institutions to revise their curricula and be proactive in contributing responsibly to sustaining our planetary citizenry.

The key drivers of curriculum change in higher education (e.g., employability, internationalization, demand for talent, need for specialization, demand for higher education and shifting focus on sustainable development) in the glocal context of environmental challenges have undoubtedly fostered the need for teaching and learning to be responsive to sustainable development.

Curriculum, global citizenship and glocal citizenry

The world is a global community that hosts diverse local and national realities. Members of local communities carry citizenships that bear the seal of both global opportunities and challenges. Potential for global connections in local communities exist in ways that are not always obvious. In countless local communities in the world, the global is not far from home. The global is in our driveway, our backyard, our porch and our small neighbourhood. In this context, the global represents both opportunities and challenges. The reality of glocal citizenship is inescapable because local footprints in specific corners of the world have global impacts on sustainable development. Consequently, the curriculum must be locally integrated and globally engaged by embracing frameworks oriented towards human economic activities that do not degrade glocal environments.

Enthusiasm for embracing global education has often second ranked local customs, beliefs and practices. This is partly due to the binary global or local curriculum that has been implicitly suggested to colleges and universities which feel primarily accountable to the global labour market. Many colleges and universities have engaged in a process of internationalization to adopt aims related to global citizenship (Noddings, 2005). Being a 'world class university' or a 'global university' has become a selling point for many higher education institutions (Bunzel, 2007; Clayton et al., 2012). On the other hand, postsecondary education institutions that were unable to revise their curricula to position themselves in the globalized world felt challenged, and were inclined to question the relevance of internationalization. This is a false dichotomy that does not reflect the reality of our glocal planet. While the world has increasingly become globally interdependent, localness has become even more relevant to counterbalance the side effects of globalization.

There is a reality of glocal citizenry that neither globalism nor localness can help capture independently. Global issues will be relevant to students living in local communities only if they have evidence that such issues are consequential to their sustainable local living. Individuals identify themselves through

their place. Therefore, a glocal citizenry must be linked to a global citizenry through a step-logic process that accounts for the continuing relevance of localness. Consequently, local postsecondary education institutions can remain committed to local needs while adapting themselves to the increasingly globalized world. Similarly, institutions with a global vision or reach can sustain their global practices while taking into account the local contexts related to their internal and external stakeholders.

Reframing the curriculum for the 21st century

The curriculum in higher education must be reframed with the aim of educating a glocal citizenry that nurtures, protects and conserves the planet for future generations. Such an endeavour requires the leaders of postsecondary education institutions to take bold decisions to depart from the market-driven agendas and aggressive focus on employability, and to incorporate the breadth and depth of communitarian glocal citizenry and sustainable development into teaching, research, campus and community engagement activities. In other words, there must be a paradigm shift in reframing the higher education curriculum for the 21st century that is globally engaged and locally integrated. This paradigm shift requires strategic planning processes for internationalization to account for global environmental challenges, fast societal changes, changing market and demographic environments, planetary citizenship and peaceful, prosperous and sustainable living. The ‘Resolution adopted by the General Assembly on 25 September 2015’ (United Nations, 2015), which set the ‘Transforming our world: the 2030 Agenda for Sustainable Development’ (United Nations, 2015) during the seventieth session of the United Nations’ General Assembly, includes 17 sustainable development goals and 169 targets (United Nations, 2015) which can be incorporated into the strategic and internationalization plans of higher education institutions in both economically advanced and developing countries.

A paradigm shift in reframing the higher education curriculum for the 21st century requires a new approach modelled on a glocal higher education framework (Jean François, 2015). The term ‘glocal higher education’ refers to the “education policies and practices that provide students, faculty members and higher education administrators a melding globalized and localized perspective of the world, through an indigenous adaptation of global frameworks in local contexts while protecting and appreciating local assets, traditions, values, and beliefs” (Jean François, 2015: 89). As Figure 1 illustrates, a curriculum for sustainable education rooted in a glocal framework will shift:

- » From *global citizenry* (i.e. member of global planetary citizenry) to *glocal citizenry* (i.e. membership in a glocal planetary citizenry);
- » From *global competence* (i.e. awareness, knowledge, skills, and attitudes regarding global issues) to *glocal competence* (i.e. knowledge, skills, attitudes, and understanding global issues and challenges in a localized perspective);
- » From *global leadership* (i.e. leadership for global purposes) to *glocal leadership* (i.e. leadership for glocal purposes);
- » From *employability* (i.e. producing graduates for the labour market) to *sustainable living* (i.e. producing graduates to work and enjoy a quality life in a sustainable community); and

» From *classroom* (i.e. physical location where learners receive instruction, training or education from teachers) to *class-space* (i.e. any virtual or physical space where learners acquire knowledge and skills or develop attitudes or understanding, either by themselves or the support of teachers, instructors or mentors).

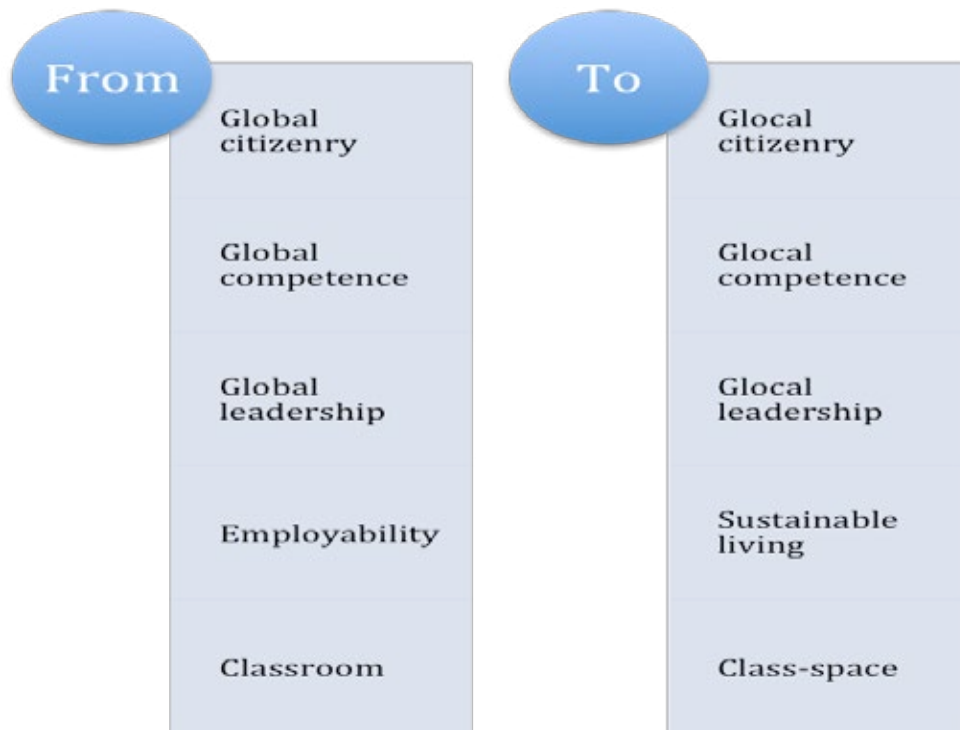


Figure 1: Reframing the higher education curriculum for global sustainable education

Glocal higher education for sustainability in practice

Glocal higher education for sustainability in practice is not fictitious or just theoretical. The present author has provided a systemic framework for developing glocal higher education programmes (Jean François, 2015) which is applicable to education for sustainable development. Furthermore, there are institutions in various parts of the world that have incorporated the breadth and depth of communitarian glocal citizenry and sustainable development into teaching, research, campus and community engagement operations. Inside view 1 provides an illustration of two institutions that have developed and implemented campus-wide glocal education initiatives for sustainability: The University of Wisconsin Oshkosh, and the University of South Florida. Inside view 2 includes examples of institutions in all regions of the world that have taken actions on sustainability education and/or sustainable development.

Inside view 1. Campus-wide education for sustainability at the University of Wisconsin-Oshkosh and the University of South Florida

Example 1: University of Wisconsin-Oshkosh

The University of Wisconsin-Oshkosh planned and implemented a campus-wide education for sustainability programme about a decade ago. The plan started with a compelling rationale for a university that should be a responsible planetary institution. The leadership of the university set the vision and mobilized the resources for its fulfilment. The chancellor of the university established a Campus Sustainability Team (CST) to develop an integrated campus sustainability plan (CSP). The plan included strategies to infuse sustainability into organization, operations, teaching, research, outreach and assessment. The university reformed its general education programme, and incorporated sustainability throughout the curriculum. The faculty received financial incentives to include sustainability facets in their course syllabi. The university partnered with other campuses in the University of Wisconsin system to offer a master's degree programme on sustainability and another master's on transnational human service leadership. Many extra-curricular activities, internships, service-learning and research endeavours are incentivized to ensure that sustainability remains a signature theme in the campus. There is ongoing evaluation and continuing quality improvement of the programme. The university has regularly been recognized as one of the greenest universities in the United States.

For more information: <http://www.uwosh.edu/today/40777/uw-oshkosh-ranked-near-top-of-americas-greenest-colleges-and-universities/>

Example 2: University of South Florida

The University of South Florida (USF) is an example of a postsecondary institution that has internationalized its curriculum to reflect sustainable development goals. The USF's president has signed the Climate Commitment of the American College & University Presidents. This commitment seeks to "neutralize greenhouse gas emissions and to accelerate research and educational efforts to equip society with the information and tools to re-stabilize the earth's climate". In its strategic plan, USF has incorporated a goal to "Expand local and global engagement initiatives to strengthen and sustain healthy communities and to improve quality of life." The university has opened a new College of Global Sustainability. The college offers a master's degree in global sustainability and eight certificates (online and face-to-face) in sustainable tourism, energy sustainability, water sustainability, global sustainability, coastal sustainability, food sustainability and security, sustainable tourism leadership and coastal sustainable management. USF has taken part in community engagement collaborative initiatives such as (a) The Tampa Bay clean cities coalition to promote the use of non-petroleum based transportation fuels, and thus enhance quality of life; (b) transitioning of urban infrastructure, which involves research into algae technology, bio-fuels and bio-products from biomass and biodiesel; and (c) education outreach through global sustainability partnership to provide problem-based learning opportunities for students.

For more information: <http://psgs.usf.edu/>

Inside view 2. Examples of universities and actions on sustainability education

Region	Country	Institution	Example of actions on sustainability education
Africa	Botswana	University of Botswana	<p>The University of Botswana (UB) has acted on sustainability education particularly through 'The Change Project', which "focuses on higher education curriculum innovation to mainstream environment and sustainability issues". The UB has taken action to: (a) create a PhD programme in Environmental Studies and a master's degree programme in Environmental Education; (b) incorporate environment and sustainability issues into undergraduate courses in its school of education; (c) provide an annual trainers' course in Education for Sustainable Development (ESD) for educators across sectors; and (d) support youth programmes on sustainable development.</p> <p>For more information: http://www.ub.bw/</p>
Asia and the Pacific	Malaysia	University of Technology Malaysia	<p>The University of Technology Malaysia (UTM) has made commitment to reduce its environmental carbon footprint by adopting sustainable practices towards becoming a 'green university'. The UTM has subscribed to the green building index and positioned itself as an eco-tourism destination.</p> <p>For more information: http://www.utm.my/</p>
Australia	Australia	University of Melbourne	<p>The University of Melbourne has set a target to achieve carbon neutrality by 2030. The university has focused on integrating sustainability into the curriculum, sustainability research, sustainable procurement, control of water use, energy reduction, recycling and waste, sustainable buildings and sustainable transport.</p> <p>For more information: http://sustainablecampus.unimelb.edu.au/about/sustainability-plan</p>
Europe	United Kingdom	The University of Nottingham	<p>The University of Nottingham has incorporated education for sustainable development into teaching and learning. Sustainability education at the University of Nottingham covers a wide range of areas, such as waste and recycling, energy and water, travel and transport, procurement, campus development, corporate governance, information services, landscape, teaching and learning, and research.</p> <p>For more information: http://www.nottingham.ac.uk/sustainability/strategy/strategy.aspx</p>
Latin America/ Caribbean	Argentina	National University of Rosario	<p>The National University of Rosario (UNR) provides seminars and courses on sustainable development issues for its teaching staff, has signed agreements with regional institutions and governments to discuss and spread awareness of sustainable development within communities and hosted events on sustainable development.</p> <p>For more information: http://www.unr.edu.ar/noticia/9716/la-unr-organiza-el-primer-foro-global-para-el-desarrollo-sostenible-en-rosario</p>
North America	Mexico	Ibero-American University, Mexico City	<p>The Ibero-American University in Mexico City has a university-wide plan to integrate sustainability education into all substantive functions of the university. Key facets include: environmental culture, environmental education and training, socio-environmental intervention, networking and environmental management systems.</p> <p>For more information: http://www.uia.mx/campusverde/</p>

Furthermore, other institutions are currently offering programmes or degrees that are rooted in a global higher education framework for sustainability. Inside view 3 provides the examples of the University College Roosevelt (2015), Wilfrid Laurier University (2015) and the Hebrew University of Jerusalem (2015). All three aforementioned institutions offer glocal education programmes or courses.

Inside view 3. Examples of best practices in glocal higher education for sustainability

University College Roosevelt

University College Roosevelt (2015) runs a programme called 'Going glocal' which aims to "foster education geared towards social responsibility and the exercise of critical citizenship". University College Roosevelt is based in the Netherlands. The programme involves collaboration between the university and schools in a local Dutch community called Zeeland, and communities in Opuwo in Namibia and Oaxaca in Mexico. Students of the University College Roosevelt attend preparatory courses, establish contact with the schools in the local communities and travel to conduct research and volunteer work in communities in Opuwo and Oaxaca. The students then develop teaching materials to teach schoolchildren in their home country (the Netherlands).

For more information: <http://www.ucr.nl/academic-program/Special%20Programs/Pages/Going-Glocal.aspx>

Wilfrid Laurier University

Wilfrid Laurier University (2015) has developed a glocal education programme that aims to "help educators blend global and local realities (hence, 'glocal') in the classroom, seeing the world 'out there' as sharing many of the same characteristics and traditions as 'here'". This is a certificate programme that students complete over the course of two semesters. In addition to formal course work, students get involved in activities such as 'Milk bags into sleeping mats for an orphanage in Ghana', 'Curriculum development on chocolate and fair trade', 'Aboriginal learning styles workshop', and 'micro-credit support for artisans in Peru'.

For more information: https://legacy.wlu.ca/page.php?grp_id=2265&f_id=1867&p=22294

The Hebrew University of Jerusalem

The Hebrew University of Jerusalem (2015) offers a master's degree programme in Glocal Community-Development Studies. This is a two-year interdisciplinary programme that aims to help students develop "effective translation of academic research into practical understanding conducive to work with communities and development organizations across the globe" (para. 1). The programme requires "a semester-long internship with an NGO in the developing world" (para. 1).

For more information: <http://glocal.huji.ac.il/>

All three examples in Inside view 3 include the melding of global and local perspectives to achieve a purpose that is globally focused and locally engaged. While I cannot assess the level of global symbi-

osis of these programmes, they are nonetheless rooted in a glocal higher education framework. The term glocal symbiosis implies “a mutualistic relationship between a global and a local partner” (Jean François, 2015: 75). Glocal symbiosis implies the extent to which a relationship, involving global and local perspectives, is mutually beneficial and that partners are being equally valued in a collaborative process to achieve multiple purposes that include the interests of all partners involved.

Preparing glocal citizenry: some recommendations

As previously indicated, curriculum reframing requires bold leadership decisions by higher learning managers to integrate sustainable development into teaching, research, campus and community engagement activities. Curriculum reframing must:

1. **Account for a planetary citizenship, prioritizing quality and sustainable wellbeing over competition for wealth accumulation.** Internationalization, education for glocal citizenship and sustainable development should not be treated as part of different purposes; they should be considered within the context of a systemic transdisciplinary framework that aims to prepare graduates for glocal citizenship. In other words, curricula to train graduates in glocal citizenship should include skills, knowledge, attitudes and comprehension linked to outcomes that account for the purposes of internationalization, education for glocal citizenship and sustainable development.
2. **Acknowledge, challenge and develop paradigm changes to address issues of power, privilege, exclusion/marginalization, oppression and social justice.** Curricula should include modules that address issues of power, privilege, exclusion/marginalization, oppression and social justice using multifaceted analytical frameworks. The aforementioned issues exist in contexts of race, ethnicity, class, gender, sexual orientation, aging and illness. Existing paradigms tend to address such issues through linear paradigms and in binary ways on continuums such as powerful/powerless, privileged/underprivileged, inclusion/exclusion, oppression/freedom and social justice/social injustice. There is nothing wrong with the linear and binary approaches; however, they limit the scope of analysis, and may fail to capture the glocalness of particular issues. Local communities and the glocal citizenry are affected by issues of power, privilege, exclusion/marginalization, oppression and social justice in ways that are not linear, but transnational. There are unbalanced power relationships, unequal privileges, layers of exclusion/marginalization, levels of oppression and degrees of social injustice among local communities depending on their geographical location, size, dominant groups, worldviews, access to resources and other factors. Therefore, acknowledging these issues either at the local or the global level is not enough if the glocal implications are not taken into consideration. The glocal implications can be taken into consideration through multidisciplinary, transdisciplinary, transnational and transcultural curricula and instructional practices. For example,

instead of having a course taught by an individual specialist, courses should be modularly developed and co-taught by a team of instructors from multiple disciplines.

3. Articulate what competencies are required for graduates to be efficient and effective in a glocal community. Given the multifaceted implications of the issues of power, privilege, exclusion/marginalization, oppression and social justice that were raised in the previous paragraph, local communities and the global community constitute two different realities when considered independently. Obviously, the very title of this chapter provides evidence that I believe in the interconnect- edness of the local and the global. However, the experiences of individuals with local mindedness are fundamentally different from those of people with global mindedness. The term ‘competency’ may be common for local and global commu- nities, but it carries different meanings for local citizens (living with local mindset) and global citizens (living with global mindset). Similarly, competency may mean something different for a glocal citizen (living with a glocal mindset). Therefore, a revised curriculum for a glocal citizenry should articulate competencies that will enable graduates to be efficient and effective in glocal communities.

4. Account for professional development and resources that will equip and em- power educators and staff to facilitate the internationalization of curriculum and campus operations for glocal citizenry and sustainable development. For example, institutions can budget financial resources for faculty self-directed learning projects that involve overseas travel and comparative research studies on topics related to glocal citizenry and sustainable development. By providing incentives for facul- ty members to travel and conduct research using a glocal education framework, insti- tutions could enable them to acquire glocal knowledge, skills, attitudes and comprehen- sion that they can instil in their students.

“Account for professional development and resources that will equip and empower educators and staff to facilitate the internationalization of curriculum and campus operations for glocal citizenry and sustainable development

5. Describe and map measurable/documentable learning pathways through which students will be educated for glocal citizenry. This will enable us to map

measurable/documentable learning attributes and link them to specific knowledge, skills, and attitudes and identify learning outcomes to as- sess graduates’ competencies. Beloit College (2015) is an interesting example of a postsec- ondary education institution that maps learning

“Describe and map measurable/ documentable learning pathways through which students will be educated for glocal citizenry.

pathways for its sustainability leadership programme. Beloit College’s learning pathway to sustainability leadership integrates sustainability across the curricu- lum through three major pathways: (a) cultivating student leaders (sustainability citizen modules and courses); (b) integrating knowledge (sustainability fellows);

and (c) realizing change (sustainability leader teams). An interdisciplinary steering committee and a sustainability coordinator manage the programme. There is a clear assessment plan that maps the aims, the learning pathways and operations in order to ensure that graduates have mastered the skills, knowledge and attitudes to become “invested environmental citizens” (Beloit College, 2015).

6. Engage and integrate glocal stakeholders (i.e., employers, activists, policymakers, local leaders, scholars, staff, students and parents) in reframing and implementing teaching and learning for glocal citizenship. The integration of glocal stakeholders should be based on a glocal symbiosis that allows for intentional, informed, committed and sustainable collaborations. Engaging and integrating glocal stakeholders means that they participate in analysing, planning and implementing revised curricula that are adequate for educating graduates who are glocal citizens. By engaging glocal stakeholders, institutions of higher education can develop cross-institutional, cross-national or cross-continental collaborations to foster professional learning networks that can help students situate their practice both locally and globally.

7. Include collaborative involvement of internal and external stakeholders in an action plan for evaluation and continuing quality improvement of education for glocal sustainability. Evaluation and continuous quality improvement are two key facets of an effective and sustainable higher education programme for glocal sustainability. Evaluation helps assess the achievement of the learning outcomes in relation to the learning attributes. Institutions should prioritize authentic assessment over traditional forms of assessment such as exams and essays. Authentic assessment may help students test the glocal relevance of their knowledge, skills, attitudes and understanding in real-life situations. Higher education institutions running a programme for glocal sustainability may identify areas for curriculum revision or enhancement in teaching and learning. Students’ learning about glocal sustainability development must be assessed not just for specific courses, but also for the overall curriculum or study programme. Furthermore, continuous quality improvement, which is rooted in formative assessment, can provide the basis for ongoing corrective actions to strengthen progress and achievements.

“Include collaborative involvement of internal and external stakeholders in action plan for evaluation and continuing quality improvement of education for glocal sustainability

8. Develop authentic assessment tools that undergo glocal validation to assess the extent to which graduates master learning attributes related to glocal citizenship. Evaluation based on authentic assessment obviously requires the use of authentic

“Develop authentic assessment tools that undergo glocal validation to assess the extent to which graduates master learning attributes related to glocal citizenship.

tic assessment tools that can withstand the stress test of local communities and the global context. Therefore, authentic assessment tools must undergo glocal validation in local, national and transnational contexts (Jean François, 2015).

9. Design and model innovative frameworks for employment opportunities that empower graduates to enjoy quality lives while contributing their knowledge and skills to sustainable development.

Lamprianou and Athanasou (2009) rightly argued that most students want to learn information and skills and develop proficiencies and expertise that can translate into quality employment and careers. If education for sustainable development is not linked to employment opportunities, it will fail, and the entire planet will suffer the consequences of such failure, given the imperative to address the challenge of climate change and other threats to our shared planet.

“Design and model innovative frameworks for employment opportunities that empower graduates to enjoy quality lives while contributing their knowledge and skills to sustainable development

10. Create space to celebrate milestones and key achievements in education for glocal citizenship and sustainable development.

Education for glocal sustainable development is a challenge for all stakeholders in postsecondary education institutions because of its vital contribution to a glocal citizenry, but also due to the resistance from some multinational corporations and ideologues to initiatives related to environmental sustainability. Celebrating milestones and key achievements in education for glocal citizenship and sustainable development can help develop and nurture learning colleges and universities. A learning college or university will develop a glocal evidence-based institutional culture that accounts for failures, validated glocal best practices, accountability for student learning and celebration of the career and leadership achievements of graduates in sectors driving sustainable development in local and global contexts.

From ideas to actions

There are some useful strategies that both policymakers and institutions can use to translate the aforementioned recommendations into actions. Examples of strategies include, but are not limited to, outreach and awareness, baseline research, policy hearings, funding for ongoing research and leadership and professional development.

Outreach and awareness: Outreach to increase awareness is always a good way to initiate the process for a new curriculum or curriculum revision. For example, organizing a summit, forum or congress on sustainability in the curriculum involving all key stakeholders can be an effective starting point. This is a great way for policymakers to gather ideas and frameworks that may inform their policy initiatives. Similarly, higher education institutions can use a summit or a forum to generate themes, topics and strategies to incorporate sustainability into their curricula. A summit can also be useful to recognize existing efforts to incorporate sustainability into curricula, identify potential challenges and strategies to overcome them

and formulate initial recommendations for institutional or national policies. Outreach and awareness can also include developing collaborations or partnerships at the local or global level in order to use external resources, transform awareness into commitment and turn sceptics into allies.

Baseline research: A comprehensive baseline survey on environmental sustainability at the institutional or national level is a good strategy for providing a solid foundation for new initiatives or policies related to curriculum revision for education on sustainability and sustainable development. Baseline research should focus on the curricula, environmental awareness, knowledge, skills, attitudes and behaviours of key stakeholders, as well as institutional operations, facilities and community practices.

Policy hearings: Policymakers and institutions should organize policy hearings on sustainable education and education for sustainable development. Policy hearings should gather the most accomplished researchers, scholars, practitioners, entrepreneurs, community leaders, students and any other stakeholders who leave their carbon footprints on our planet.

Funding for research on education for sustainability and sustainable development: The integration of sustainability into curricula must be an ongoing evolving process supported by scholarship and evidence-based practices. Therefore, initiatives or policies for the integration of sustainability into curricula must include funding to support research on education for sustainability and sustainable development. This funding may be coordinated by a multidisciplinary centre or institute, which can ensure that funding allocations are effective and efficient in producing the desired outcomes. Additionally, funding in the forms of scholarships, fellowships or grant awards should be allocated to students who want to conduct undergraduate and graduate research on sustainability and sustainable development.

Leadership and professional development: Leadership and professional development is an essential strategy for incorporating sustainability into curricula. Leadership and professional development training and instruction will contribute to educating leaders at the institutional or national levels on issues related to sustainability. Leadership and professional development will help empower individuals to make decisions for sustainable development that take ecological systems, bio-cultural diversity, social and economic justice and multicultural and global perspectives into account.

Enacting new legislation, policies or rules: Policymakers may introduce new legislation to set global standards and performance monitoring benchmarks on the use of electricity, oil/natural gas, water and waste disposal in order to achieve carbon neutrality. Similarly, leaders of higher education institutions can adopt new policies aligned with global ambitions to either slow the rate of increase in emissions or eliminate emissions through greater efficiency and behavioural change. For example, a college or university may adopt policies or create institution-wide multidisciplinary teams to integrate sustainability education into curricula, provide special financial incentives for new projects or research on sustainability, or monitor and reduce energy use in every building. Institutions may adopt new rules to purchase only from vendors that are known for environmental stewardship, or renovate or construct buildings that conform to green standards.

Decentralizing accountability: Policymakers and higher education institutions should decentralize the levels of accountability for implementing new legislation and policies through data collection, reporting and continuing evaluation systems or processes. Job descriptions should be revised to include mandatory reporting on sustainability efforts, achievements and challenges at various levels of leadership with organizational structures. Decentralizing accountability will help ensure the systemic implementation of sustainability policies and greater ability to monitor and take corrective actions.

Educational reform and curriculum revision: Policymakers can initiate nationwide educational reform for global sustainability. As representatives of their constituents, their initiatives will legitimize the curriculum revisions to be implemented by higher education institutions. Implementing educational reform for sustainability must involve not only curriculum revisions, but also the development of guidelines and the provision of technical support and financial incentives for faculty members to integrate environmental education into their curricula.

Conclusion

Reframing the curriculum in higher education to address the global threats of climate change and other environmental issues to our planet seems to be a rational initiative that should be embraced by all stakeholders involved in higher learning. However, it would be naive and intellectually dishonest to believe that support for education on sustainability could be taken for granted. There are several reasons for this, and this chapter does not attempt to address all of them. However, one reason is that reframing the curriculum in higher education to affect sustainable development requires policy changes at the global and local levels. This automatically places sustainability education in the line of fire in ideological disputes and consequently generates resistance to change based on arguments that may even defy logic. In addition, the global dimensions of environmental issues are inherently related to human activities that are financially profitable for the transnational capitalist class that dominate the globalization phenomenon.

The transnational capitalist class will not surrender their profitable businesses in exchange for sustainable education, unless the alternatives offered protect their bottom line or do not affect it negatively. Moreover, global initiatives for sustainable development may bring long-term benefits for our planetary citizenry, but may also result in short-term negative consequences that would not be welcome in some local communities across the world most in need of sustainable development, but whose livelihoods may depend on the environmental status quo that threatens the future of our planet. Ideology, transnational capitalist interests and contradictions between global and local realities, as well as other similar factors, may generate unusual alliances at the global and local levels to resist the changes required by curriculum reframing for sustainable development. Furthermore, global frameworks can easily be shaped into top-down or elitist approaches that provide excuses to radicalize resistance to education on global sustainability.

On the other hand, locally-based frameworks are ill-equipped to adequately address global challenges in ways that are efficient and effective. The glocal higher education framework provides an alternative that helps reconcile the global and the local by acknowledging genuine resistance to change, identifying ways to develop glocal symbiosis and planning and implementing bold community-driven initiatives with glocal purpose to sustain our glocal citizenry for future generations.

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Queen's University, Belfast

John Brewer

British universities are ancient institutions – in some cases medieval in origin – and their transition to global universities fit for the twenty-first century is not easy. While students adjust well, university staff are among the most resistant to change. Restructuring, refinancing and re-envisioning, however, are the watchwords of most senior university managers as they try to become global research universities located *in* but not of the society in which they find themselves. The position of Queen's University Belfast is complicated by Northern Ireland's different kind of transition, as it emerges from years of civil conflict and violence. The town-gown relationship for Queen's University requires it to straddle the local and the global, assisting Northern Ireland to come to terms with its past and to emerge as a reconciled and healed society, while also contributing to global civic awareness and confronting global challenges.

The civil conflict tended to draw Queen's inward, being both *in and of* the place, but under the leadership of at least the last three vice-chancellors, which ironically coincided roughly with the peace process, the university has confronted its social responsibilities towards global society as much as to the society in which it is located; even more so under the university's current leadership. Producing Queen's University graduates capable of living together in tolerance, whether locally or globally, is an essential part of its educational mission. Research that addresses issues relevant to societies in transition is matched with work on the many global challenges that threaten the future of humankind. This is reflected in its Vision 2020, which is an ambitious statement of



the transformation of Queen's University which the new vice-chancellor, Patrick Johnston, wishes to realize by the year 2020 (<http://www.qub.ac.uk/home/Vision2020/>).

Among many other things, Vision 2020 involves the development of what we might call the global student. This means something significantly more than Queen's shifting towards a student population with a higher proportion from overseas; it involves raising the global awareness of all students, wherever they are from. This is being attempted through innovative curricula, such as new postgraduate degree subjects that transcend faculties, such as conflict transformation and computing, and social work and trauma studies, as well as through opportunities for student exchange visits and study abroad, with Queen's both sending and receiving visitors, and by developing an international horizon in the student body by encouraging volunteer work, civic engagement and charity that equips them to occupy a position in the world as global citizens.

The global student is matched by its corollary, what we can call the global researcher. Global challenges are best addressed from multiple perspectives and the shift towards interdisciplinarity in the curriculum is matched with a transformation in research. Vision 2020 presages Queen's moving towards becoming a research rather than teaching-led university, and from an undergraduate to a postgraduate dominated university, where innovative postgraduate degrees can emerge flexibly and quickly in response to new global challenges, encouraging synergies in staff

and research students across branches of knowledge that are normally kept at arm's length. This requires an administrative structure that enables rather than inhibits collaboration between researchers – postgraduate and permanent.

Queen's restructuring is reflected in the development of a Public Engagement Unit, the establishment of a university-wide Graduate School (<https://www.qub.ac.uk/sites/graduateschool/>), the founding of the William J. Clinton Leadership Institute, which specializes in executive education, including for young leaders from the Global South, the establishment of four interdisciplinary Global Research Institutes, covering issues like food security, health, conflict transformation and electronic communications, a number of Pioneer Research Programmes, and several research centres. Queen's Centre for Shared Education, for example, has been awarded a UNESCO Chair on Globalizing a Shared Education Model for Improving Relations in Divided Societies.

Shifts in Queen's institutional landscape assist the global student and the global researcher only if they encourage an outward facing ambition. Climbing to the top of the tree is less important than moving to other parts of the forest where there are taller trees, and one of the most significant transformations envisaged in Vision 2020 is realized through the University's new Social Charter. Public dissemination and engagement is a popular mantra in British higher education policy. Queen's Social Charter expresses this much more strongly: the university desires to produce graduates and staff with the ambition to make a difference in the world. This is the way Queen's meets its town-gown obligations and manages the local-global nexus. The Social Charter is, to my knowledge, unique within British universities and goes well beyond the prosaic and superficial public relations rhetoric that characterizes the modern market-led university.

The ambition of the Charter is stated as follows: 'Our vision for Queen's is that it will become a world-class university that supports outstanding students and staff, working in world-class facilities, conducting leading-edge education and research, focused on the needs of society.' Three Charter Principles follow on from this. 'We are committed to providing leadership locally and globally. We are committed to promoting a positive impact on society through our research and education. We are committed to equity and social justice.' It goes on to state that these principles will be realized by the way the university promotes research with social impact, education with social purpose and which breaks boundaries to produce new knowledge, equity and excellence, civic culture and intercultural dialogue, sustainability, and by recognizing and rewarding contributions from students and staff.

It is worth elaborating on one dimension related to the curriculum for global students. To help deliver education with a social purpose, the Social Charter commits Queen's to ensuring 'excellence in teaching to advance understanding about people, communities and societies, and [to] encourage our students to develop as active citizens so they can become the next generation of leaders for global society'. In order to nurture civic culture and intercultural dialogue, the Social Charter says: 'we will encourage civic responsibility and engagement for staff and students through volunteering, civic conversations and intercultural dialogue and knowledge exchange.'

The Social Charter evidences that Queen's University is *in* but no longer just *of* a society emerging out of conflict. It has taken its place among the global research intensive universities fit for the twenty-first century.

2.3. Redesigning the Curriculum for the 21st Century

Ahmed Bawa

Abstract

In the face of debilitating cuts and new waves of student activism, universities around the world face scrutiny of their role in addressing the critical challenges facing the world. Deepening socioeconomic inequality, political violence, the ravages of infectious and lifestyle diseases and the impact of human behaviour on sustainable futures are examples that are simultaneously intensely local and global. Curriculum transformation lies at the heart of creating new generations of intellectuals with the knowledge, skills and orientation towards social commitment and agency. This article focuses on five large curriculum issues that are likely to (re)shape higher education in the next 10 years.

The first is the idea of securing a social compact on the role of higher education in society. The second relates to curriculum issues linked to successful access, with specific emphasis on creating more equal societies. The third is about the use of technology to improve the access and success of non-traditional students. The fourth deals with engagement, learning in theory-praxis nexuses and the importance of the integrated learning experience. The fifth covers the rapid changes in the labour market expected in the next 10-20 years and the implications of this for the curriculum.

Introduction

Education is the great engine of personal development. It is through education that the daughter of a peasant can become a doctor, that the son of a mineworker can become the head of the mine, that a child of farm workers can become the president of a great nation. It is what we make out of what we have, not what we are given, that separates one person from another.

Nelson Mandela, Long Walk to Freedom

The #FeesMustFall and #RhodesMustFall student campaigns brought much of South Africa's higher education to a standstill for several weeks at the end of 2015 and have resulted in great systemic instability in 2016. For the first time since the 1970s and 1980s during the throes of the anti-apartheid struggles for democracy, even the prestigious University of Cape Town was brought to its knees by serious disruptions to its academic activities. In fact, this belies the fact that the system has been unstable for a considerable period of time, decades in fact, with much of the instability restricted to those institutions that drew the largest numbers of students from the poorest parts of the population driven by the demand for greater access. Two substantial and powerful ideas have emerged: the first is that higher education had priced itself way out of reach for most South African

families and the second is that the universities of the 22-year-old democracy were far from transformed enough to reflect the egalitarian, post-racist, post-colonial, post-sexist imaginations of the struggle for emancipation. It was as if a social contract had been broken. In a similar vein, the Rand Corporation's 1997 report on the cost of higher education for families in the USA was titled *Breaking the Social Contract: The Fiscal Crisis in US Higher Education* because it had priced itself out of reach for poor families and was therefore deemed derelict in its duty to provide a vital platform for social mobility, for migration into the middle classes, etc. (Benjamin, 1997). **As we search for 21st century meanings of the role of higher education in society, and while we are cognizant of the UN's Sustainable Development Goals (SDGs) as a recognized framework for human development, higher education remains an area of great contestation.**

Higher education is in an epoch of rapid change as it is under pressure all around the world from cuts in funding, the clamour for relevance and rankings, for greater articulation with socioeconomic projects of many kinds and the need to track deep and vast labour market transformations. Mobilization of student activism has taken root again as we head, it seems, into another 1960s-70s moment. The 15 May 2016 issue of *World University News* is replete with articles highlighting deepening student activism in the UK, the USA, South Africa, Chile, Japan, Germany, etc. Deepening inequality has gripped most societies and as Thomas Piketty has repeatedly explained, social investment in higher education is a key driver for building more equal societies (Piketty, 2015). This has driven higher levels of massification in most societies and while this rush for qualifications continues, demand by far outstrips supply. Bill Readings' deep concerns about the death of the university in his posthumously published *The University in Ruins* are about perspective (Readings, 1996).

There can be no more exciting project than the re-creation of the 'university' as a social institution that speaks to new realities and contexts and is simultaneously responsive to the intensely local and global and has at its centre a social justice agenda. A direct and unambiguous agenda would seek to establish strong connections with the local context, while at the same time ensuring the need for a people-sensitive approach to rapid globalization is kept in mind. Two centrepieces may stem from such a social justice rubric for the imagination of the 21st century university.

“There can be no more exciting project than the re-creation of the 'university' as a social institution that speaks to new realities and contexts and is simultaneously responsive to the intensely local and global and has at its centre a social justice agenda.

The first is to think of institutions as being intensely student-centred and then ask how we might galvanize the resources of these institutions to optimize the intellectual, social and emotional development of the students. This must result from obtaining the fullest possible active learning, both formal and informal, and driving students to reach as far as they possibly can while reducing as far as possible the 'revolving door' effect.

The second point is to think of universities as being engaged institutions, as being tightly bound to their contexts and geared towards addressing the challenges of local communities, industry, government, non-governmental organizations, etc. Engagement will allow universities to gain the trust and

commitment of local constituencies, which in turn will have an impact on the quality of learning and teaching.

As hackneyed as the use of the word *transformation* may be, its use represents an opportunity to consider the changes that must be wrought at universities if they are to be relevant as we head into the next four or five decades. At a groundbreaking meeting at Queen's University in Belfast in June 2015 about higher education for democratic innovation, the role of universities as sites of innovation in the creation of more inclusive, engaged and tolerant societies was explored in paper after paper, providing glimpses of new imaginations of higher education in society (Bergan et al., 2016).

The curriculum is substantively at the heart of this project. It is the way in which institutions of higher learning define themselves and their sociopolitical project. It was Posner who stated in 2005, "Every curriculum represents a choice as to how to educate students". In Amir Alexander's *Infinitesimal: How a dangerous mathematical theory shaped the modern world* (2004) we see the battle for the power struc-

“The curriculum is substantively at the heart of this project. It is the way in which institutions of higher learning define themselves and their sociopolitical project.

tures of the Catholic Church and of Christendom through the invention of a uniform curriculum in the colleges of the School of Jesus in 17th century Europe, which was designed to create a neat Euclidean world of humans without uncertainties and human innovation. The curriculum is a political project.

Successful Access

Much of the discourse on the role of higher education in building more equal and inclusive societies has centred on the idea of broadening access, especially to students from systematically excluded communities in the name of race, gender, caste, ethnicity, class, etc. The access discourse must be linked to a student success discourse. Students must be given the best possible opportunity to succeed in their studies and be productive citizens, and be able to access significant public and private goods as a result of their participation in higher education.

Successful access has at its heart the complex matter of epistemic access (Morrow, 2009), especially where there has been significant and rapid change in the nature of the student body, where demographic change reflects some form of positive social engineering. Universities are often designed for archetypal students who have roots in a particular class or group and who have attended and graduated from high schools that prepare them for university study. If the majority of students come from largely dysfunctional schools that fail to play this role and where the home environment is not supportive, then there is need to understand whether the nature of the curriculum meshes sufficiently with the knowledge platforms that these students bring with them as they are thrust into university learning.

Any discussion about epistemic access in a conversation regarding curriculum transformation cannot avoid the idea that much curriculum development occurs to support dominant sociopolitical structures in societies. Where societies are largely uniform, rich diversity in the curriculum is usually constructed around the dominant cultural forms. On the other hand, where social and cultural diversity are embedded in political and economic superstructures that treat them as inferior or unequal, the issue of epistemic access has to be taken seriously. This happens regularly in societies with colonial pasts or in societies with deeply embedded inequalities. One powerful example of this is South Africa where, as access to higher education began to open up for young black men and women, students who were perceived to be underprepared were directed to special units set up to address what were viewed as gaps in their preparation for higher education. At that time, very little thought was given to trying to understand how to address the needs of these students through curriculum transformation. This has changed to some extent, but much work remains to be done.

This line of thinking may be extended further. In most complex societies multiple knowledge systems coexist and interact with each other. In ‘decolonizing’ contexts this knowledge is embedded in value systems, so that some are seen as superior and others inferior. Universities often play modern civilizing missions, eliminating the internal and the indigenous and implanting knowledge forms drawn from modernity. In such societies people co-exist in these multiple knowledge systems and will slip from one to another quite seamlessly depending on the context. **Students occupy mental spaces shaped by a number of knowledge systems. When one or more of these is deliberately and systematically excluded from the way in which curricula are shaped, there will be hindrances to learning, perceptions of the systematic undermining of ‘inferior’ knowledge, thereby limiting epistemic access. While this may not happen deliberately, it is a powerful form of exclusion.**

Alongside this is the issue of language. The dominance of English and other European languages in academia persists in many developing nations, and for many university students these are second or even third languages. This is clearly a matter of access, but it also involves the social justice imperatives related to the development of indigenous languages. The use of isiZulu, Kiswahili, Fulani or Gujarati as languages of academic discourse is one way of ensuring the long-term sustainability of indigenous languages.

Employability and entrepreneurship

In recent times there has been a dramatic shift towards vocational education –preparing graduates for the workplace. Linked to the issue of successful access is the idea that graduates should have a fair chance of a fulfilling, gainful life in employment or entrepreneurialism. This should be a matter of design from the outset, rather than a post-facto management of tensions between the curriculum and the labour market. There are many kinds of interventions that spring to mind. The ‘powerful knowledge’ ideas of Michael Young provide a basis for thinking creatively about the construction of theory-praxis nexuses that allow students to be creators of knowledge within researcher communities and active shapers of the workplace, rather than cogs in an industrial machine. Young begins with

“Access is the idea that graduates should have a fair chance of a fulfilling, gainful life in employment or entrepreneurialism.

the idea that citizens have equal rights to knowledge and therefore to the use of knowledge, which is important in this conversation (Young, 2014). Wheelahan, in her study of graduate placements in Australia, discovered that the way in which particular ‘non-powerful knowledge’ curricula offered to students from the lower classes results in skewed job distributions. She further notes: “while at the other end, lower VET qualifications in new fields are dominated by students from low socioeconomic backgrounds” (Wheelahan, 2012). The important point about this interjection here of Young’s ideas is simply to highlight that successful access must ensure that students from marginalized communities can compete for good jobs.

Community-based education

Community engagement is an important source of inspiration and a powerful engine for integrative learning. Much has been written about this, and the integration of community engagement into research and learning/teaching is slowly gaining traction as the one sure way of generating knowledge about local contexts and especially knowledge embedded in indigenous knowledge systems. Institutions with a strong social justice agenda will, by definition, be intricately woven into their local

contexts and this pre-empts and predicts the creation of interesting learning/teaching and research spaces in the dynamic interfaces between universities and communities, enhancing the opportunity for the formal integration of community-based learning into the curriculum.

“Learning through community engagement brings into play the particular strengths of students, such as their knowledge of the contexts in which that learning occurs.

With regard to building student social agency, with a social justice agenda in place, increased access results in a shift in student demographics towards students from

working class or marginalized backgrounds. If this is the case, **learning through community engagement brings into play the students’ particular strengths, such as their knowledge of the contexts in which that learning occurs.**

Technology and access

There is no longer any mystery regarding the role of technology in teaching and learning. The increasing ubiquity of broadband, digital devices and specially designed software has prompted large new experiments. Indeed, 2012 is regarded as the year of the Massive Open Online Course (MOOC), and even though its death has been predicted, the explosion of excitement unleashed by this development has been helpful. MOOCs are an example of the power of technology in higher learning on the one hand, and the enhancement of our understanding of what can and cannot be achieved on the other (Borden, 2014). There is a much greater understanding now of the role of technology in achieving higher levels of participation and its translation to student learning and student success. Notwithstanding the slowdown in the MOOC industry, at least two institutions, the Open University in the UK and the University of Leeds, have recently announced that they will accept MOOCs offered by other institutions as course credits towards degrees.

The rollout of Learning Management Systems (LMS) is now common in most institutions, with varying levels of success. These systems, when used effectively, are central to providing students with an integrated living and learning environment that provides seamless access to learning resources, communication platforms with their teachers and peers, information on the administration of their courses, etc. In as much as they provide for active student learning, LMS open the way for academics to shape and mould courseware that facilitates deep learning, thereby helping teachers to be more effective, efficient and student-centred. There are however, at least two other important purposes for which these technologies may be employed.

Firstly, LMS may help to boost access. While the number of students in higher education in South Africa has doubled since 1994, the participation rate of 18-24 year-olds has grown only slightly from 15% to about 18%. This is replicated in many developing nations. The massification of higher education has been posited by a number of key studies as important for improving the socioeconomic and political outcomes of developing societies, but the cost factors of implementing traditional methods to widen access prove overwhelmingly restrictive. The only way to obtain higher participation rates is to develop a more balanced approach to on-campus and off-campus offerings, where students may be entitled to options that are much more flexible and affordable. At the heart of this project is the challenge of producing high quality learning opportunities for students in both modes. The Open University in the UK provides ample evidence that this can be achieved. At the most basic level, the introduction of LMS in bricks-and-mortar institutions paves the way for the development of mixed-mode curricula and the 'flipped classroom', enabling the development of high quality curricula that will be usable by both on-campus and off-campus students and improve participation rates and the quality of the learning experience.

As noted above, **the MOOC phenomenon will provide significant experience of what can and cannot be achieved. The impact of these technologies in highly specialized graduate-level programmes aimed at working people is important and almost guaranteed to succeed.**

Secondly, LMS provide an extraordinarily rich source of data which may help to improve student performance. A *Scientific American* article about New York City's success in significantly reducing its crime rate without increasing its prison population, the size of its police force or by targeting particular crimes is understood to have resulted from the use of big data and analytics to develop new approaches to deploying resources to address social challenges (Zimring, 2011). **There has been much written recently about the use of big data and analytics to improve the quality of learning and the success rates of undergraduate students.** The existence of large databases of student records detailing performance in examinations, tests and assignments, performance at high school, etc. all add to the potential for new curriculum and organizational intervention strategies to improve student learning and teaching by professors.

As human-technology interfaces become more and more sophisticated and ubiquitous, their integration into learning will provide new opportunities to improve the quality of learning and enhance the capacity of higher education systems to be more effective in terms of access.

Some additional thoughts about the curriculum of 2035

In twenty years' time the world of work will be significantly different. Autonomous vehicles will be common. Machine learning algorithms will have reached new levels of sophistication, driving more and more integrated human-robot interfaces. Deep learning will significantly alter the way in which any repetitive labour is done. The shift towards thinner energy sources and greater efficiency in agricultural production through genetic modification will alter the nature of consumption. At the same time, the continuing shift towards devastating world discord, the growth of inequality in many societies, the onset of the impact of global warming and rampaging public health disasters are all potentially on the landscape of 2035. How would this impact on the nature of the higher education curriculum?

The labour market is likely to change dramatically between now and 2035, with many current work categories modified or even abolished. Machines will probably replace the world of human endeavour involving sophisticated repetitive work; perhaps even reaching elements of the medical profession. As a way of managing this in terms of higher education planning, current study programmes should be redesigned to prioritize the creation of lifelong learners with high-level generic skills in academic literacy, vertically compounded complexity in mathematical numeracy, skills in big data and analytics, etc. In the longer term, there has to be serious engagement now regarding trends in the transformation of local and global labour markets over the next 10-20 years. Three threads are considered here.

Firstly, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) in Australia has embarked on a significant study to understand the future of work. The report *'Tomorrow's Digitally Enabled Workforce: Megatrends and scenarios for jobs and employment in Australia over the coming twenty years'* (Hajkowicz et al., 2016) is an important resource for helping academics, policymakers and employers come to grips with issues related to long-term labour market trends emanating from a 'perfect storm' composed of four rather large, complex and intertwined technological and sociological developments. The first of these is the impact of the rapid growth in computing power, device connectivity, big data, artificial intelligence, etc. on automation, resulting in certain job categories being undermined while creating new ones. The second is what the report calls "the recent ascendancy of the peer-to-peer (P2P) marketplace that will lead to seismic changes in the traditional labour market". The third is Australia's ageing and culturally more diverse working population. The fourth is the maturation and subsequent decline of its mining sector and the need for greater focus on employment diversification in what the report calls the advanced service sector economy.

Needless to say, this kind of study will produce different outcomes for different societies. But there is the need for such studies to be done and to assess the way in which these may impact on the university curriculum.

Secondly, the idea of developing higher and higher levels of integration in the learning experience has been referred to above. Most study programmes leading to qualifications are generally structured in consonance with traditional academic departmental and faculty structures. Increasingly however, there are professions and intellectual pursuits that clearly cut across these traditional structures. Universities seldom provide a suitable intellectual and organizational home in which to anchor such

programmes. Andrew O'Hagan, in the 28 March 2016 issue of *The New Yorker* describes the sheer brilliance of British set designer Es Devlin, in an article entitled *Imaginary Spaces: Es Devlin and the psychology of the stage*. As one reads, besides being in awe of a major cultural figure, one becomes acutely aware of the need to think again about the nature of the academic enterprise in preparing young people for the world of work that operates at the intersections of many traditional disciplines. In a conversation, O'Hagan says that he discovers Es to be: "an architect of temporary space, making images that

“The critical question is what kind of academic system/structure would best support this kind of education. How much fluidity in structure can universities endure to facilitate the creation of new work fields at the intersection of knowledge domains?”

can survive only in the minds of the people who see her shows. 'I do all this work and nothing physical remains', she told me. 'So what I'm really designing are mental structures, as opposed to physical ones. Memories are solid, and that's what I'm trying to build'" (O'Hagan, 2016). **Successful set designers are likely to be the intellectual convolution of literary experts, architects, engineers, psychologists, artists, etc. The critical question is what kind of academic system/structure would best support this kind of education. How much fluidity in structure can universities endure to facilitate the creation of new work fields at the intersection of knowledge domains?**

New areas of intellectual engagement, new trends in occupations, new technologies, all of these will have serious consequences for the nature of curricula and the organizational construction of universities. Perhaps most profound might be the need to revisit the relationship between institutions of higher learning and places of work.

Addressing the UN SDGs

Students marching through the campuses and streets of South Africa have focused their militant attention on affordable higher education and what they refer to as 'decolonizing the curriculum'. This is symptomatic of a much deeper malaise that permeates this nation of such hope and potential. The UN's SDGs are an excellent representation of the challenges being faced. Our students have reminded us that higher education is central to solving the challenges we face and transforming the curriculum lies at the heart of this project. Such curriculum reform must be by deliberate design, drawing on context and on appropriate theories and strategies of social change and learning. If higher education is to be understood as a key social instrument to build socially just societies, it is important to explore action steps as a way to instigate appropriate transformations of the curriculum.

- a. **Explore the development of social compacts.** Universities often reflect the socioeconomic hierarchies in the society in which they are embedded. To shift the agenda of higher education institutions and systems there ought to be regular national commissions or summits held – perhaps once every 10 years – that allow societies in all their complexity to strike up social compacts on the role of

higher education in addressing the SDGs and building more equal and secure societies.

- b. **Research and data analytics.** In societies where there is rapid change in the social base of students in terms of gender, race, class, ethnicity, etc., higher education institutions must build their capacity to perform institutional research, create longitudinal databases and perform high-level analytics to help them understand just who their students are, what they bring with them to the university, what they do not bring, what they are reading, what their socioeconomic condition is, whether they are food secure, etc. so that they may redesign their support for student success.
- c. **Striving to achieve epistemic access.** Linked to the notion of 'knowing your students' is the critical understanding of whether the curriculum connects with the knowledge systems in which the students have grown-up, and to design for sufficient meshing.
- d. **Access to the labour market. While the creation of employment is the function of national and global economies, successful access to higher education must include access to the labour market as a formative consideration in the design of the curriculum.** One obvious option here is to develop a close university-employer relationship at the programmatic level and vigorously embrace the idea of high quality learning within theory-praxis nexuses.
- e. **Building entrepreneurship.** Building the employment absorptive capacity of economies depends on the creation of new small enterprises. Simulations would be one way to engage students in entrepreneurial thinking. Exposure to existing and successful entrepreneurs would be another. The third and perhaps most effective option would be for universities to establish business units as sites for growing entrepreneurialism.
- f. **Community-based education.** Careful consideration should be given to integrating community-based learning into the curriculum as a way of constructing real theory-praxis experiences and giving students the opportunity to grow as social change agents, as individuals who are rooted in the complexities of their contexts.
- g. **Technology, learning and access. Each university must ensure that it has an integrated IT strategy.** The usual trend is having multiple IT strategies: one for the administration, one for learning and teaching, one for research, one for research administration, one for IT infrastructure, one for management information, etc. It is becoming more and more urgent for institutions to adopt integrated IT

plans, since all of these domains are required to provide an integrated learning environment for students and faculty members.

- h. **The curriculum for 2035.** The 21st century is seeing a rapid acceleration of the infusion of new technologies into production processes, everyday life and quality of life projects. At the same time, there is growing global and local complexity in the fabric of societies, so much so that hard-won systems of social organization and cohesion are under the severe threat of breakdown. There is a need, therefore, to review the nature of our curricula and whether they connect with what is likely to be the world of work in 2035.

There is also the potential emergence of new professional careers, some linked with the technological developments mentioned above and others related to new conceptual frameworks for the burgeoning penetration of human-technology interfaces in society. A national exercise such as the one carried out by the Australian CSIRO is the most suitable format to adopt. Higher education should be a central player in these exercises.

Some concluding thoughts

Shaping a discussion about the curriculum of the 21st century has many possible starting points. Adopting a social justice rubric for this purpose opens up a discussion about the best ways to broaden access for students from marginalized communities and to ensure that access is successful. This means countenancing the key issue of epistemic access and ensuring that universities galvanize their resources to give students the best possible opportunity to succeed intellectually, emotionally and professionally.

Needless to say, there are enormous and profound changes taking place all over the world. Some of these are intensely local and others intensely global, but most are globally-locally interwoven. Higher education and its local and global organization are ideally placed to play a critical role in addressing these challenges and to develop young people as global and local citizens.

The term 'integrate' and its derivatives appears several times in this essay because it has been recognized that as the world becomes less linear and more complex there is a need for more integrated approaches to the curriculum and to university organization. What is becoming increasingly clear, is that the nature of the university as a social institution is undergoing and will continue to undergo serious changes in the near future.

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2.4. Reimagining the Curriculum for the 21st Century

Hans de Wit, Betty Leask

Abstract

Higher education institutions (HEIs) have an important role to play in ensuring a sustainable future for the world while also meeting their obligations and responsibilities to local communities. This chapter will explore the potential of the curriculum as a means by which universities can stimulate human activity, which creates dynamic and sustainable local and global communities. It will discuss ways in which the curriculum can be used to develop responsible global citizens who understand the relationship between the local and the global and are committed to new pathways for human development and wellbeing. The chapter argues that it is important to change the focus of curriculum content as well as the focus of teaching and learning in response to globalization. Focusing teaching on the development of graduates as 'responsible global citizens' offers a means to resolve some of the tensions between the local and the global missions and responsibilities of universities. The curriculum is a key place in which to introduce emerging contests and create new pathways for human development and wellbeing. We argue for broadening the knowledge base of the curriculum beyond the European canon and Western limited views and developing in students the skills, knowledge and attitudes associated with responsible global citizenship. The chapter provides examples of ways in which some HEIs have begun to change the focus of the curriculum, teaching and learning with the specific intention of better preparing their students to live as responsible social, economic and human beings in a globalized world.

Introduction

Higher education institutions have a role to play in ensuring national prosperity as well as a broader responsibility to contribute to the creation of dynamic and sustainable global communities.

The social impact of universities on a global scale is a key feature in the evolution of higher education (Escrigas et al., 2014). Universities have always arguably been both national and international – located in a nation state, but connected in various ways with international communities. But the world of the 21st century is very different to that of the 11th century, when the modern university began to evolve in Bologna. Today the world is more connected and more interdependent than ever before. Higher education institutions have

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a role to play in ensuring national prosperity as well as a broader responsibility to contribute to the creation of dynamic and sustainable global communities.

Creating dynamic and sustainable global communities requires much more of universities than simply 'doing international things' and/or 'doing sustainable things'. It requires a tight conceptual framing of the concepts, the values that underpin them and practices that encapsulate those values.

The concept of internationalization in higher education has evolved over time. As the result of a large study commissioned by the European Parliament in 2015, the internationalization of higher education has recently been redefined as:

The intentional process of integrating an international, intercultural or global dimension into the purpose, functions and delivery of post-secondary education, in order to enhance the quality of education and research for all students and staff, and to make a meaningful contribution to society (De Wit et al., 2015: 281).

“Internationalization intends to enhance the quality of education and research for all students and staff, and to make a meaningful contribution to society.

In contrast to previous definitions, the purpose of internationalization is not only to integrate international dimensions into the functions of higher education and to enhance quality, but also to make 'a meaningful contribution to society'. It also makes it explicit that the process has to be intentional instead of assumed to evolve by itself, and that it must include all students and staff, not only the small group that is mobile.

Approaches to internationalization that focus on 'doing international things', such as mobility programmes, or on profit rather than education are insufficient in a globalized world.

A meaningful contribution

Connecting the purpose of internationalization with the notion of developing graduates who can make a 'meaningful' contribution to society requires rethinking traditional approaches to internationalizing the curriculum focused on mobility programmes, teaching in English or international student recruitment. Responsible global citizens will understand modern contests for resources, space and quality of life, the relationship between the local and the global and will be committed to new pathways for human development and wellbeing.

“The curriculum is a key place in which to introduce emerging contests and create new pathways for human development and wellbeing.

In the last decade approaches to internationalizing the curriculum have emerged that focus on developing graduates as global citizens.

Such approaches are value-based and connected to the development of global citizenship skills, to sustainability education and to intercultural competence. They have seen a new paradigm of the inter-

nationalization of the curriculum emerging which draws on a broad understanding of the term 'curriculum'. The term 'curriculum', in practical terms is inclusive of the stated purpose of the curriculum as well as the teaching and learning processes and of what is assessed in the curriculum and the students' experience of learning beyond the classroom (on campus and in the community through activities organized by the university) (Barnett, 2000).

Internationalization of the curriculum

A new definition of the internationalization of the curriculum has been formulated:

Internationalization of the curriculum is the incorporation of international, intercultural and global dimensions into the content of the curriculum as well as the learning outcomes, assessment tasks, teaching methods and support services of a programme of study (Leask, 2015: 9).

In this definition the term 'programme of study' focuses attention on all students, all aspects of the learning/teaching situation and all aspects of the student experience, including the formal curriculum, the informal curriculum and the hidden curriculum.

The *formal curriculum* is the planned and sequenced programme of teaching and learning activities organized around selected and defined content areas and the learning outcomes that are described and assessed in various ways.

The *informal curriculum* includes the various organized and planned extra-curricular activities that take place on campus. It is an important part of the landscape in which the formal curriculum is enacted.

The '*hidden*' curriculum refers to those incidental lessons that are learned about power and authority through the way in which content is selected and activities are organized. It includes lessons about whose knowledge, as well as what types of knowledge, are valued and not valued. The hidden curriculum is shaped by the unconscious values and beliefs which determine what content is selected, how learning outcomes are described and learning activities are organized and what skills and knowledge are assessed.

Internationalization of the curriculum covers the content of the curriculum as well as the learning outcomes, assessment tasks, teaching methods and support services of a programme of study.

The intention of the curriculum is to enable learning. However, the curriculum can restrict learning if it is too narrowly focused. This issue is of particular relevance to reimagining the curriculum to develop responsible global citizens who understand the relationship between the local and the global and are committed to new pathways for human development and wellbeing.

An internationalized curriculum

Making a clear distinction between the process of internationalizing the curriculum and its product, *an internationalized curriculum* separates the means from the end.

An internationalized curriculum will engage students with internationally informed research and cultural and linguistic diversity and purposefully develop their international and intercultural perspectives as global professionals and citizens (Leask, 2015: 10).

The focus on 'a programme of study' highlights the need to plan and scaffold opportunities for all students to develop deep knowledge and advanced skills and hence move beyond approaches to internationalizing the curriculum based on isolated, optional experiences and activities for a minority.

Responsible global citizenship

While the rationale for the internationalization of the curriculum has repeatedly been associated with preparing graduates to live and work locally in a globalized world, the term 'global citizenship' is contested. Is global citizenship possible in a world in which the nation-state dominates politically and the gap between the rich and poor of the world is widening? Some argue that the pursuit of global citizenship as an outcome of international education is not even desirable, that it will inevitably exclude some. This could inadvertently further increase the privilege and power of some groups compared with others, creating a stronger global transnational elite (De Wit and Leask, 2015: 11). This will simply increase the negative impacts of globalization. Furthermore, as far as the use of the term global citizenship is concerned, a shift in focus and priority from meaningful contribution to society towards global professionalism and employability has been observed, whereas all aspects are important and inter-related.

Thus, it is important to avoid a simplified use of 'global citizenship' as a fashionable synonym for internationalization and international learning outcomes, without giving a real meaning and strategic focus to it. This tendency is, for instance, illustrated in the priority given by leaders of higher education institutions around the world in the 4th Global Survey on Internationalization of Higher Education of the International Association of Universities (IAU) to global citizenship and improving the quality of education and research. By far the most frequently given answers to the question about the expected benefits of internationalization in the survey are 'Students' increased international awareness and engagement with global issues' (32%), followed by 'improved quality of teaching and learning' (18%) (Egron-Polak and Hudson, 2014). However, de Wit and Beelen (2014) conclude from the answers to other questions that in reality the focus is more on mobility than on those two issues.

One way forward is to focus the internationalization of the curriculum on all students and to further develop the concept of 'responsible global citizenship' through the lens of cosmopolitan learning.

The lens of cosmopolitanism applied to the development of global citizens focuses on students' moral improvement by building their critical understanding of the world. Responsible global citizens will understand local issues within the 'broader context of the global shifts that are reshaping the ways in which localities, and even social identities, are now becoming re-constituted' (Rizvi, 2009: 254). Responsible global citizenship, and those who seek to develop it in students, will recognize that all human beings need to think locally, nationally and globally and be committed to 'a form of cosmopolitan citizenship that emphasizes collective wellbeing connected across local, national and global dimensions' (Rizvi, 2009: 202). Responsible global citizenship can be cultivated through education and experience.

Responsible global citizens will see their own nations as part of a complicated world order in which 'issues of many kinds require intelligent transnational deliberation for their resolution' (Nussbaum, 2010: 26); and they will have 'the ability to recognize fellow citizens as people with equal rights, even though they may be different in race, religion, gender and sexuality' (Nussbaum, 2010: 25). They will look at and treat others with respect, 'as ends, not just as tools to be manipulated for one's own profit' (Nussbaum 2010: 25). Principled decision-making, solidarity across humanity (Schattle, 2009), internalized civic ethics or values (Kubow et al., 2000) and actions that support the collective wellbeing (Rizvi and Lingard, 2010) are key characteristics of responsible global citizens. Responsible global citizens will be

“Responsible global citizenship development requires institutional approaches that recognize internationalization as a powerful force for change on a personal and a global level.

deeply committed to solving the world's problems and well equipped with the knowledge and skills required to create new and exciting possible worlds. They will be aware of how their actions affect others, show concern for the wellbeing of others. They will demonstrate a commitment to action locally and globally, across social, environmental and political dimensions in the interests of others. Awareness of self and others, of one's surroundings and of the wider world coupled with responsibility for one's actions characterize responsible global citizenship.

The development of responsible global citizens is facilitated by a focus on:

- » Developing students' social consciousness and sense of belonging to a global community.
- » Cognitive justice.
- » Supporting faculty and teachers to teach and assess learning outcomes related to the development of responsible global citizens.

Implications for higher education institutions

In the rest of this chapter we discuss how institutional leaders might focus curricula on the development of responsible global citizens who understand the relationship between the local and the global and are committed to new pathways for human development and wellbeing. The discussion is illustrated with examples of approaches and activities that institutions and individual staff members have taken towards this end.

Focus the curriculum on developing students' social consciousness through action

The development of all students' social consciousness and sense of belonging to a global community through the curriculum requires purposeful alignment between institutional strategy and student learning outcomes in programmes and subjects. To understand the world as a global community re-

“If we combine the ideal of developing students' compassionate imagination with an education that ‘liberates’ students' minds, we create new possibilities.

quires a capacity for analytical thinking, argumentation and active participation in debate (Nussbaum, 2004). Simplified arguments and polarizations destroy relationships with those seen as ‘other’ within national and global communities. They have and will continue to create a divided, rather than a cohesive, world community. We must therefore equip students to critique and refute simplified polarizing arguments. Nussbaum (2004: 1) argues that this can be done through an increased focus on a liberal education in which ‘the idea of an inclusive global citizenship and the possibilities of the compassionate imagination’ are central. While the idea that education should ‘liberate’ students' minds is not new, the potential within an increasingly connected and yet divided world community is as yet largely unexplored. Nussbaum (2004) suggests that one way of creating imaginative understanding through education is to require all undergraduate students to undertake carefully constructed courses in the arts and humanities which bring them into contact with issues of gender, race, ethnicity and cross-cultural experience and understanding. This extends and deepens the approach to the provision of a ‘liberal education’ seen in many American colleges and universities.

Others argue that it is critical not only to raise students' social consciousness, but also to enable them to take action. This requires not only identifying the relevant competencies but operationalizing them as well (Wiek et al., 2016). Wiek et al (2016) define a competency as knowledge, skills and attitudes that are functionally linked and that together enable students to successfully complete tasks and solve problems related to, for example, sustainability. As the result of an extensive literature review they identify a set of five key competencies for solving sustainability problems. They describe exemplary, integrated problem-solving courses that facilitate a comprehensive approach to delivering the suite of key competencies at school, undergraduate and graduate level. All of the exemplars are small, optional subjects which engage students in real-world sustainability projects. The authors acknowledge the need to coordinate and align subjects taken across a programme of study to ensure deep learning and incremental development of skills, knowledge and attitudes associated with sustainability thinking and action across a programme of study.

Developing students' social consciousness through the curriculum

In the search for new forms of learning to develop the capabilities and values in students that will enable them to contribute to the wellbeing of the planet and its people, Wageningen University in the Netherlands offers a subject of six study-points or ECTS in which students create and implement a real-life personal sustainability action project of their own choice. Through the action project students address a particular sustainability concern in a manner aligned to their own vision and capabilities. The teaching approach is based on an open process of inquiry, sharing and learning from each other in a safe and trustworthy classroom environment. Students are exposed to lecturers who hold a range of different worldviews on and approaches to sustainability, and hence learn about a variety of concepts and applications associated with the quest for sustainability. Evaluation of the subjects has found that engaging students in real-life actions develops their self-efficacy. They personalize and operationalize their understanding of sustainability and increase their conviction that they have the power to make a difference in the world (Wals et al., 2016).

Modify the curriculum to achieve cognitive justice

We urgently need to develop a more inclusive understanding of knowledge in universities in order to build our capacity to find solutions to complex problems in local and global contexts.

Cognitive justice requires a more inclusive understanding of knowledge. To achieve cognitive justice we must be prepared to move beyond dominant approaches to knowledge which are inextricably and almost entirely linked to the market and the economy and simply reproduce and reinforce existing society from generation to generation (Escrigas et al., 2014). A useful starting point is to recognize that our own vantage points blind us from seeing what we teach (e.g. history; politics; medicine) from a different socio-cultural perspective that might be equally or even more informative (Wals et al., 2016: 25). Next, we must change the curriculum (including content, teaching and learning activities, assessment) to be more inclusive of alternative perspectives to those that currently dominate our choice of texts and our approaches to learning and teaching. A more inclusive understanding of knowledge provides the foundation for a cognitively just curriculum and strengthens the capacity of universities to find solutions to complex problems.

We cannot achieve any of the above without a critical examination of the ways in which we approach knowledge production as well as knowledge dissemination in higher education. In areas such as medicine, physics, nutrition and geology it has been argued that commercial funding of research has resulted in competition and economic self-interest replacing the common good of humanity, and secrecy and restricted access replacing the open sharing of ideas and the exploration of all of the possibilities afforded by new knowledge. McArthur (2013: 75) argues that if commercial research is allowed to dominate it will result in an 'enormous distortion' to the whole community of knowledge and social injustice on a global scale.

Responsible global citizenship development requires curriculum content that engages with multiple and global sources of knowledge in which students explore how knowledge is produced, distributed, exchanged and utilized globally.

An approach to the development of global citizens within a cognitively unjust curriculum rather than one based on an inclusive understanding of knowledge, may lead to graduates focused more on increasing their own economic and social power through the intentional or unintentional exploitation of others. A curriculum that develops responsible global citizens must address the complex, contested and dynamic nature of knowledge and ensure that the scope of whose knowledge counts in the curriculum is broad.

There are many starting points on this journey. If policy is the starting point, care must be taken to align policy with practice. For example, an institutional policy that all students will be educated to be responsible global citizens will need to ensure alignment between this policy and student learning outcomes. Approaches to this might include requiring that learning outcomes for all students at programme and subject level specifically address global citizenship skills, knowledge and values in the context of the discipline and programme of study. The example provided in Table 1 is of an approach taken in some Australian universities where faculty members are required to describe learning outcomes in terms of global citizenship or sustainability thinking, and to assess those learning outcomes as part of the formal curriculum for all students across all programmes of study. Such an approach can also be used to make students aware of the issues of power and cognitive injustice at the heart of the curriculum, and the possibilities of taking action locally on global issues.

Table 1: Connecting institutional policy with learning outcomes

	Example of related programme-level learning outcomes	Example of related subject-level learning outcomes
Institutional policy states that all graduates will be responsible global citizens	Graduates will be able to analyse the cultural foundations of knowledge in the discipline	At the end of this subject students will be able to critically reflect on the way in which their personal values have been influenced by their social, cultural and economic contexts
	Graduates will be able to explain the possible consequences of research agendas being dominated by those in the world who have greatest social and economic power	At the end of this subject students will be able to analyse data related to the international sources and distribution of funding for research
	Graduates will be able to analyse the impacts of local action on global issues	At the end of this subject students will be able to design a project involving the local immigrant or refugee community

Source: Based on (Leask, 2015: 74)

A commitment in policy and descriptions of intended learning outcomes for all students, such as those above, are the first critical stages in constructing a curriculum that will develop all students as responsible global citizens who are committed to new pathways for human development and wellbeing.

Policy and strategy must also, of course, be communicated effectively to staff by leaders who demonstrate their commitment to these outcomes by supporting teaching and faculty members to describe and achieve them by developing students' international and intercultural understanding and social consciousness across all programmes of study; and ensuring that within those programmes of study the scope of whose knowledge counts is broadened beyond the western canon and dominant knowledge paradigms.

Whose knowledge counts?

Indigenous knowledge is often absent in the curriculum, with students and staff lacking even a fundamental understanding of the origins and potential of indigenous knowledge. As part of a strategy to ensure all students have some understanding of local indigenous knowledge La Trobe University in Australia requires all commencing students to complete a brief compulsory module which explores indigenous Australian history, culture and customs and the foundations of indigenous knowledge. *Wominjeka La Trobe* is a short 1-hour compulsory online subject which simultaneously communicates the extent to which the university values indigenous knowledge and develops in students a broader graduate capability of cultural literacy. The subject requires students to engage in critical reflection about the cultural foundations of knowledge and their own attitudes, values and beliefs.

<https://www.latrobe.edu.au/students/subjects/current/abs0wom-wominjeka-la-trobe>

A range of other approaches to reimagining the curriculum through, for example, a lens of 'de-westernization' are described in Leask (2013) and Green and Whitsed (2015).

Supporting faculty members and teachers

Support for faculty engagement in the process of internationalizing the curriculum is crucial. A number of studies have highlighted that even those staff who are committed to developing responsible global citizens by internationalizing the curriculum often have no idea where to start. The internationalization of the curriculum begins within the disciplines and with the faculty members within and across discipline communities (Clifford, 2009; Leask, 2013). It cannot be effectively implemented from an International Office. The starting point for internationalizing the curriculum is why it is important for the global community and how it might be approached in the context of their discipline, the institution and the particular programme of study. Green and Whitsed (2015) found that while many faculty members want to enable their students to live and work ethically in a complex, troubled and rapidly-changing

world, many do not know how to develop these skills and dispositions in relevant, meaningful ways within the context of their discipline. Reaching an agreement on the rationale for internationalizing the curriculum in the programme of study they are responsible for, helps staff to get started on the process (Leask, 2015). This is the precursor to the development of programme and discipline-specific:

- » International and intercultural learning outcomes
- » Appropriate learning activities to assist all students to develop these in different subjects across the year levels of the degree
- » Assessment and reporting of students' achievement of the described learning outcomes.

If well managed, diversity in the university and in the community can be a powerful tool for internationalizing the curriculum and developing responsible global citizens. It can provide opportunities for active learning and the achievement of international and intercultural learning outcomes through immersion in a cross-cultural environment. If poorly managed, cultural diversity can result in 'increased tension, frustration and, at worst, the reinforcement of prejudices among students' (Ramburuth and Welch, 2005: 6). Research over more than 10 years confirms that it requires careful planning and skilful teaching to use diversity to create dynamic intercultural, global learning communities and that diversity on its own will be enough to internationalize the learning of all students (Leask and Carroll, 2011). The role of the teacher is critical in the realization of diversity as an asset, particularly when the inevitable 'blind spots' and 'inaccessible places' are encountered (Jiang, 2011: 397). Diversity can be used to develop a learning culture that intentionally exposes students to multiple, competing perspectives and connects and challenges (Crichton and Scarino, 2007; Zhao et al., 2005). One of the most important roles of the teacher in the internationalized curriculum is to create bridges between students from different backgrounds, to stimulate engagement and reflection and to engage students in action-based learning.

Another critical role for faculty members is to assess students' development and achievement of the learning outcomes that describe the responsible global citizen or are associated with sustainability education within their programme of study. They need to provide specific feedback on, and assess student achievement of, clearly articulated international and intercultural learning goals related responsible global citizenship and/or sustainability.

The importance of the role of the teacher in the development of graduates as responsible global citizens cannot be underestimated. It is critical to support those who teach an internationalized curriculum as well as those who complete the design work.

Research has shown that it is effective to identify programme leaders who are committed, bring in an expert facilitator to work with the programme leader and a small group of staff who teach into the programme and to create critical spaces where dynamic and transformational curriculum internationalization conversations that harness the power of the imagination can occur (Leask, 2013; Green and Whitsed, 2013).

We must pay more attention to supporting staff in the process of internationalizing the curriculum with a focus on the development of responsible global citizens.

Faculty members connect institutional policy with student learning through the curriculum; therefore, we must pay more attention to supporting them in the process of internationalizing the curriculum with a focus on the development of responsible global citizens. It is critical to engage them and support them through the curriculum internationalization process. Senior leaders can support faculty engagement in a number of ways (See Table 2).

Table 2: How can senior leaders support academic staff?

- » Senior leaders can create conditions where innovation in internationalization of the curriculum in the disciplines can thrive by:
- » developing and communicating an internationalization policy that clearly articulates a vision and the values that underpin that vision and providing support for staff and students to pursue and achieve that vision;
- » identifying leaders in different disciplines and programmes across the university with a commitment to internationalizing the curriculum through the development of students as global citizens and/or sustainability education;
- » providing time, space and opportunity for interested staff groups to meet, review, reflect, imagine and be creative as they plan the curriculum across a programme of study;
- » facilitating and supporting staff and student interactions within the university and with other groups in other universities who share an interest in the internationalization of the curriculum, global citizenship and/or sustainability education;
- » supporting and rewarding staff for their engagement in the process of internationalizing the curriculum;
- » supporting new forms of teaching and learning, including those focused on engaging all students in real-world problem solving within their local communities;
- » establishing a communication system and processes by which the organization can learn and develop from activity in internationalization of the curriculum, share exemplars and convert individual learning into organizational learning;
- » providing rewards in traditional 'academic' ways to those engaged in internationalizing the curriculum by, for example, supporting research and publication in the field and introducing staff and student awards focused on achievements in internationalization of the curriculum.

Source: Authors' own work

A study, *Internationalizing the Tenure Code*, by Robin Helms of the American Council on Education (ACE), stresses that faculty members are essential to the internationalization process and an essential condition for campus internationalization is to incentivize and reward staff for their involvement. However, the author found out that teaching with any international reference is rarely considered relevant to tenure and promotion criteria at American universities, 'a trend at odds with institutional goals for internationalization' (Helms, 2015).

Her study coincides with the conclusions of other studies – not only for the US – which found that what institutional leaders preach and what numbers pretend to show, are not always an accurate reflection of reality, and that internationalization as a result remains an isolated and marginalized process.

From concept to practice

In the 21st century we face the devastating effects of actions and approaches of the past. HEIs have a critical role to play in equipping graduates to solve the problems the world faces today and will face in the future. In this chapter we have explored the potential of the curriculum as a means by which universities can stimulate human activity, which creates dynamic and sustainable local and global communities. Haphazard approaches to internationalization focused on a minority of students or on profit rather than education are not sufficient, appropriate or effective in meeting this responsibility. A new paradigm of the internationalization of the curriculum focused on developing in all graduates the skills, knowledge and attitudes associated with responsible global citizenship has been described. These graduates will have a compassionate imagination and a commitment to collective wellbeing on a global scale. Some examples of good practice have been provided, but there is no one model that fits all. There are some principles that HEI leaders can adopt within the context of their own institutions and communities if they themselves are committed to 'becoming and being international' rather than simply 'doing international things'. Understanding internationalization as vision and value-informed practices is important, as is broadening the knowledge base of the curriculum beyond the European canon and Western limited views. These two things combined with action-based approaches to learning and teaching are a powerful combination.

HEI leaders will need to:

1. Consider internationalization as a means to enhance the quality of the education they provide to all students rather than a goal in itself.
2. Develop internationalization policies and activities that include all students and staff.
3. Address their rationale for internationalizing the curriculum in their internationalization policies and ensure actions and support mechanisms relevant to the specific needs of their staff, students and communities.

4. Put mechanisms in place to measure the quality of learning outcomes of all students in relation to global citizenship and sustainability, rather than relying solely on data such as the number of 'international activities' that are offered to students.
5. Encourage a bottom-up and inclusive approach, including students, faculty and the professional field in formulating and achieving internationalization learning outcomes.

Conclusion

Internationalization of the curriculum offers opportunities for the development of responsible global citizens committed to a sustainable future for all, but achieving this requires short-term, medium-term and long-term thinking and action on the part of HEI leaders. In the short term, a commitment to thinking differently and imagining new possibilities and approaches to internationalization are necessary. In the medium term, actions focused on reviewing and rethinking policies, strategies and taken-for-granted approaches to internationalization, including whose knowledge counts in the curriculum, are likely to be necessary to ensure alignment between vision, values and strategy. In the short, medium and long term supporting faculty engagement in the process of internationalizing the curriculum will be critical to success.

The curriculum is the means by which institutions can reach all students and make a meaningful contribution to society by ensuring that the students of today graduate ready and willing to make a positive difference in the world of tomorrow. An internationalized curriculum will look different across disciplines, programmes, institutions and regions. The concepts described in this chapter have to be implemented in the context of the region, country, institution and programme. There is no one model that fits all contexts.

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2.5. Curriculum, Higher Education, and the Public Good

Budd L. Hall, Nandita Bhatt, Walter Lepore

Abstract

Curriculum change in higher education is an extremely complex process. Influences on the content of what is taught in higher education include new knowledge coming from the various academic disciplines, from the regulatory bodies of many professions, from national calls for action, from global challenges, and from social movements of the day. This chapter argues that in the search for excellence, engagement and social responsibility there is no contradiction between responding to local calls for action and global matters. Illustrations of curriculum change which attend to both the local and the global include classroom changes, single university changes and system-wide changes in Canada, Asia, Latin America and New Zealand. We call for more attention to community engaged learning and the creation of central offices for community university engagement.

Faced with the complexity of current and future global challenges, higher education has the social responsibility to advance our understanding of multifaceted issues, which involve social, economic, scientific and cultural dimensions and our ability to respond to them. It should lead society in generating global knowledge to address global challenges, inter alia food security, climate change, water management, intercultural dialogue, renewable energy and public health.

UNESCO Communiqué on Higher Education, 2009

The inequalities of the global age are just as profound and in part more complex than the realities of the era of colonialism. Academic systems will need to cope with the key realities of the first part of the 21st century for higher education.

Philip Altbach

Introduction

Higher education, particularly public higher education, like all other human institutions is a space of contestation. Almost without exception the leaders and contributors to educational life, to the business world, to politics, to science and the arts are products of our higher education institutions. The global middle classes see universities as the required preparatory step for their children to enter a world of work. Society recognizes universities as the main managers of the official knowledge production process. The market calls on universities to prepare flexible professionals for the global economic process.

However, deep societal and global challenges also reach out to higher education institutions for a response. Indigenous peoples and others call for decolonizing and/or indigenizing higher education. Climate change demands that higher education become more effective in the teaching and learning of what is needed for the survival of the planet. In a world of violence there are calls for universities to play a more intentional role in the reduction of violence against women, religious intolerance, nuclear proliferation and inequality. The public university struggles to respond to demands that it serve both the private and the public good.

A tension that this report is exploring is the relationship between the seemingly oppositional pulls to respond to the increasing calls for universities to become more active players in their communities and regions, while at the same time responding to being pulled in global directions by the phenomena of global competition as most commonly experienced by the higher education ranking systems. The argument in this chapter is that the global and the local are not oppositional aspirations. It is

“The global and the local are not oppositional aspirations.

visibility. The examples of curriculum innovation that are shared in this chapter illustrate ways in which higher education institutions are shaping curricula to meet both the obligations of local engagement and responsibility while at the same time keeping an eye on the global. There is an expression, ‘all politics is local’. The same is true with the grand challenges as expressed in the 2030 United Nations Sustainable Development Goals, ‘all global challenges are local’.

false to suggest that if a university robustly contributes to addressing needs locally that it will stagnate or fall in the global ranking game. Similarly, if a highly-ranked university begins to engage locally in some powerful new ways that does not mean that it will fall in rankings. The phrase, ‘locally relevant and internationally significant’ captures a spirit where excellence and engagement are synergistic partners with international quality and

“‘Locally relevant and internationally significant’ captures a spirit where excellence and engagement are synergistic partners with international quality and visibility.

Curriculum: a conundrum

For those with experience in curriculum development or curriculum inquiry linked to formal schooling in the first and second levels, the curriculum is a quite different fish. Ministries or Departments of Education in most parts of the world control public schooling. The state at a national or a regional level controls the broad or narrow elements of the curriculum as part of its accepted mandate. While different schools or teachers do take up the curriculum differently, the overall framework or syllabus for both elementary and secondary schooling exists. This is largely not the case in higher education jurisdictions around the world. The professions of engineering, education, medicine, social work, law, psychology and nursing, for example, most often have regulatory bodies made up of members of the respective professions. In these cases, through accreditation protocols, the professions themselves broadly influence curricula. The content of the curricula in these cases is not normally controlled by the state.

In those areas of higher education where one finds a majority of the students in the sciences, humanities, social sciences, fine arts and so forth, there are no regulatory bodies associated with the content. The curricula are organized through disciplines. Anthropology in one university is likely to look like anthropology in another university. History may well take diverse foci from one department to another, but it is the historians and the anthropologists in a complex way who affirm the appropriateness of a particular set of courses. At the heart of university curricula are the individual course instructors and professors.

And while inter-disciplinary or problem-focused academic programmes have increased in number over the years, the disciplines remain firmly in control of the canon in the vast majority of universities. And as Philip Altbach points out, the central higher education canon is increasingly dominated by English language and Western knowledge based content (2004: 3-25).

But when we take even a brief look around the world, we can see that in spite of the fragmented process of curriculum change in higher education, change is happening. While it is true that universities around the world are for the most part teaching from the dominant Western canon – what some would call a colonial knowledge framework –, there are changes within the disciplines and there are even new ones arising. These new disciplines have sprung up as part of a complex interactive global discourse among academics, public intellectuals, social movement activists, political voices and others.

Influences on curriculum change

What are some of the factors that influence changes in higher education curricula? Leadership in our universities does make a difference. The strategic plans, the academic mission and broad statements of purpose of our universities make a difference. This is particularly true if the central planning process has some funds for innovation along the lines of the strategic mission of the institution. Over the past few years we have seen many universities take up the issue of global citizenship, for example, with an aspiration to support students to become more effective as truly global citizens. Other universities have focused on the principles and processes of engagement, with an expectation that engaged learners will learn well and be better prepared to play an active role in society. The notion of the civic university has found traction over the past years. The big challenges of our times also have an impact. Climate change when taken up by university leaders has had an impact in some universities, encouraging academics who have similar interests and concerns. The Rio+20 conference on the environment has had a strong influence on higher education for sustainable development initiatives (Tillbury, 2010: 101-107). National interests can have an impact. In 2015, Canada released a Truth and Reconciliation Commission report on the historic genocidal practices of the colonial settler Canadian government on the indigenous peoples of that nation. Universities have seen strong growth in a diverse number of courses and programmes in indigenous studies. The recent increased attention to the global refugee crisis has led to the creation of new courses and other curricular innovations in many parts of the world.

Community engaged learning as curriculum innovation

Central university support of engaged learning, community-based experiential learning, and similar concepts has certainly encouraged curricular innovation (McRae, 2015:137-144). A belief that all students should have an experience in community and/or workplace learning, regardless of the programme of study must, in those institutions that are known for this approach, have had a deep

“Central university support of engaged learning, community-based experiential learning, and similar concepts has certainly encouraged curricular innovation.

impact. **Engaged learning, responding to the grand challenges of our times, taking action on deep issues such as reconciliation between indigenous peoples and others, and positive efforts towards decolonizing curricula have an impact because they are not discipline specific.** The specific way that individual academics, departments and faculties respond to these higher-level challenges is left where it belongs in the departments and faculties, but in-

novation does take place. The Stanford University definition that is shared by a number of Canadian universities understands community engaged learning (CEL) as a course, internship, or programme that includes an engagement with a community that addresses societal needs. It is an intentional integration of learning objectives and experience with/ in the community. Other variations of the concept include service-learning (particularly in the USA), and cooperative learning (workplace placements in all kinds of disciplines). McRae writes of the skills that students learn in the context of CEL, which can contribute to their ability to be change agents (2013:118). While her research draws primarily on engagement in workplace settings that include both market-based and community-based jobs, her work on competencies acquired through CEL can be applied across work-based settings.

“Engaged learning, responding to the grand challenges of our times, taking action on deep issues such as reconciliation between indigenous peoples and others, and positive efforts towards decolonizing curricula have an impact because they are not discipline specific.

The influence of community-based research

Community-based research (CBR), participatory research and engaged scholarship have emerged over the past 20 years as part of the increased attention to community university engagement in general. The UNESCO Chair in Community-Based Research and Social Responsibility in Higher Education in particular has carried out a number of global studies on the development of these approaches (www.unescochair-cbrsr.org). **CBR emphasizes the co-construction of knowledge between academics**

“CBR emphasizes the co-construction of knowledge between academics and those outside of the academy, research partnerships where community members as well as academics are mutually acknowledged as knowledge makers.

and those outside of the academy, research partnerships where community members as well as academics are mutually acknowledged as knowledge makers. These forms of engaged scholarship are also having an impact on the curriculum in a variety of dis-

ciplines as the lines between instructors, learners and community leaders are blurred in a variety of approaches to community engaged learning.

Stories of curriculum change

University-wide innovation: Interdisciplinary Laboratories at the Universidad Nacional de General Sarmiento (UNGS), Argentina

The UNGS is a small public university intentionally created to meet local and regional education needs that were not covered by traditional academic offers. Its main campus is located in the Province of Buenos Aires, more specifically in Malvinas Argentinas, a locality marked by high levels of poverty and other related factors that have an adverse impact on living conditions. Since its inception in 1992, the UNGS has been conceived of as a space to articulate the convergence of research, teaching and community services to contribute to the socioeconomic development of local communities. The relationship with the local context is a key component of the identity of the UNGS, which has determined its origin, strategic project, institutional design and ongoing development. Most UNGS students are first-generation college students.

The UNGS has, since its creation, followed a university model that is mainly articulated around problems and themes, instead of traditional disciplinary bodies. Briefly, this involves adding to the traditional functions of producing and disseminating knowledge the explicit intention of conducting multidisciplinary research linked to the needs, problems and challenges that emerge from interaction with social actors in the immediate context. Interdisciplinarity is core to the UNGS, in such a way that the research, teaching and services functions are grouped into four multidisciplinary institutes: Institute of Science (ICI), Institute of Conurbano (ICO), Institute of Human Development (IDH), and Institute of Industry (IDEI). The institutes are academic management units that define the democratic and horizontal governance structure of the university.

Curriculum change happens through the integration of service-learning, community-based research and community action. The UNGS has a Community Service Centre intentionally designed to connect students, faculty members and a variety of stakeholders (governments, private firms and civil society organizations [CSOs]) through the management, promotion and dissemination of local and regional development projects. This unit integrates the service-learning (S-L) and outreach initiatives presented by UNGS professors that have an impact on teaching, technical assistance and research. Thus, the three principles that structure the institutional identity of the UNGS (i.e., research, teaching and community services) are embodied in the development of training courses and diplomas for non-academic stakeholders, external consulting services, basic and applied research, and local development projects that contribute to strengthening science and technology. These services are offered to achieve two critical goals: (i) to provide solutions to problems identified by civil society actors; (ii) to strengthen the entire process of knowledge production and the existing training and teaching practices within the UNGS.

In order to institutionalize the interaction mechanisms between the UNGS and the community, the Community Service Centre – advised by local CSOs – created the Social Council of the UNGS in 2012. This is a collegial body that presents projects that attend to the social, economic, cultural and educational needs of the community, recommends actions and procedures to consolidate community university engagements, promotes contracts and agreements between the UNGS and CSOs, and advises the university's authorities on matters related to institutional articulation and cooperation with the community.

Regarding the engagement of faculty members in S-L activities and projects, the provision of community services by the academic staff is a main component of its participation in the institutional life of the university. Going beyond what is mandated by law – and in line with the institutional identity of the UNGS –, the processes for selecting and promoting academic staff incorporate specific criteria and scores to assess (and award with extra points) candidates who have provided community services and incorporated civil society actors into the co-creation of knowledge in their previous academic experience.

Regarding the curricular links of the S-L practices promoted by the institutes, the UNGS has systematized a pedagogical experience called 'Interdisciplinary Laboratories' aimed at overcoming the traditional, paternalistic approach to university extension. The UNGS has three laboratories (Environmental, Entrepreneurial skills, and Social networks and living conditions) that are part of the curricular structure of all the degrees. This pedagogical approach articulates the acquisition of specific theoretical knowledge with practical interventions to solve a problem presented to the UNGS by civil society (Abramovich et al., 2012). As stated by a UNGS professor: "The contribution made by the university has to be embedded in a strategy that belongs to other people. You may agree with them due to political-ideological reasons, but it has to be externally defined, it does not belong to you...The impact [of this pedagogic practice] on the UNGS is huge; the impact on the CSOs depends on the institutional relevance of the problem or need that has to be addressed".

Since the implementation of the laboratories about 10 years ago as mandatory courses, the UNGS has collaborated with over 35 social organizations and networks in the metropolitan area of Buenos Aires. In 2008 and 2010 the Laboratory of Social networks and living conditions was selected by the Presidential Prize 'Solidary Educational Practices in Higher Education' as one of the top 20 S-L experiences in Argentina. This recognition has helped the systematization and consolidation of the laboratories within the UNGS and the external dissemination of the learning experiences through the participation of teachers, community partners and students in congresses, seminars and international meetings on university extension and S-L.

Course-based innovation: refugees, democracy and action at the University of Victoria, Canada

This example illustrates a course-based community engaged learning curriculum innovation brought about in response to a global issue of some magnitude. In September 2015, a photograph of a policeman in Greece holding a young Syrian child in his arms, a child who had died in the attempt to travel from Turkey to Greece to seek asylum in Europe, ignited a wave of interest from people from around

the world about the plight of the Syrian and other refugees. The School of Public Administration at the University of Victoria decided to organize an experiential course for year-two students to provide them with an opportunity to learn more about the refugee situation as it pertained to Canada and the community of Victoria, as well as to the world. The course was also designed to provide students with an opportunity to learn skills in community development that could be used in other settings and was based on the premise that the global refugee crisis had local implications.

The course was based on a model of experiential learning using a pedagogical approach called 'pedagogy of hope'. In addition to experiential learning, the pedagogical framework drew on transformative learning theory and indigenous ways of knowing. The course was also co-designed, in a form of community-based curriculum design, with the leading immigrant settlement agency in Victoria, the Intercultural Association (ICA). Students were responsible for their own learning through a contract learning arrangement where students contracted for the grade that they wished to receive. They could improve their grades by taking on additional tasks. All students were expected to participate in the collective planning of a World We Want fundraising event that marked the end of the course. In addition, they had a choice to participate in a community-based research course with ICA members, in creating a video documenting the course, or in video storytelling with immigrant students at a local secondary school.

Dr. Nick Claxton, a Tsawout indigenous scholar, grounded the course in an introduction to the land given from a local sacred mountaintop, P'Kols. Students were told the story of the land and the people who have lived there for more than 10,000 years. Two critical points arose from this experience: the importance of place to all peoples of the world, making the need to leave their home such a great loss, and the historical fact that with the exception of the indigenous peoples of Canada, the entire population of Canada are, or are descended from, refugees, immigrants and other forms of settlers. As the course continued, speakers included recent refugees to Victoria, scholars of immigration studies, leaders of the settlement agency, artists and community development workers.

The arts in the form of theatre, drawing, mural making, poetry and song were introduced to the students as tools for representing complex social and political issues related to the issues of immigration. The arts were taught as well in preparation for the World We Want closing festival and fundraising event at the end of the course. The final project was a public event at the city hall in Victoria. The students had created 'stations' representing the journey of refugees escaping from their country, to life in the refugee camps, to travelling to their new homes, and to learning in their new homes.

System-wide innovation: TeWhareWānanga O Awanuiārangi-New Zealand/Aotearoa

The second example is an illustration of an institution-wide and system-wide curriculum innovation in response to the desire to create decolonized higher education institutions in New Zealand/Aotearoa. TeWhareWānanga o Awanuiārangi was established in 1991 by Terūnanga o Ngāti Awa, and opened in 1992 before officially becoming a Wānanga in 1997. Awanuiārangi is one of only three institutions designated as Wānanga under the Education Act 1989. A Wānanga is a tertiary educational institutional designed to provide learning opportunities, in particular to Māori students, and to focus on the

development of Māori studies in general. The establishment of Awanuiārangi was an important step that recognized the role of education in providing positive pathways for Māori development. This means that Māori knowledge and practices are key components of the academic programmes, teaching delivery and student experiences.

Kaupapa Māori is the conceptualization of Māori knowledge that has been developed through oral tradition. It is the process by which the Māori mind receives, internalizes, differentiates and formulates ideas and knowledge exclusively through te reo Māori (the Maori language). Graham Smith Hingangaroa, a distinguished Māori scholar and academic leader, has been the vice-chancellor of Awanuiārangi. He is credited with playing a key role in the modern day conceptualization of the concept of Kuapapa Māori (1997).

What is of particular interest in the case of the establishment of a Māori university with an entire set of courses, certificates and diplomas built around Kuapapa Māori is that this one of the few examples of a university somewhere in the world that has been built on a knowledge system that differs from the dominant university content worldwide based on Euro-centric Western knowledge. There are 350 million indigenous peoples in the world. There are thousands of knowledge systems or epistemologies. This example shows that under certain circumstances, even what seems to be a quite radical curriculum change can take place.

The university as a garden: educating for sustainability – University of Science, Malaysia

The environmental movement with its first global meeting in 1992, followed by Rio+20 and linked to the contemporary climate change concerns is another global challenge that has had the power to influence higher education curricula. When higher education leaders are able to articulate the links between the calls for more sustainability in ways that can involve at least some of their academic colleagues, change is a result. A case in point is the role played by Dr. Dzulkifli Abdul Razak, the former vice-chancellor of the Universiti Sains Malaysia (USM) and the current president of the International Association of Universities. The story of how the USM has undergone a series of substantial curricular changes through learning by doing is worth telling (Razak, 2009: 1-6).

Convinced that universities everywhere must change to embrace a globalizing world, USM has embarked on a long-term strategy to make sustainability a major mainstream guiding principle. USM believes that its large pools of disciplinary experts, high quality research facilities, excellent infrastructure and a cohort of students with varied academic interests will help to promote sustainability in the communities it serves. The USM has also tacitly accepted a responsibility to be the 'social conscience of society', in addition to playing the traditional role of disseminating knowledge.

Drawing on the metaphor of a 'university in a garden', the USM leadership encouraged members of the university community to imagine being in a garden and learning from the environment. Becoming aware of ancient, ecological and spiritual knowledge can be learned from a new relationship with the rest of nature. The means moving beyond the Western concept of nature as other or as non-human towards a perception of all knowledge, all life forms and all ways of knowing as part of the river of life,

including spiritual life. A point made by the USM leadership is that attention to the local, the community, the ecological, the indigenous and the Malaysian is also a way to achieve high level global recognition. The Western model of higher education is not the only yardstick for measuring excellence.

Civil society and universities acting together: campaigning against violence against women Bhagat Phool Singh University and the Society for Participatory Research in Asia (PRIA), Haryana, India

Bhagat Phool Singh University (BPSU) is the first women's university in northern India. There are over 6,000 students studying a full range of undergraduate and graduate programmes. In a climate of public visibility towards violence against women and girls in India, BPSU began working with PRIA in a campaign approach to tackle the issues of violence in the communities near the university and including the university itself. The campaign was conceptualized, designed, strategized and driven by youth; both boys and girls from urban and rural spaces. The goals were to develop an understanding of gender inequality and discrimination at the root of violence against women and girls. Partners were universities, adolescent youth groups and community-based organizations (CBOs). It was an example of community university engagement with equal participation of boys and girls.

Findings: A study of the collaboration showed that the university was not as safe as the management thought it was. Spaces such as the academic block, library, hostels, cafeteria and staff quarters were all found to be extremely unsafe; leaving only the main gate and the road leading to it as safe. One of the findings of the study was that there was no anti-sexual-harassment committee in the university. Recommendations for actions were put forward and taken up by the university authorities. Students shared the study with the management and a committee was formed and PRIA was invited to be a third party facilitator. One of the cases that the committee dealt with later was a case of sexual harassment of students by their male teacher.

Campaign activities: The university hosted an event on its premises at the end of the campaign. More than 600 young people (both boys and girls) from 22 villages attended the event. The event was a youth sports event in which both boys and girls participated.

Proposals for action

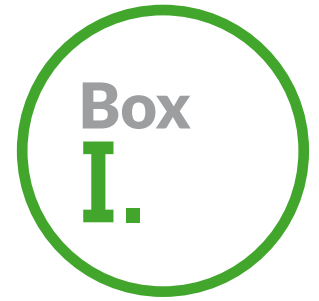
A review of innovations in local-global curriculum changes in various parts of the world suggest that the following actions would be helpful in accelerating institutional change:

1. **Support the expansion of community engaged learning** so that all students have an opportunity for well-supported reflective action learning in community and social movement contexts.
2. **Create community university engagement offices** or similar organizational structures that bring the engagement mission greater impact and better integration of research and teaching.

3. **Increase interdisciplinary opportunities for teaching and learning** linked to critical global issues such as those expressed by the United Nations Sustainable Development Goals.
4. **Support the development of community-based curriculum development** jointly between academics and community organizations.
5. **Create problem- or issue-focused teaching and learning centres** or institutes that cut across disciplinary boundaries.

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The Example of the University of Western Sydney in Teaching and Learning for Glocal Engagement

Reena Dobson and Denise Kirkpatrick

Western Sydney University is located in the Greater Western Sydney (GWS) region of metropolitan Sydney in New South Wales (NSW), Australia. It is Australia's third-largest economic region, one of the fastest-growing areas in NSW, and an area of significant cultural diversity. The university was established by an Act of Parliament which specifically charged it to focus on the needs and aspirations of the Greater Western Sydney community. The university is committed to this remit, and is proud of its earned moniker, 'the university for the people'.

The university is the largest education provider in the GWS region. It is an important institution in the complex educational, social, cultural and economic landscapes of Greater Western Sydney. Although centred in the GWS region, the university also looks outwards, with its aim to be 'a university of international standing and outlook'.

The university's School of Medicine is an example of a recently established school founded with an explicit rationale to engage with the regional GWS area, its people, professions and needs. The school is unique in Australian medical education in that it is responsible for training the next generations of doctors who are skilled in working in, and with, the community – particularly in addressing health inequity. The school is founded on the belief (supported by evidence) that if you train professionals in the local area they are more likely to stay and work in that region. This has obvious benefits for workforce development, community cohesion and the economy.

The School of Medicine's engagement with the GWS region and community is a key feature of its teaching and research engagement. It develops graduates who participate actively and responsibly in a diverse and changing world. The school also produces translational research outcomes which are of benefit and relevance to the community, while making significant contributions to national and international debates in medicine, health and biomedical research and education.

The School of Medicine embodies the Western Sydney University ethos of being engaged with the region in all its complexities – being part of it, contributing to it, as well as learning from it – while having an external focus, and forging strong partnerships nationally and internationally.

Western Sydney University prides itself on its inclusivity, with the aim of widening participation in higher education. This is reflected in the fact that the majority of the university's students are first-in-family university students. The raison d'être for establishing a new medical school in Western Sydney was to address the chronic shortage of medical professionals in the region. At least half of the students offered a place in Western Sydney Medical School currently live (or have lived for five consecutive years) in Greater Western Sydney. The GWS region has a high proportion of low socioeconomic status (SES) areas and the Medical School has a significant number of low SES students. The school has been successful in widening participation rates

in a discipline that has traditionally excluded students from low SES backgrounds.

Within the national context, it is a new medical school in a region undergoing rapid growth in medical education disadvantage as it pertains to Greater Western Sydney and aboriginal and Torres Strait Islander health. Its research is directed at achieving advances in knowledge, and producing innovative solutions to improve the wellbeing of Western Sydney and similar communities nationally and internationally.

Community insight and engagement are integral components of the School of Medicine's teaching programme on a number of levels.

The School of Medicine has worked closely with the local and professional communities in Greater Western Sydney to develop a curriculum and approach to teaching that meets professional accreditation requirements and addresses regional priorities. It has:

- » Used community input to:
 - Highlight the skills medical practitioners need to work effectively in GWS;
 - Develop partnerships where students can learn these skills; and
 - Undertake research into areas that are deemed important by local communities.
- » Established learning principles which:
 - Introduce community engagement early in the course;
 - Use those community connections throughout the whole course; and
 - Systematically build students' community engagement competence.

» Stated clearly student outcomes that will result from their community engagement. Specifically, students will:

- Develop competencies in working with communities;
- Develop insights into community issues and how these might be tackled; and
- Appreciate their role as doctors working among these issues and as a part of a team.

Furthermore, the School of Medicine has incorporated its commitment to the region into its admissions process. The school allocates a proportion of the interview places available for admission to applicants from the GWS area. Representative of health services from the region are included on student interview panels as part of the selection process.

Other practical forms of community engagement undertaken by the School of Medicine include:

» The integration of community-engaged learning is woven throughout the medicine curriculum, including student placement in various community settings and community-based health and related services;

Much of the student placement programme is based in the GWS community – across hospitals, general practices and (large and small) community organizations. The majority of these placements occur across Western Sydney.

- » Community representation is included on several school management committees;
- » Community partnerships are evident in research;
- » The school has clinical schools located in the GWS community;

- » The school has strong relationships with Local Health Districts and Primary Health Networks among others.
- » School of Medicine staff (and, where relevant, students) are active participants in pertinent community activities/events, including health check/outreach activities.

All of the activities listed above involve staff and students working in the local community and local hospitals and health settings. Students develop an understanding of health issues that are common in areas of social disadvantage and skills in working in communities. They practice in the local health system, work with staff in local hospitals, hospital staff teach in the university's programmes and strong research collaborations have developed between industry and university staff.

The curriculum integrates international dimensions, incorporating international research and practice while providing students with the opportunity to work closely with local hospitals and staff. Students and university researchers apply findings from international research to local problems.

Graduates of the programme take up training positions in Western Sydney with up to 70% taking primary intern allocations in Western Sydney Networks.

Western Sydney Medical School was established with a clear intention to be an institution that provides an excellent medical education, and an institution that contributes significantly to medical research. The school's research success has continued to grow, building on the strong expertise in clinical sciences and neurosciences, productive clinician-scientists as well as basic and applied scientists. A significant feature of the medical research conducted by researchers of the Western Sydney Medical School is their

leadership of important community-aligned clinical trials.

A flagship of the medical programme is its focus on aboriginal and Torres Strait Islander health and issues and a feature of the programme is a separate entry stream for aboriginal and Torres Strait Islander students. The Indigenous Entry Scheme is designed to recruit highly-motivated students into the course on the basis of a structured interview and academic merit. Since the first students graduated in 2011, Western Sydney Medical School has graduated 18 indigenous students, most of whom have remained in the area or returned to their rural home locations to practice.

The School of Medicine at the Western Sydney University is just one example of the way in which a major metropolitan university has developed programmes that engage staff and students deeply with the local community and industries while maintaining a global focus. This programme successfully trains medical practitioners to understand the health needs of a major region, contributes to local workforce development, conducts original and translational research addressing community health needs and supports strong collaboration between practitioners in the region and the staff and students of the university.

3

Global Knowledge and Responsible Research

3.1. The Role of Research in Shaping Local and Global Engagement

Paul Benneworth

Abstract

University research has the potential to help solve the grand challenges of the 21st century through local and global engagement. Universities are quintessentially socially engaged institutions that have been supported by external patrons because their activities are socially useful, and that has expanded recently in the context of an emerging global knowledge society. The rise of the Grand Challenges and the adoption by the UN of their sustainable development goals as the overarching societal development challenge for humanity provide a clear articulation of how university research must be responsive to and responsible for creating the necessary knowledge base to solve these challenges. There are a range of emerging models of engaging with citizens locally to allow them to express to universities the ways in which these problems impact on their local communities as a first step in the research necessary to solve these problems. But there is a risk in trying to upscale these activities into strategic university goals. It is university scholars engaged with communities that will deliver improved local engagement, and universities need to find ways to empower these engaged scholars to stimulate their societal contributions, rather than create elaborate internal structures and global networks.

Introduction

The HEIW 6 report is being released amid increasing pressure on universities to improve their societal contributions to realize their potential in response to growing expectations across society. University research offers a substantial knowledge resource that can contribute to achieving the UN's Sustainable Development Goals. These expectations are expressed through several new engagement models that involve close, dynamic interactions between universities, government, business and society. There are two main model variants: the 'Mode 2' model regards science and innovation as shifting from separating research and exploitation in universities and businesses respectively to universities and businesses solving mutual problems collaboratively (Gibbons et al, 1994). The 'Triple Helix' model argues these partnerships also rely on their capacity to intermediate and address emerging barriers and obstacles to collaboration (Etzkowitz and Leydesdorff, 2000). Several critiques see these models as lacking societal input: Hazelkorn (2011) proposes a 'Mode 3' model based on maximizing social and public accountability, whilst Leydesdorff argues (2012) for Quadruple Helix models incorporating societal partners.

These models argue that this paradigm shift demands universities develop better structural connections to a wide spectrum of societal groups, both locally and globally; an argument that is central to this volume. Universities have often regarded this as a structure problem of aligning their researchers more clearly with these problems, but this perception ignores the paradox that directing researchers centrally to work on pre-defined 'societally-useful topics' stops those researchers from hearing the true voices and demands of the problem-sufferers (Greenwood, 2007). These groups are often socially-excluded and marginal groups that lack the organization to place their problems on strategic research agendas (Benneworth, 2013a), so hearing their voices requires a step-change in how universities understand marginal social actors' roles in creating societally usable knowledge. I argue that universities need to build strong dialogues with local excluded communities as problem-owners within these grand challenges, and use these dialogues to allow the communities real, deep-seated and meaningful influence on universities' developing strategic agendas within their wider global knowledge networks. **Using university knowledge to address the UN SDGs requires going beyond simplistic models of universities as knowledge producers to understanding how universities receive, interpret and respond to local community signals.**

“Using university knowledge to address the UN SDGs requires going beyond simplistic models of universities as knowledge producers to understanding how universities receive, interpret and respond to local community signals.

University social responsibility vs the socially responsible university

Universities are intrinsically societal institutions. As Biggar notes:

Right from their medieval beginnings, [universities] have served private purposes and practical public purposes as well as the sheer *amor scientiae* [‘knowledge for knowledge’s sake’]...popes and bishops needed

educated pastors and they and kings needed educated administrators and lawyers capable of developing and embedding national systems (Biggar, 2010: 77).

But these private sponsors are often uninterested in preserving the long-term knowledge corpus necessary for these immediately useful outcomes. Outcomes useful in the short-term depend on the existence of a usable long-term knowledge base and content, which is why, historically, technical colleges (centres of short-term vocational knowledge) are more likely to evolve into universities (with their long-term general knowledge base) than vice versa (Collini, 2011). This is not a new situation:

No modern university has ever lived entirely from the sale of its services. Universities have received subsidies from the church, the state, and private philanthropists as individuals and as foundations (Shils, 1988: 210).

The special subsidies are validated by a societal compact by which universities accept wider societal responsibilities in return for being granted freedoms to preserve and develop the knowledge corpus, representing a societal compact (Barnett, 2000). However, something has recently changed in this compact, and that is the urgency and immediacy of the pressure: universities could previously validate fulfilling their societal responsibilities through their existing teaching and research activities, similar to firms demonstrating their corporate social responsibility (CSR). But today universities face active pressure from governments to demonstrate that they are actively intervening and using strategic management to maximize the societal benefits they create and actively demonstrate compliance beyond teaching and research.

Universities are under pressure to do more than just demonstrate their social responsibility in teaching and research and to develop specific activities to help address the current grand challenges. The problem with CSR is that it encourages compliance to be demonstrated with 'responsible behaviours' rather than challenging underlying undesirable corporate practices. Indeed, recent scandals in the Bangladeshi clothing and Chinese electronic subcontracting industries demonstrate that even accredited compliance offers no guarantee of dignified workplaces. And just as glowing corporate CSR reports can exist alongside human rights abuses, under contemporary governmental pressure university engagement can collapse into a reporting practice justifying public support while totally disconnected from the underlying university ethos. A simple call for more active reporting by universities therefore risks encouraging universities to develop strategies and structures to validate the socially responsibil-

“A key challenge for universities in supporting the global societal transition is therefore to help create new kinds of social structure and organizational form, as well as new technological innovations to solve these problems.

ity of their existing practices rather than making practices more engaged – the slipperiness of social responsibility. If universities are serious, they must go further than reporting on practice and instead demonstrate how their practices create capacities for societies to do more of the things that they like (Corea, 2007). **A key challenge for universities in supporting the global societal transition is there-**

fore to help create new kinds of social structure and organizational form, as well as new technological innovations to solve these problems.

Grand challenges and social responsibility

To bridge the gap between university social responsibility and universities making a difference, we reflect on how universities have responded to the grand challenges of the 21st century. Since the *Limits to Growth* report (Meadows, 1972), a range of temporary fixes have been found to individual problems, such as acid rain or pesticide pollution, but the underlying causes of those problems have not been addressed. Treating symptoms provides brief respite but also generates new problems, such as the energy transition creating new kinds of energy poverty for those unable to afford the new technologies (Weisz and Steinberger, 2013). While university knowledge has been well integrated into particular temporary fixes, it has been much less involved in these fundamental societal transition processes which demand changing societal power relationships (Benneworth and Cunha, 2015).

Universities contributing to stimulating these broader transition processes would meet the threshold for genuinely socially responsible behaviour. Ackoff (1999) famously described the grand challenges as ‘multidisciplinary messes’, deep-seated and persistent problems which can only be solved by deploying a range of knowledge drawn from a variety of disciplinary backgrounds simultaneously to address societal problems. Universities clearly face problems in addressing the grand challenges by joining up different disciplinary backgrounds spread across university research centres and departments. Good research engagement practice is increasingly recognizing the value of creating problem- and challenge-driven research centres (Goddard and Vallance, 2013). However, I would like to raise a rather unpopular question regarding just whose problems these multidisciplinary centres are addressing, and whether the action is ‘societally responsible’. In particular, this approach presupposes that the problems in society are also problems of society and can be solved by scientific-technological innovations.

Universities often become involved in solutions that mitigate and displace particular solutions that benefit powerful entrenched interests rather than contributing to wider processes of societal transition. Many societal problems emerge through the introduction of new technology, particularly where it brings unevenly distributed costs and benefits (Oosterlynck and Swyngedouw, 2010; Davoudi and Brooks, 2012). In the 1970s, strong social movements emerged to shape and democratize technological change to minimize the resulting societal problems (Rip and Schot, 2002). However, contemporary approaches lose this, for example so-called ‘smart city’ approaches focusing exclusively on data and technological infrastructure at the expense of people living in places (Velderman, et al., 2017). There is an increasing gulf between the more socially excluded groups who face the costs of the grand challenges, while policy and infrastructure consortia are primarily concerned with delivering particular technology investment programmes.

There is much talk of ‘smart meters’ solving the sustainable energy challenge, allowing citizens to modify their consumption and also sustainably generate their own electricity and sell it back to the grid. But this approach reduces a set of real problems, including the pollution blight of those living near

coal power stations, and energy exclusion of extremely low-income families, literally to a ‘black box’ technological fix. How can we bring the people – and their problems – back into these technological developments and ensure their voices are heard in solving societal challenges? What roles can univer-

“Universities therefore need to become better at hearing the voices of the problem-owners affected by local manifestations of these global solutions in planning, executing and transmitting their research activities.

sities play in aligning scientific progress more clearly with societal problem-owners’ needs and desires, rather than with powerful, well-organized and elite interests? **Universities therefore need to become better at hearing the voices of the problem-owners affected by local manifestations of these global solutions in planning, executing and transmitting their research activities.**

Models for engaging citizens in designing responsible research programmes

This challenge of including social problem-owners’ voices is certainly not impossible to address for universities at the level of the individual project. In the UK, the University of Brighton’s Community-University Partnership Programme (CUPP) is providing low-threshold access to university research group resources and helping to building up social capital in excluded communities. Having run now for more than a decade, the CUPP helps raise the overall responsibility of the University of Brighton’s research and innovation activities to make them more responsible (Hart and Aumann, 2013). In Canada, the Community University Research Alliance (CURA) programme has helped build long-standing local knowledge communities by bridging research and practice where societal partners’ voices were well-heeded (Garrett-Petts and Nash, 2012). The science shop model is an example of how students and small-scale projects can intermediate between universities and communities to shape university decision making (Schlierf and Meyer, 2013). Norquest College, Edmonton, Canada, developed the ‘1000 women model’ approach which aims to create an endowment fund to support vulnerable women through difficult life moments that might jeopardize their education. The UK’s National Co-ordination Centre for Public Engagement has been active in helping academics engage with the public in their research and also teaching activities since 2009.

Arguably, the best models emerge in the Global South, and particularly in Latin America, which has long stressed universities’ duty to work with society’s less powerful groups, and in increasing measure also in Africa. In many cases, the focus is placed on working with marginalized groups to strengthen their core economic activities and improve their access to education in ways that fit with the emerging paradigm of social innovation (Edwards-Schachter et al., 2012). The Interdisciplinary Research Programme on Human Development at the Autonomous Metropolitan University (UAM) in Mexico City emerged in its campus at Xochimilco, Chiapas in response to the indigenous peoples’ uprising in 1994 (Ramirez, 2011). Garcia and Carlotto (2012) document how the University of Sao Paulo created a new campus in a deprived area in the east of the city in an attempt to boost enrolment and provide access to research-led education for all. The University of Cape Coast, Ghana, has created the Yomransa Social Laboratory with support of the Alumni of Yale Association to identify and deliver research

solutions to problems in a community setting. In an unusual example of a north-south idea flow, the Instituto Federal de Santa Catarina in Brazil has implemented Norquest College's 1000 women model in three of its campuses to support the national government's plans to reduce social exclusion and poverty (Juliani, 2016).

In each of these models, societal voices, representing the social problem-owners, participate in knowledge-creation, and hence contribute to shaping the direction of scientific progress in ways that lead to responsible research and innovation. It is currently very fashionable to talk about co-creation and citizen science methodologies as helping to guarantee citizens can shape the evolving agenda. Our concern lies in that citizens – as owners of these complex socio-scientific problems – are involved in exclusively peripheral and downstream ways that marginalize their interests. What was so exciting about the CURA programme in Canada is that the organizers aimed to involve societal problem-owners in other kinds of research decision making around project planning and dissemination (Benneworth and Jongbloed, 2009). In at least one case, it was the community problem-owners who proposed the Research Alliance and therefore were able to frame the research agenda around a community perception of the problem (Kischkuk 2003). **The key university agents in hearing these voices are engaged scholars who understand how to both work with and on the problems of excluded communities and to use this to enrich their own research and teaching activities within various university contexts.** Moreover, in moving to institutionalize these good practice models of community engagement and build wider global networks of engaged institutions there is a risk of placing pressure on universities to look primarily to academic interests and partners and regard the problem-owners as beneficiaries rather than full partners. Therefore, the challenge for using research to shape responsible local engagement lies in making these engagement activities more central to institutional practice without completely obscuring particular local practices that help address issues faced by local problem-owners.

“The key university agents in hearing these voices are engaged scholars who understand how to both work with and on the problems of excluded communities and to use this to enrich their own research and teaching activities within various university contexts.

The tensions of 'strong' strategizing for 'weak' problem owners

A fundamental characteristic of co-creation as a form of scientific research is that it involves the community meaningfully in project execution, influencing the evidence that is unearthed and the theories that are developed to explain it (Hegger et al., 2012). Citizen-scientists are involved in scientific decision making in an involved, informed way, far from the fear voiced by many scientists that decisions on their research are taken by uninformed and often prejudiced outsiders. And it is precisely this involvement of the societal problem-owners at every stage of decisions that shapes the course of the research and is the greatest strategic challenge for universities in ensuring they strategically deliver responsible research and innovation. It is only in rare moments that an enlightened authority like Canada's Social Sciences and Humanities Research Council decides to endow these problem-owners with substantial resources and show that universities really regard the communities as serious stake-

holders and partners. Given the mission overload facing universities, the resource scarcity and competition they face, university strategic structures can all too often lose focus on the local and instead particularly favour the global and the excellent. In such circumstances, although universities may extol the virtues of engagement, they may create environments which hinder and marginalize the kinds of engagement activities university research uses to solve these problems.

Delanty (2002) has argued that high-level visions of universities' contributions to society have become increasingly individualized, seeking to imbue individuals with the necessary skills for resilience and self-reliance in risk societies. Universities facing competition for students have responded with an increasing use of strategic management techniques driven by a strengthened managerial core (university senior managerial teams) with powers to take strategic decisions. Universities develop strategic agendas to compete, highlighting strengths and opportunities, allocating resources and directing internal decision making towards collectively pursuing these goals. Universities develop strategic relationships with other partners who can contribute different kinds of resources to the university strategic effort – what Jongbloed et al. (2007) call universities' strategic stakeholders. Universities therefore seek to align their research efforts with those who have appropriate resources for strengthening university research activities while also delivering for those external stakeholders.

As long as the problem-owners are the same as the university strategic stakeholders, then this strategic alignment will ensure that university research effort contributes to solving grand societal challenges. But with grand challenges, the problem-owners are socially excluded communities (Byrne, 1999) who bear the costs of these technological problems and often experience neither the benefits that the technology brings nor are they recipients of mitigation and amelioration interventions. If your salience to universities as a strategic stakeholder depends on your resources to contribute to university research efforts, then excluded communities can never be salient (cf. CERl, 1982). Communities lack financial resources to support new activities, they lack sufficient internal cohesion and political strength to provide legitimacy for university activities, and the kinds of knowledge they possess are typically very localized, applied and specific rather than immediately applicable to world-class excellent research. Certainly, these excluded communities have much less scope to function as equal partners co-determining research agendas as university researchers take decisions about whose problems are worth their attention.

From strategic engagement towards empowering engagement change-makers

Pressure on universities to demonstrate their societal relevance is pushing them to embrace strategic, high-level, structural approaches to community engagement that risk crowding out the voice of the marginalized problem-owner. Within universities, there are all kinds of structures and mechanisms that devalue and downgrade those undertaking research with excluded communities, relating to seniority, promotion, tenure, stability and span of control (Humphrey, 2013). There is the very real risk of strategies becoming focused on the most powerful stakeholders, and ignoring these problematic problem-owners, with the result that their research becomes less responsibly developed. The best models under such circumstances are therefore those that attempt to empower university knowledge

communities to engage on more equal terms with these societal problem-owners, and to situate that localized community knowledge within wider global networks of more generalized, academic knowledge.

What determines how successful the university is in making a real contribution to solving these communities' problems are the university academic staff who find a way to listen to and include community voices as a positive, constructive resource throughout their research processes. So while the ten examples given above are interesting projects that use research to drive engagement, they are all *ad hominem* models dependent on those engaged, open researchers. Universities need to find ways to let their engaged scholars engage in processes of 'institution entrepreneurship' (Benneworth et al., 2016) that remake the institution as more engaged with the support of university senior managers. Through a process of university leaders signalling that they substantively value their engaged scholars, the university becomes a more engaged institution.

Community engagement, and working with the real problem-owners, sits extremely uneasily with strategic approaches to university management. The UK's National Co-ordinating Centre for Public Engagement experimented with a structural centre approach to stimulating university community engagement, but has more recently reverted to supporting individuals rather than building structures. University community engagement is dependent on ensuring that 'one thousand flowers may bloom at once', while university strategic management invests university leaders with super luminary characteristics to singularly determine a 'strategic course' for the university.

Although the recent enthusiasm for making universities more responsible and engaged is to be welcomed, there is a *prima facie* fear that this may lead universities in practice to do more to make lives only more difficult for their engaged scholars. It is important that universities under increasing pressure do not therefore take action at the strategic level to build up global partnerships and improve knowledge exchange that will end up reducing their engaged scholars' capability to listen, observe and respond positively to local problem-owners. Given this fear, it is worth highlighting the range of 'strategic management' interventions that might seem appealing for managers to better connect their research to local and global engagement, but in reality will only make lives harder for their engaged researchers. **Any university wanting to be engaged must 'first do their engaged staff no harm': resist the impulse to make structural changes, strategic declarations and global networks and instead increase their engaged scholars' internal influence, recognition and capacity** (see box below).

“Any university wanting to be engaged must 'first do their engaged staff no harm': resist the impulse to make structural changes, strategic declarations and global networks and instead increase their engaged scholars' internal influence, recognition and capacity.

10 impressive-sounding strategic interventions university managers can make that will hinder their change agents and engagement stars:

1. Appoint a senior manager for engagement (because the best candidates for the job prefer to continue doing their engaged research).
2. Create a 'one-stop shop' for community engagement and social innovation (because it becomes 'someone else's responsibility').
3. Develop a strategy for engagement and global challenges (because then the document becomes an end in itself).
4. Adopt key performance indicators for global engagement activities (because you cannot *ever* measure what really matters to your desired outcomes).
5. Assemble a board of key stakeholders to identify how the university can contribute (because the real problem-owners are too busy for your board).
6. Agree a set of high level Global Challenges that your institution agrees to address (because agreement demands they be meaningless in practice).
7. Require every research unit to report on how they are solving grand challenges (because then reporting not action becomes the goal).
8. Create a promotion pathway for socially-engaged researchers and teachers (because that does not make promotions panels more likely to value their engaged practices).
9. Join a global partnership network for solving grand challenges (because that network will never overlap with the interactions your engaged researchers really need).
10. Bring the leading engaged teachers and researchers together in a focus group or engagement unit (because your institutional entrepreneurs are already busy enough).

In principle, it is possible for universities to serve as a pivotal link between global academic knowledge communities and local problem-owners, but this comes with an inherent imbalance in the respective priorities that universities accord these scales. The strategic approach always brings a risk that universities will work for the global and see local partners as a resource to be harvested for competitive advantage. Even the most dedicated and sincere institutions in cultures with long traditions of university community engagement report substantive problems including excluded communities as

problem-owners in their strategic decision making. It is now clearer than ever that this is a challenge we must take seriously and not simply address with more of the same of globally-facing strategic management. Without strong local dialogues and engagement shaping university strategic decisions, university research will remain at a disadvantage in its endeavours to contribute meaningfully to solving the real grand challenges currently facing humanity.

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3.2. Mechanisms for Higher Education Institutions to Develop Responsible Research and Innovation

Enric Banda

Abstract

Responsible Research and Innovation (RRI) is a concept which has evolved relatively recently and which builds on the decades-old idea of aligning science more closely with society. Today many believe that the principles behind the concept are here to stay and will significantly change the landscape of research and innovation. Its essentials are described as the ongoing process of bringing research and innovation into line with the values, needs and expectations of society. This requires that all stakeholders, including civil society, are responsive to each other and share responsibility for the processes and outcomes of research and innovation.

RRI implies the involvement of stakeholders in the processes inherent to research and innovation (R&I) – stakeholders such as performers (for example, higher education institutions (HEIs)), policymakers, civil society organizations, companies and research funding institutions, among others. I firmly believe that the most important factor in the whole process is public engagement.

One of the key challenges ahead of us is how to implement RRI, and HEIs certainly play a fundamental role in this. In particular, we can identify a number of framework conditions that would help to achieve this aim, for instance more firmly embedding a university within its local ecosystem by engaging stakeholders and the public in R&I processes. The promotion of RRI values and practices will also be essential. Universities, which have a pre-eminently educational purpose, should guarantee that students receive information on RRI.

More specifically, HEIs should provide the framework conditions and policies for the adoption and implementation of RRI practices and the development of RRI projects. They should contribute to the development of a culture in which the values supporting RRI are an intrinsic part of the research and innovation process, with special emphasis on the next generation of researchers.

The expectation is that RRI will have a structuring effect on research systems and practices. It is hoped that scientists will embrace RRI values and practices, with the conviction that involving various stakeholders and publics in agenda setting, in R&I policymaking, and in the research itself can lead to more varied and richer research, while adding to the quality and outcome of their work. Ultimately, this is expected to improve the impact and the acceptability of research – as well as the public's trust in science and its actors.

Europe is placing RRI at the centre of the research and innovation policy agenda. Considerable effort is also being put into RRI beyond Europe, and we expect RRI to become a truly global process. HEIs are key to such an operation and should act as agents of change due to their central role in education.

Introduction

The most exciting issue behind Responsible Research and Innovation (RRI) is that it implies the involvement of a number of stakeholders in the processes inherent to research and innovation. This goes well beyond the individual contribution of any one of the actors involved, actors including: research and innovation performers, policymakers, civil society organizations, companies and research-funding bodies. In other words, the involvement of representatives from society as a whole is essential to achieving a number of the aspirations of RRI; that is, to arrive at more sustainable, ethically acceptable and socially desirable outcomes. Therefore, it is very likely that the most important factor for success is public engagement. Some agencies have already foreseen this, such as the National Co-ordinating Centre for Public Engagement in the UK (www.publicengagement.ac.uk/) (see also Stilgoe et al., 2014).

There is a very powerful reason why research and innovation (R&I) can be dealt with together: R&I is, and will continue to be in the foreseeable future, the main source of social and economic progress. However, the individual processes of R&I, their timescales, mechanisms and needs are radically different. Therefore, R&I might plausibly be dealt with separately. I will, however, take research and innovation as a whole – in particular because innovation often comes at the end of a rather complex process in which research is an important element. In addition, most HEIs have put considerable effort into knowledge transfer, and it is here that we find the most direct link with innovation. **Certainly, RRI will continue to foster local competitiveness, but it will also affect global demand through its contribution to solving global challenges.** There is, in this case, no contradiction between local and global goals that are inherent to the mission of HEIs. In addition, the concept of RRI applies regardless of its local or global scope. Applying the principles of RRI will move the focus from the local to the global through a type of bottom-up process.

“Certainly, RRI will keep fostering local competitiveness, but it will also affect global demands through its contribution to solving global challenges.

“The social impact and relevance (on top of excellence) of the research carried out by HEIs will probably be on the first page of their accountability.

the ‘Sustainable Development Goals’ of the Agenda 2030 (UNDP, 2015)). **The social impact and relevance (on top of excellence) of the research carried out by HEIs are likely to be their key priorities in terms of accountability.**

HEIs’ mission of contributing to the generation of knowledge has to be tackled through clear objectives that are not, and cannot be, neutral. In fact, HEIs should shoulder a huge responsibility for contributing to a growth, or even no growth, that has to be sustainable and should focus on the grand challenges that humanity faces (see

HEIs are not alone in this endeavour and, as one of the main stakeholders of the RRI process, they should work in parallel and jointly with the other societal stakeholders. It should be noted that very significant contributors to RRI, and to the activity of HEIs, such as funding agencies (for example, Research Councils) have, in some cases, already initiated an RRI approach to their own funding processes. This is the case, for instance, with the Engineering and Physical Sciences Research Council (EPSRC) in the UK (Owen, 2014) and the Research Council of Norway.¹ In this way, the collective endeavour of embracing RRI becomes more effective and more powerful.

Institutions are better positioned than individuals to tackle the linkage between R&I and society, although the contributions of both are indispensable. This is the main reason for advocating that HEIs can act as powerful agents of change in working towards the goal of engaging society and R&I in the pursuit of a better world.

Responsible research and innovation (RRI)

As expressed by López-Verdeguer and Smallman (2015), the basic idea of RRI is simple and powerful: given science and innovation's power to transform the world, we need to make sure that they work with and for society. Several precedents for and definitions of responsible research and innovation, as well as the role of research in society, can be found in recent literature and are referred to briefly below (<http://rri-tools.eu/about-rri>).

Although the concept of RRI has been constructed over time, from the European point of view perhaps the most influential documents to appear recently are the MASIS report, written by a group of experts at the request of the European Commission (Siune et al., 2009) and the subsequent *Monitoring Policy and Research Activities on Science in Society* report (Mejlgaard et al., 2012). These reports debate the issue of the ability of science to solve society's challenges and, therefore, the value and benefit of science to the public. This discussion has also evolved during the recent debates about the reach and scope of RRI.

It is clear that the major impulse towards RRI comes from Europe, where the concept has evolved further and crystallized more than in other parts of the world. Nonetheless, in the US, the National Science Foundation has also focused on RRI, although it is generally linked with specific issues such as nanotechnology. Notably, however, the National Science Foundation (2014) issued a document, *Perspectives on Broader Impacts*, in which RRI is not specifically mentioned, although the text touches on issues related to RRI. The broader impact of science, public engagement and open science are the key themes found in RRI-related activities emanating from the US. In addition, an OECD Ministerial Meeting, held in Daejeon, Korea, in October 2015 (OECD, 2015) issued a declaration in which many RRI-related issues are highlighted as common targets for member countries of the OECD. This is good news in terms of RRI becoming perceived as a global issue.

¹ Please see: <https://www.epsrc.ac.uk/research/framework/>), <http://www.nwo.nl/en/research-and-results/programmes/responsible+innovation>, http://www.forskningradet.no/prognett-biotek2021/Home_page/1253970728140.

The report by Sutcliffe (2011) on the workshop held in May 2011 at the Directorate-General for Research and Innovation in Brussels, attended by a number of experts drawn from academia and policy-making, notes that the current debate on the concept of RRI includes the following:

- (a) the focus of research and innovation on achieving a social benefit;
- (b) the involvement of all stakeholders from society;
- (c) the prioritizing of social, ethical and environmental impacts, risks and opportunities;
- (d) anticipating and managing problems and opportunities to adapt and respond quickly to changing knowledge and circumstances;
- (e) openness and transparency becoming an integral component of the research and innovation process.

In the same vein but in a more elaborated manner, Owen et al. (2012) describe RRI as a way of asking ourselves 'what kind of future we want innovation to bring into the world', while noting that 'responsibility is a social ascription in the context of innovation as a future oriented, uncertain, complex and collective endeavour'. They distinguish three emergent features:

- (a) an emphasis on science for society, focusing on research and innovation targeted at the grand challenges and the 'right impacts', underpinned by a deliberative democracy;
- (b) an emphasis on science with society, focusing on institutionalized responsiveness and in which deliberation and reflection are coupled with action;
- (c) the framing of responsibility, 'challenging scientists, innovators, business partners, research funders and policymakers to reflect on their own roles and responsibilities, acknowledging that the irresponsibility in innovation requires a collective, institutionalized response'.

Finally, René von Schomberg (2013: 63) suggests the following working definition of RRI:

Responsible Research and Innovation is a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view to the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products (in order to allow a proper embedding of scientific and technological advances in our society).

On the other hand, six key components of RRI are identified by the EC (European Commission, 2012) (see Figure 1).

1. *Public engagement.* Engage society in the research and innovation process.
2. *Gender equality in research.* All relevant actors should be on board, women as well as men. The gender dimension must be integrated into the research and innovation content.
3. *Science education.* More researchers and innovators are needed. At the same time, society has to be more involved in debating the science issues that affect the lives of its citizens.
4. *Open access.* Scientific information and research results funded by public money (open data) should be universally available.
5. *Ethics.* Developments in research, technology and innovation must be guided by the principles of trust, integrity and participation.
6. *Governance.* A framework is required that encourages responsible research and innovation.

An international conference held in November 2014 issued the Rome Declaration on Responsible Research and Innovation (RRI) in Europe (Rome Declaration on RRI, 2014) and agreed on a definition of RRI as the ongoing process of aligning research and innovation to the values, needs and expectations of society. It also stated that RRI requires all stakeholders, including civil society, to be responsive to each other and to share responsibility for the processes and outcomes of research and innovation.

FIGURE 1. The six key policy components initially proposed by the European Commission



Source: [http://www.rri-tools.eu/documents/10184/104615/RRI+Tools+Policy+Brief+\(EN\).pdf/82ffca72-df32-4f0b-955e-484c6514044c](http://www.rri-tools.eu/documents/10184/104615/RRI+Tools+Policy+Brief+(EN).pdf/82ffca72-df32-4f0b-955e-484c6514044c)

Implementing RRI

A great deal of research on RRI-related projects is presently being carried out, mainly funded by the VII Framework Programme, in the current Horizon 2020 programme (the Research and Innovation programme of the European Union) and national public sources. These initiatives will provide very valuable results in terms of both deepening the concept of RRI and exploring the different ways it can be implemented. Table 1 gives a brief selection of projects that are worth following. See also Box 1.

TABLE 1. A selected list of RRI projects which are currently in different stages of development. ¹

RESPONSIBILITY www.responsibility-rri.eu	Global Model and Observatory for International Responsible Research and Innovation Coordination A virtual observatory for enhancing the interaction among research outcomes and policy-making. It will articulate in plain language policy reports with specific outcomes and practical solutions
EnRRICH www.livingknowledge.org/livingknowledge/enrich	Enhancing Responsible Research and Innovation through Curricula in Higher Education Improving the capacity of students and staff in higher education to develop knowledge, skills and attitudes to support the embedding of Responsible Research and Innovation (RRI) in curricula by responding to the research needs of society as expressed by civil society organizations (CSOs)
GREAT www.great-project.eu	Governance for Responsible Innovation Developing an empirically based and theoretically sound model for the role of responsible research and innovation governance
RES-AGorA http://res-agera.eu/	Responsible Research and Innovation in a Distributed Anticipatory Governance Frame. A Constructive Socio-normative Approach Developing a normative and comprehensive governance framework for Responsible Research and Innovation
ProGRess www.progressproject.eu	Promoting Global Responsible research and Social and Scientific innovation Establishing a global network for responsible research and innovation (RRI) involving academia, SMEs, international organizations, policy advisors, research funders, NGOs and industry
HEIRRI www.heirri.eu	Higher Education Institutions and Responsible Research and Innovation Specifically designed for HEIs to encourage the integration of RRI into university education
RRI-Tools www.rri-tools.eu	RRI Tools Set up to empower all actors to contribute their share to the Responsible Research and Innovation initiative by offering tools to put RRI into practice through an online platform
ENGAGE2020 www.engage2020.eu	Engage2020 Explores how members of society are involved today and how they could be involved in the future

Notice that some of the projects on RRI (including those in Table 1) are about to finish, while others are in the course of execution or even in their initial phases. Among them, however, it is important to highlight the RRI Tools project (see Box 1), which offers an online platform devoted to each of the RRI stakeholders. Also, within the domain of HEIs, the HEIRRI and EnRRICH projects specifically deal with university education.

BOX 1. A short description of the RRI Tools project

In order to properly integrate science and society, there is a growing consensus that what is required is science and technology which is not only excellent but also socially desirable, ethically acceptable and sustainable, and which involves the wider society in its processes. This is the core of the ambitious initiative of the European Commission on Responsible Research and Innovation (RRI) as a cross-cutting issue in Horizon 2020. In this context, the project **RRI Tools** is one of the more important endeavours to empower all the actors involved to contribute their share to the Responsible Research and Innovation initiative. Funded under the Framework Programme FP7 (2007–2013), the outcomes of RRI Tools include:

- **A practical framework for the application of RRI.** RRI is an umbrella term for a number of different crucial science policy issues (open access, gender equality, public engagement, etc.), but also a way of governing R&I that takes all of these factors into account from a holistic, cross-fertilizing point of view.
- **The RRI Toolkit: a collaborative digital platform with digital resources** for the practical application of RRI and its key issues
- **A network of 19 national RRI Hubs** that are advocating, training, disseminating and contributing to the implementation of RRI under Horizon 2020 across 30 countries of the European Research Area.

The RRI Toolkit aims to encourage the uptake of research and innovation processes that better answer the needs and expectations of society. It is designed for individuals as well as institutions involved in research, science policy-making, business and industry, education, or civil society organizations, and it is available at <http://www.rri-tools.eu>.

Currently, the RRI Toolkit contains more than 400 resources that will help researchers to design and realize their projects, as well as providing training on Responsible Research and Innovation. These resources include:

- Examples of inspiring practices, selected from throughout Europe, that demonstrate the application of RRI and its key issues;
- Manuals, guidelines, how-to guides, catalogues and online databases of resources that will help researchers to put RRI into practice;
- Background documents including presentations, reports, cross-analysis and pan-European surveys;
- Other European projects that have developed RRI resources; and
- A self-reflection tool on RRI for users to assess their professional practice.

As a complement to these resources, videos and presentations introduce the concept, scope and main aspects of Responsible Research and Innovation to newcomers.

RRI Tools is now in its final year. An extensive training programme in the project is being carried out through the RRI Tools Hubs and at European level through collaborations with umbrella institutions (such as Ecsite, the European Foundation Centre or the European Business and Innovation Network) and external collaborators (for example, the EC SWAFS National Contact points, the European Association of Research Managers and Administrators, and the European Citizen Science Association).

The RRI Tools project is carried out by a multidisciplinary consortium consisting of 26 institutions led by the 'la Caixa' Foundation (Spain). This consortium brings together considerable experience in the key components of RRI across Europe through a creative collaboration between universities, research centres, science centres and museums, research foundations and other relevant actors.

Source: Courtesy of Ignasi López-Verdeguer, coordinator of the project at 'la Caixa' Foundation.

In terms of the implementation of RRI in research institutions, including HEIs, there are two elements involved in putting RRI into practice that have been thoroughly discussed by some of the projects mentioned above (RRI Tools, 2015): (1) providing the framework conditions and policies for the adoption and implementation of RRI practices and the development of RRI projects; and (2) contributing to the development of a culture where the values supporting RRI are an intrinsic part of the research and innovation process for each individual scientist and innovator, with an emphasis on the next generation of researchers and proportionate to the type of research pursued (for example, basic research or societally-oriented research).

Providing the framework conditions requires:

- (a) The adoption of RRI values and practices at institutional level (for example, through universities becoming more integrated into their local ecosystems by engaging stakeholders and the public in R&I processes);
- (b) The promotion of RRI values and practices as integrated, interdisciplinary competencies and practices among the university's communities (for example, research departments, teaching staff, etc.);
- (c) The creation of opportunities and/or support for RRI projects and practices, including institutional progression and incentivization policies;
- (d) The establishment of structures with the necessary resources and policies to enable RRI attitudes (for example, research integrity policies and offices or a focus on gender in recruitment policies);
- (e) Review of institutional evaluation procedures, whenever possible, notably working towards greater interdisciplinarity.

Developing the 'RRI culture' among scientists will primarily necessitate fostering collaborative, interdisciplinary teams who work within a process of knowledge co-production, as well as the inclusion of RRI in curricula and mentoring practices to reinforce the values of striving for a better world that underpin this approach. Among other initiatives, this will require the development of specific training courses. Due to the disruptive nature of RRI, its teaching has to be considered as an essential part of the curriculum. **HEIs must position the concept of RRI at the core of their strategies in a clear and explicit way.** This can be seen in the Strategic Plan 2016–2025 of Pompeu Fabra University in Barcelona (Pompeu Fabra University, 2015), an organization that leads the aforementioned HEIRRI project for the integration of RRI into university education. See also the efforts made by the University of Nottingham in the UK (www.nottingham.ac.uk).

“HEIs must place the concept of RRI at the core of their strategies in a clear and explicit way.

Research carried out by HEIs will need to establish a clear strategy and its final objectives should reach beyond obtaining good results in terms of bibliometry, impact factor and other indicators which help

HEIs to achieve a better position in the rankings. In general, research should no longer be seen as an individualistic endeavour, taking place in silos.

It should be noted that the concept of RRI implies the need for research to be not just excellent but also relevant. This has been met with some hesitation in terms of where basic research is placed within RRI. The core asset of basic research is its contribution to understanding nature, which fits well with the values involved in RRI. Therefore, basic research must be preserved in such a way that scientists can freely carry out their research. This does not rule out institutions maintaining their own processes within the principles of RRI.

The implementation of RRI will require the creation of indicators which can monitor the development of RRI by the institution involved, particularly in HEIs. To this end, some work has already been carried out by the Expert Group on Policy Indicators for RRI (Strand et al., 2015) and by some of the ongoing projects (see Table 1). It is expected that the different projects presently underway will throw further light on which indicators may be recommended and how to use them.

“The implementation of RRI will require the creation of indicators that can monitor the development of RRI by the institution involved.

Although RRI is not a completely new concept, currently in Europe it is moving to the centre of R&D policy and orienting research and innovation in Europe and beyond. Furthermore, RRI is a ‘cross-cutting issue’ in Horizon 2020. Hence, those who wish to submit proposals for funding under Horizon 2020 have to address ‘RRI requirements’ in their applications. Whenever appropriate, projects ought to engage stakeholders in the R&I process. If this is not the case, the relevant policy agendas should be addressed. This is a very powerful tool that should be embraced by RRI funders.

On a different front, it is worth mentioning that a group of private foundations working on RRI have launched the European Foundations Award for RRI (EFARRI; see <http://www.rri-tools.eu/european-foundations-award-for-rri>). By the time this book is published the awardees will be known. Because of the very rigorous and in-depth evaluation that the candidate projects undergo, this represents a very practical opportunity to identify best practices.

Final remarks

The expectation is that RRI will have a structuring effect on research systems and practices beyond Horizon 2020. We also aspire to obtain democratic benefits from having more engaged citizens. Let us not forget that 55% of European citizens think that public dialogue is required when it comes to making decisions about science and technology (European Commission, 2013). In this sense, science education is particularly important. Some steps in this direction have already been proposed by the Report to the European Commission of the Expert Group on Science Education (Hazelkorn et al.,

2015), where some objectives and recommendations follow the principles of RRI from the education angle.

The hope is that scientists, especially the next generation of researchers, will embrace RRI values and practices with the conviction that involving stakeholders and publics in agenda-setting, in R&I policy-making, and in the research itself, can lead to more varied and richer research, and will add to the quality and outcomes of their work (including better publications). Ultimately, the impact of research – societally and environmentally – and its acceptability, as well as the public’s trust in science and its actors, are expected to be improved.

Although RRI seems to be more developed in Europe, it should be implemented worldwide and move forward towards becoming a truly global issue. The recent agreement on how to tackle climate change may be a good example of both a collective and an individual commitment which can modify the course of nature for the benefit of society and future generations. **RRI should be seen as a process in which joint efforts by all stakeholders, including public engagement, can lead to a more sustainable and balanced world.** This is in line with the message delivered by Commissioner Moedas in his speech pushing for a Europe characterized by ‘Open Innovation’, ‘Open Science’ and being ‘Open to the World’ (Moedas, 2015).

“RRI should be seen as a process in which joint efforts by all stakeholders, including public engagement, can lead to a more sustainable and balanced world.

In addition, some of the European RRI projects have partners from beyond Europe (for example Responsibility, in Asia and South America), which allows the propagation of RRI in other parts of the globe. However, there is a danger in globalizing the implementation of RRI in that it does not correspond to a rigid concept and cannot be easily extrapolated worldwide without looking at the history and evolution of the R&I systems in other parts of the world. This issue has already been pursued by a number of researchers (see Macnaghten et al. 2014). RRI goals and tools as we understand them in advanced economies cannot be directly transplanted to places where the culture regarding R&I may be very different, and in these cases an ‘à la carte’ approach may be required. As mentioned before, HEIs should play the role of agents of change in their essential mission as dynamic, networked institutions where talent is identified and trained with the ultimate goal of building a better world through the globalization of RRI.

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Endnotes

- 1 A new set of projects in relation to the implementation of RRI funded by Horizon 2020 – SWAFS programme is expected shortly.

3.3. A New Social Contract, de-facto Responsible Innovation, and Institutional Change: The case of Arizona State University (ASU)

Sally Randles

Abstract

This chapter charts the transformational journey of Arizona State University (ASU). It is an account of radical institutional change, an experiment in organizational (re)design demonstrating the central guiding tenets of a new social contract between (publicly funded) universities and society. Inspired by a set of design principles which have been adaptively debated, developed and implemented since Michael Crow took the helm as ASU President in 2002, the transformation puts three principles at centre stage. First, *access*, to a broad and diverse base of students, seeking to create a student profile which reflects the ethnic and income demographic of the State of Arizona. Second, *research excellence*, interpreted as research which is relevant and engaged with society. Third, *impact*, an ethos to achieve the integration of portfolios of teaching, research and engagement activities around their contribution to addressing pressing societal problems.

In championing these changes, Crow and colleagues made a direct challenge to the incumbent Ivy League universities, which they consider elitist, exclusive and out of touch with civic life or broader societal challenges and responsibilities. In understanding this story as an account of *de-facto* responsible innovation the chapter pays special attention to *how* the transformation was achieved via an analytical frame comprising four cornerstones of the Normative Business Model (NBM): i) the normative orientations and values driving the institutional change; ii) (De)institutionalization of the incumbent model; iii) the role played by institutional entrepreneurs, especially the university leadership; iv) the governance instruments and financial model used to underpin and drive the change. The local-global implications of the ASU model are discussed in the conclusion.

A new social contract between universities and society

At the heart of the ASU case is a fundamental, and yet a shifting and contested discourse about the role of publicly funded universities in society. The ASU experience demonstrates through one institutional experiment a particular example of what that role should be, according to the ASU leadership. Simultaneously, the case demonstrates a successful challenge to the incumbent model deeply prevailing in the higher echelons of the HEI sector, not just in the USA but across the world. It is worth beginning this chapter with a reprise of that confrontation, albeit artificially stylized, between the

incumbent model of the relationship of the university to society, and the contemporary challenge to it, exemplified by the ASU case.

Rip¹ and Smit summarize this debate (Rip and Smit, 1991). Since the 17th century in Britain exemplified by Oxford and Cambridge and the Humboldtian model emerging in Germany in the mid-18th century and fully formed by the mid-19th (Watson, 2010), the role of science in society has been epitomized as the independent pursuit of knowledge, unfettered by contamination by other interests: political, societal, commercial or religious. The role of the university in society was to maintain an independent critical distance from these compromising influences. The ideal of 'pure' knowledge was not to be measured against its service to other sectors of society, but by the more inward facing constant and critical challenging of the knowledge that went before.

By the mid-19th century the Humboldtian model had produced many of the institutions that still characterize academic work today: the research seminar facilitated by the eminent professor where apprentice scholars expose their thinking and research to the critique of peers; alongside significant State investment in establishing fully stocked libraries for the exclusive use of students and faculty. As an institution of knowledge production, Watson refers to this approach as 'a process of accumulation, stone by stone' (Watson, 2010: 233). One outcome, the reproduction of an elite academic class, was not only welcomed but was consciously built. This elite and its reproductive force are evidenced by Bourdieu in his *Homo Academicus* as alive and well in France in the late 20th century (Bourdieu, 1988). The same values underpinned the elite establishments of the American Ivy League, albeit funded through a series of private benefactors, with Harvard established along these same normative guide-rails in 1636, Yale in 1702, Princeton and Brown 1746, and Columbia 1754.² In fact, there has been a long tradition in the USA of public universities funded through taxation as a challenge to the Ivy League Universities. The challenge follows Thomas Jefferson's vision and model of universal higher education exemplified by his founding of the University of Virginia in 1819.

Of course, the contemporary notion of 'responsible' university which celebrates exclusivity, risks tipping over into an 'ivory tower': separated and seemingly uncaring about the needs and problems of neighbourhoods in which the university is physically located. It is this contemporary variant of Responsible University exemplified by the Ivy League rankings which ASU fundamentally and directly challenges.

Fast-forward to post-World War II, and the pure pursuit of science and research was at its zenith. By the 1960s, university expansion under new policies of post-war social welfare prevailed, producing exponentially rising student numbers and opening access to lower income students via bursaries. This trend was not isolated but was experienced as a parallel movement in very diverse parts of the globe, witnessing convergence across nations as geographically distant as the United Kingdom, Canada and Australia (Miller, 1995). The proliferation of ever-more specialist, discipline-based, academic journals demarcated separate branches of scientific knowledge production. As student numbers grew, disciplines were organized and housed according to discipline specialization in large schools and departments. Externally, the traditional model of Responsible University was maintained through a compact agreement with the State which allowed scientists to preserve their autonomy in exchange for making research findings public through authorized academic journals. Scientists organized their own model and measures of

quality control: peer review; reinforcing the insularity and self-referential nature of academic knowledge production. We recognize well this model of scientific autonomy, premised on the free cooperation of independent scientists, as described by Michael Polanyi in his prescient Republic of Science (1962).

I would add, although Rip and Smit do not go this far, that the localized resolution of these competitive tensions between the traditional and the contemporary notions of the Responsible University produces a variety of empirical expressions, involving the local negotiation of priorities and practices, translated into internally differentiated portfolios of university activities. As we will see in the ASU case, these are instantiated through the work of particular values-centred academic institutional entrepreneurs, operationalized at the level of sub-units or centres within universities. New interdisciplinary schools and centres of ‘excellence’ emerge which redefine the notion of excellence. Supported and facilitated by the centre, they manifest new experiments, showcasing new values, organizational forms and altered priorities and daily practice, providing highly localized demonstrations of the contemporary ‘Responsible University’.

We can further refer to these experiments as examples of de-facto responsible innovation. Inspired and informed by the 26 cases undertaken as part of the European Union FP7 RES-AGorA project (See <http://res-agera.eu/case-studies/>), we have developed six ‘Narratives’ of de-facto responsible innovation, labelled Narrative A to Narrative F. Within these narratives, the traditional Responsible University described above maps to the ideal type of ‘Narrative A’ whilst the experiments in institutional redesign which the ASU case exemplifies, negotiate and combine elements of Narrative B to Narrative F, indeed are epitomized by Narrative F (Randles et al., 2016).

Narrative F, by contrast to Narrative A, represents the institutionalization of responsibility as a new social contract between research and innovation actors and society, representing a 360° turn from Narrative A, with a focus on research and innovation processes and outcomes designed with and for society, redefining the normative base of responsibility. Narrative F manifests most clearly through the organization of research in interdisciplinary centres and schools which are societal challenge or solution-focused, rather than discipline focused, and where engagement with societal actors in order to negotiate and co-construct the research agenda, from the opening stages of formulating research questions, to engaging on the implications of findings and results, becomes the new normative orientation of the Responsible University.

Table 1. Six grand narratives of de-facto responsible innovation (Randles et al., 2016)

Narrative A	Republic of science
Narrative B	Technological progress: weighing risks and harms as well as benefits of new and emerging technologies
Narrative C	Participation society
Narrative D	The citizen firm
Narrative E	Moral globalization
Narrative F	Research and innovation with/for society

The case of Arizona State University

A good university is an institution which understands its role as one of the most powerful adaptive forces to society. Its role is not the maintenance of Western culture... (but) the preparation of our next generation to be as adaptive as they can be to all things that they encounter... To me, the role, or the purpose, or the objective of the public university is to be powerfully transformative to the success of society... That we are willing to accept responsibility for economic, social and cultural vitality and the health and wellbeing of the community. Well, if all our social scientists, and our business specialists, and our scientists, and our doctors, and our teachers, and our teacher trainers can't produce that, and if that's not the outcome, then why do we even exist? (Michael Crow, President of ASU, interviewed by Randles, October 2013).

In this section, **the ASU case of the 'Responsible University' is reviewed.** This section **pays less attention to the 'the what and why' of institutional change** (which is the focus of Section 1 above), **but importantly how institutional transformation has been realized in the ASU case. To achieve this, the case is interpreted through the four cornerstones of the Normative Business Model (NBM)** (Randles and Laasch, 2016) **comprising i) the normative orientations and values driving institutional change; ii) (de)institutionalization of the incumbent model; iii) the role of institutional entrepreneurs, especially the university leadership in organizational transformation; and iv) the governance and financial mechanisms underpinning the change.**

The case is based on more than 20 interviews conducted between 2013 and 2015, including two interviews with Michael Crow, with the ASU Senior Leadership team, with the heads of university-wide interdisciplinary institutes (the Biodesign Institute and the (new in 2013) School of Sustainability in 2013 and the head of the (new in 2015) School for the Future of Innovation in Society; the heads of three contrasting research centres: the QESST centre of solar engineering and a group of early career graduate and post-doc QESST researchers; the Centre for Research on Organization Research and Design (CORD) and the Consortium for Science, Policy and Outcomes (CSPO). Horizontally, the interviews had a focus on three areas of research: nanotechnology, synthetic biology and solar technologies. Together, the interviews probed understandings of the 'good' university and asked what constitutes action, practice and operationalization of responsibility in universities, both informing and testing the development of the six Narratives framework discussed in Section 1.

The normative orientations and values driving institutional change

Over the last fourteen years, under the leadership of Michael Crow who took the post of President in 2002, Arizona State University (ASU) has intentionally and systematically embarked on a journey of sustained institutional change. The case provides a practical demonstration of the embedding of a set of society-facing values into an organizational prototype, referred to by Crow as the 'New American University' (NAU). However, as Crow argues, institutional transformation in the University context cannot be considered a staged process with a definable end-point. He considers the changes at ASU to be a permanently evolving, adaptive project. Indeed, as an experiment in institutional innovation Crow emphasizes that ASU sits within a landscape of highly differentiated universities and he has cautioned vehemently against taking ASU (or its stylized representation, the NAU) as a template for

top-down replication, as this risks, in his words, convergence towards a new form of creativity-stifling isomorphism (Crow and Dabars, 2015).

Crow’s NAU is premised on the three operationalized pillars of ‘excellence, access and impact’ (Crow and Dabars, 2015). This concerns a fundamental reformulation of the meaning of research excellence. From the isomorphic dominant model, reproduced over time and copied across the landscape of traditional universities, what Crow calls the ‘clonal replicants’ or ‘sled-dog’ model, (Parr, 2014), (which corresponds closely with the Responsible University of Narrative A above); Crow redefines excellence in research as that which is responsive, relevant and impactful in addressing societal problems and challenges. However, according to Crow, ASU provides one particular expression of a university’s public role in society, translated into a set of top-down design principles, but matched by an intentionally wide scope for bottom-up creativity and entrepreneurship from faculty, research centres and institutes, non-academic staff, and the student body.

Very recently, ASU has translated its fundamental normative values into a Charter, codifying its mission and goals for 2015 and beyond. The overarching mission states:

ASU is a comprehensive public research university, measured not by whom we exclude, but rather by whom we include and how they succeed: advancing research and discovery of public value: and assuming fundamental responsibility for the economic, social, cultural and overall health of the communities it serves.

Providing direction and elaboration to the mission statement, Crow and his senior colleagues formulated eight ‘design aspirations’ which guide the strategic operationalization of the normative vision:

Table 2 – ASU’s eight ‘design aspirations’

1. Leverage our place	ASU embraces its culture, socio-economic and physical setting
2. Enable student success	ASU is committed to the success of every unique student
3. Transform society	ASU catalyzes social change by being connected to social needs
4. Fuse intellectual disciplines	ASU creates knowledge by transcending academic disciplines
5. Value entrepreneurship	ASU uses its knowledge and encourages innovation
6. Be socially embedded	ASU connects with communities through mutually beneficial partnerships
7. Conduct use-inspired research	ASU research has purpose and impact
8. Engage society	ASU engages with people and issues locally, nationally and globally

(De)institutionalization of the incumbent model

Taking the three pillars of access, research excellence and impact which are elaborated in the eight design aspirations, there is a wealth of evidence that ASU has transformed itself, thereby (de)institutionalizing the incumbent traditional Narrative A Responsible University model.

First, in terms of overturning exclusivity of access which defines Narrative A into the inclusive access model characteristic of Narrative F, the composition and size of the ASU student body has transformed. Student enrolments at ASU rose 26% from 61,000 in 2005 to nearly 77,000 in 2014 (ASU Annual Report 2014). Furthermore, 35% of the undergraduate community are from non-white ethnic backgrounds, with a large proportion of Hispanic students providing evidence of success of the inclusivity and diversity strategy (ASU Annual Report 2012).

From the direction of research excellence, this is understood quite specifically under the Crow regime as the reorientation of research, from a focus on single, traditional disciplines and traditional single principle investigators (PIs) working exclusively with their own (small) team of researchers, to outward facing societally engaged multidisciplinary (collaborative multi-PI teams), able to demonstrate societal relevance through specific measures of impact on societal problems. This involved the wholesale redesign of the organization, involving the creation of outward-facing multidisciplinary centres and institutes oriented to addressing identified societal challenges and problems. The process was far from pain free. In the process of restructuring, 69 academic units, schools and departments were disbanded, including sociology, philosophy and anthropology. They are replaced by 25 new multidisciplinary schools and centres with non-traditional names such as the School of Human Evolution and Social Change.

Below, Crow describes the simultaneous creative-destruction process which ensued, in particular in reorganizing the institution away from single-discipline 'silos' and towards a range of multidisciplinary, out-facing centres, addressing a wide scope of societal problems:

I think what we focused on was whether or not people, faculty in particular [...] were willing to accept just randomly transferred social constructs called disciplines, and whether or not they were satisfied with the fact that they were, basically, intellectual slaves to a construct that they didn't design. We tried to create an opportunity for those who were interested in rethinking [...] their intellectual construct [...] (for example) our new School for Human Evolution and Social Change, which now has taken anthropologists and sociologists and epidemiologists, and a range of other social, behavioural, and life sciences scientists and brought these people together. [...] Why not construct what it is that you think is really a fascinating intellectual, pedagogical, methodological approach?

Michael Crow (interviewed by Randles, October 2013)

Another target for Crow's (de)institutionalization process was the bureaucracy plays in conserving the old and resisting the introduction of the new.

Academic departments had literally become bureaucratic structures... departments had all become conservers... They'd become focused on protecting their turf, protecting their space, arguing against others, fighting against others, and we just tried to systematically go from conserver model to zealots. Zealots for knowledge creation, zealots for knowledge transfer, unconstrained, unencumbered, or, at least, allowing that to occur.

Michael Crow (interviewed by Randles, October 2013)

The strategy has brought dividends in terms of increase in research revenues. In a climate of reducing Federal funding of university research, ASU research grants and contracts income increased by 12% between 2005 and 2014, from \$111m to \$244m.

However, in the process 1,800 people lost their jobs. This is (de)institutionalization in action, as a very painful process. The argument would be that for transformative accelerated institutional change to occur at all levels the organizational, institutional and cultural restructuring which was needed to fulfil the desired shift to the contemporary 'Responsible University' was radical and pervasive. It controversially included losing staff and faculty who were not comfortable with the new model, and recruiting new faculty who were.

Institutional entrepreneurialism and organizational transformation

Institutional entrepreneurialism is shown at ASU to be encultured, critical, reflexive and collective; and articulated at multiple levels within the organization. Crow plays a crucial role in illuminating a normative vision for the organization. However, he is not alone as an ASU visionary of strategic change. Other members of the ASU senior management team have been key actors in ASU's transformation. The now Senior Vice President of Knowledge and Enterprise Development Sethuraman 'Panch' Panchanathan, was already at ASU when President Crow arrived in 2002. 'Panch' had an existing track-record of leading interdisciplinary research, conducted in collaboration with professionals and lay public from the local community. Panch was promoted under the Crow regime, so raising and amplifying his role and the normative qualities he also brought to the transformation project. This shows the seeds of the Crow vision to have already been present before Crow arrived, though it was crystallized and promoted under Crow:

I mean entrepreneurship in all ways. In research, all of our leaders are also doers. By the authority of institution, entrepreneurship infuses everything we do... I believe every student to be entrepreneurially minded – how are you creative/innovative? – how do you solve problems/risk? Entrepreneurialness is an inherent and important characteristic that we want to develop across the university. How to promote this? How to put it into the fabric and make it available to all?... Some of these things are about culture they are not done in one course or school but embedded in the culture of the university

Senior VP (Knowledge Enterprise Development, interviewed by Randles, November 2013)

As well as mobilizing a range of actor constituencies to participate in the programme of structural change; the changes became performative. That is, the vision became adapted and translated it into forms which could be meaningfully embedded into local research centres and schools. An important actor in this process of local embedding is the Ambidextrous PI³.

The ASU study finds that the Ambidextrous Principal Investigator (PI), located at the mid-level of the organization, undertakes bottom-up entrepreneurial responses and acts as an important boundary-crossing agent, linking like-minded peers horizontally within the university, enabling the scale-up of projects compatible with the interdisciplinary normative vision. However not all faculty PIs share the motivations or capabilities of the Ambidextrous PI. The PI is therefore found to be a differentiated actor. Some maintain legacy characteristics of the traditional Responsible University, while others illustrate a set of characteristics, motivations and capabilities that define and differentiate the Ambidextrous PI.

With new characteristics over and above those of the traditional academic, the Ambidextrous PI exhibits a capability to work across discipline boundaries including, crucially, across social and engineering sciences. This is a critical capability for addressing societal challenges, albeit facilitated by the organizational structures and incentives provided by the centre of the organization via cross-university interdisciplinary institutes such as GIS. Finally, in terms of the social reproduction of both the values and capabilities of the Ambidextrous PI, this is achieved by mentoring the next generation of researchers and academics through teaching, supervision and peer support. One Ambidextrous PI combined entrepreneurial grant-raising and boundary-crossing capabilities with the expression of a strong personal commitment to the ASU inclusiveness strategy and values, believing it both desirable and possible to take a young person from any background and give them the input in terms of teaching and opportunities/access to inspire them to take a role in the world, whatever they chose to do.

The combining of entrepreneurial with traditional academic capabilities in the form of the Ambidextrous PI is not unique to ASU and was also found in a study of new models of academic leadership at University of Twente, in the Netherlands (Kokkeler, 2014). However the connecting of these capabilities to a particular set of normative orientations, and their translation into the priorities and practices of local research centres by the Ambidextrous PI was not elaborated in Kokkeler's study. Indeed, the Ambidextrous PI appears to be an institutionalized phenomenon at ASU, representing a new form of agenced mid-level actor, both formed and supported by the governance regime and culture of institutional entrepreneurialism set at the top of the university.

The governance and financial mechanisms underpinning the change

By governance mechanisms I mean all instruments and management and performance systems which coordinate, steer and evaluate organizational practice towards normative goals, such as strategy and business plans, Codes of conduct, standards and accreditation regimes, and financial and other incentives. The term agencement captures the compound nature of the concept of person+technical device, showing how actors become transformed; acting in a way that would be predicted by the system of devices they operate such that practice comes to correspond to the features predicted by device

(Callon et al., 2007). Importantly, as new actors become enrolled, sense-making becomes adaptive, i.e. new constituencies of actors 'translate' the understanding of the material device into their own context. Devices then operate as boundary objects, enrolling new actors and providing the 'glue' that enables both the expansion and the stabilization of norms as part of institutionalization processes, becoming part of the de-facto normative underpinning.

One example of a governance innovation at ASU is a resource allocation initiative managed at the ASU 'centre' which regularly calls for proposals for new multidisciplinary research centres. Proposals are assessed by an internal academic panel, resulting in successful centres being established with a limited five-year life, to be evaluated after that time either for continuation, modification or phase-out. The aim is to motivate faculty to self-organize into interdisciplinary teams, to propose a research centre or initiative with a five-year research programme, which would produce a measurable impact on a specific societal problem or issue, while the five-year performance review ensures that centres do not become ossified or their existence is not taken for granted as a new enclave of empire-building.

Finally a critical element in the governance of a values-driven organization, is an ability to secure financial and other resources which not only support, but also facilitate the growth of the model. I would call this the organization's 'business model' regardless of the type of organization, be it a business, charity or public chartered organization such as the public university. At ASU, a critical instrument of organizational growth has been precisely the attention to widening the student base through access and inclusivity. This has provided an income stream which has underpinned the financial basis of university expansion. In 2014, student tuition fees provided \$897m, or 46% of the total revenues of the university, a 196% increase on 2005 when the income from student tuition and fees was \$302m (ASU Annual Report 2014). We see here the material success of the normative aspiration of inclusivity, which at the same time provides the cash to enable the reproduction and expansion of the Normative Business Model in financial terms. Of this, Financial Aid Grants for disadvantaged student groups contributed \$107m in 2014 nearly trebling the 2005 figure of \$37m, again demonstrating the coupling of normative ambition with growth in financial resources in order to achieve the public-good objectives of the contemporary Responsible University.

Implications of the case for the local-global Responsible University

ASU is only one expression of the university's interpretation of its public role and responsibility to society, translated into a set of top-down design principles, but matched by bottom-up creativity and entrepreneurship from faculty, non-academic staff and the student body. Although ASU stands as a critical alternative – a counterpoint – to the isomorphic traditional enclaves of exclusivity and privilege exemplified by Narrative A, against which ASU represents a normative antithesis along just about every criterion; the more nuanced message to peer universities provided by Crow and Dabars is to caution against taking the ASU model as a template for replication. Rather, the authors return to the theme of a differentiated landscape of higher education institutions, advocating variety, and calling on universities to innovate their own organizational structures, programmes and activity-sets, according

to their own interpretation of the pressing needs of society, and specific local contexts (Crow and Dabars, 2015).

ASU can be differentiated from other universities by the extent to which it focuses on interdisciplinary, solution-driven research, tackling areas of strategic importance including global challenges around sustainability, health and wellbeing, the natural environment, energy and natural resources, life and health sciences, and the role and impact of new technologies such as ICT on society. The interpretation of the Responsible University under this definition is one which mobilizes its resources and effort to be responsive and relevant to societal needs, and to address pressing societal problems and challenges. In Samarasekera's words, solution-driven research (Samarasekera, 2009).

As for the route to global extension of the contemporary Responsible University, we can imagine scale-up arising from the formation of strategic international collaborations involving the sharing of some, if not all, of the portfolio of attributes of the Responsible University exemplified by the ASU case. Such strategic alliances are likely to be values/performance driven rather than publication/rankings driven. Family resemblances across the normative orientations of universities/centres of excellence are likely to stimulate coalitions of the willing. Strategic international partnerships across a variety of existing and in-the-making formulations of the contemporary Responsible University can be imagined, corresponding to the NAU, or other family resemblances such as the 'Civic' University in the UK (Goddard, 2009). Indeed, such strategic partnership has already been struck between ASU, Kings College London, and Australia's University of New South Wales forming the PLoS Alliance (Bothwell, 2016: 11). **Under this scenario, universities with sufficiently convergent normative values orientations and activity portfolios will enter into international strategic alliances, gradually deepening the relationship across common interests in societal problem/solution-focused research, and teaching and pedagogy for societal engagement including blended learning combining face-to-face and online methods. The outcome would be rising international visibility, legitimacy and resource-attraction for networks of excellence comprising competent like-minded universities.** Such a strategy would attract increasing numbers of international students and faculty drawn to the model, motivated to contribute to the realization of these public values, and to building new competencies to achieve them. The scope for measurable continual performance improvement along these parameters, coupled with shared motivations to co-construct solutions with/for and in the service of society (adapted to place), would form the basis of a new social contract between universities and society combining local entrepreneurialism with global strategic alliances.

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Endnotes

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- 2 With grateful thanks to David Guston, Professor of Political Science and Head of the School of the Future of Innovation in Society, Arizona State University for exchanges and comments on the longer history of the Public University in the USA; to ASU President Michael Crow for interviews and conversations about the rationale and design of the New American University as the 'Good' University; and for the long standing relationship with ASU valued colleagues and interviewees reflecting on the ASU story.
- 3 The Ambidextrous organization, as one which successfully managed the dual process of exploration and exploitation of innovation, was coined by O'Reilly et al 2004. For a review see O'Reilly et al 2013. It was later applied to the capabilities of individuals and leaders of innovative organizations for example in Tushman et al 2011, Rosing et al., 2011.

The Global Knowledge-based Development Network, Tecnológico de Monterrey

Francisco Javier Carrillo



When the Center for Knowledge Systems (CKS)¹ was created at Tecnológico de Monterrey back in 1989, everything had to be developed from scratch: there was no funding and no team but there was plenty of intellectual capital and an adamant commitment to help organizations and communities capitalize on the opportunities brought by the then emerging knowledge societies. From the start, it focused on developing its human, relational and identity capital. The initial step to try out knowledge-based offerings at both local and global levels came in the form of the Programa Sinapsis, a satellite-based, distance education, graduate international offering and a precursor to the Virtual University and today's MOOCS. Such a successful start allowed the constitution of the CKS as a research, consultancy and learning centre for knowledge management (KM) and knowledge-based development (KBD).

Following 25 years of existence, and after about 250 projects and 100 scientific papers and books, it recently evolved into the Knowledge Society Research Group,² where it carries forward its legacy. A key element of the CKS strategy over the years was the self-application of a capital systems approach in order to remain viable both financially and also in terms of knowledge-based assets. In addition to having been entirely self-sufficient for this quarter of a century (1.5 times the annual operation budget was kept as a contingency reserve), the centre grew wealthy in relational capital. With a deliberate strategy to contribute to the

formation of a network in an emerging field, the CKS engaged in many local and international collaborative efforts throughout the years.

The Global Knowledge-based Development Network (GKBDN) is a research and innovation ecosystem composed of a multi-level array of organizations promoting KBD locally as well as globally. KBD is defined as 'the collective identification and enhancement of the value set whose dynamic balance furthers the viability and transcendence of a given community' (Carrillo, 2014). This involves predominantly the intangible but also the tangible capital base of a human group either at micro or macro level, so as to leverage all available endogenous capacities. By tapping into its capital system (Carrillo, 2002), the group is able to unleash the ideas and emotions that drive the best of human beings. The resulting initiatives can range from knowledge neighbourhoods (Battaglia, 2014), knowledge villages (Batra et al., 2013), knowledge regions (Fachinelli et al., 2015) and knowledge cities (Carrillo et al., 2014) to knowledge nations (Lin et al., 2012).

The first layer was established in 1998 with a regional network, the Comunidad Iberoamericana de Sistemas de Conocimiento (CISC), which exists to this day.³ Latin America plus Spain and Portugal have been the main areas influenced by the network. CISC has gathered without fail every year in a different country for its annual assembly, work programme and an international

1 <http://sistemasdeconocimiento.org>

2 <http://sitios.itesm.mx/eehcs/sc/>

3 <http://www.iberoamericana.org>

conference. CISC activities have included collaborative actions such as joint research, publications, academic exchanges, consultancy work, events and seminars. The next step was the creation in 2004 of a global KBD platform: the World Capital Institute (WCI). The WCI is characterized as 'an independent international think-tank, established with a purpose of furthering the understanding and application of knowledge capital as the most powerful leverage for development'.⁴ The WCI operates via several open programmes, where anyone interested can participate. These are the editorial, events, awards, R&D and community programmes. The editorial programme has generated a dozen books and, most notably, the *International Journal of Knowledge-based Development* (Inderscience), indexed in Scopus. The events programme features prominently in the annual Knowledge Cities World Summit (KCWS 2016, held in Vienna, 12-14 October) plus regional conferences. The awards programme includes the Most Admired Knowledge Cities Awards (MAKCi), an annual expert panel study conducted in partnership with *Telos* in the UK that recognizes major efforts in urban KBD throughout the world. The R&D programme focuses on the natural areas of KBD, such as theories, metrics and empirical studies. Finally, the community programme concentrates on widening and strengthening collaboration within the Global KBD Network.

The GKBDN, established at the first KCWS in Monterrey in 2007, is now a rich assembly of international alliances and partnerships with several layers of sister organizations sharing common interests. At the inner level this includes the New Club of Paris, The European Chair on Intellectual Capital and The European Network of Living Labs, plus IADE from Spain, CRICKET from India, F4SI from the USA, INTACK from France, IFKAD from Italy, HCM from Austria and MQI from the USA.

4 <http://www.worldcapitalinstitute.org>

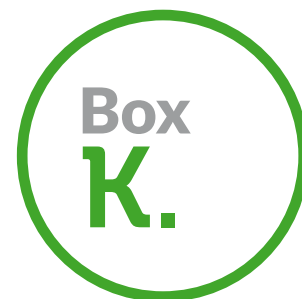
Most recently, the Knowledge Society Research Group at Tecnológico de Monterrey became the host of the Latin America Centre of the Pascal International Observatory.⁵

Perhaps the most important lesson learnt from the GKBDN journey has been the emphasis on a series of shared values and organizational principles aimed at bringing the best of people together in a collaborative setting. By enacting the distinctive value paradigm of knowledge societies (i.e. a focus on growing intellectual capital, rather than on borrowing the physical and monetary resources that are lacking, allows for continuous viable development) this entire knowledge ecosystem has operated as a gift, moneyless economy where no one pays and no one is paid for participating in the network. Certainly money flows are required – and these are often substantial amounts to fund initiatives – but all these resources are allocated and managed strictly on a project basis according to individual participation. The bulk of collective activities are thus beyond immediate and competitive monetary concerns, thus prioritizing social and intellectual wealth. Secondly, the values and organizational design characteristics of knowledge markets (Carrillo, 2016), such as decentralization, self-management, minimum visible leadership, transparency, peer-to-peer dealing, open collaboration and sharing, are eagerly embraced. Hence, the GKBD Network provides voluntary participants not only with the opportunity to engage in effective collaborations, but above all to grow in knowledge-based capital (mainly trust and friendship) at both local and global level.

5 <http://pascalobservatory.org/about/regional-offices>

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HEIRRI, Integrating Responsible Research and Innovation into Higher Education Institutions

Marta Cayetano, Nadja Gmelch, Núria Saladié

The Research and Innovation (R&I) system is under transformation. While society increasingly relies on R&I to address the challenges of our time – such as climate change, global health, sustainable development, scarcity of resources, or privacy and security issues –, the R&I system itself is required to respond to social demands for greater transparency, inclusion regarding gender and minorities, ethics and broader societal participation. In other words, there is a clear call for a more democratic research and innovation system to contribute to social progress and wellbeing, acting locally while having a global perspective. Education plays a critical role in this transformation and in empowering this ‘glocal’ (global + local) consciousness. Embedding socio-economic and ethical principles in science education, promoting critical thinking, empowering citizens to make their own decisions on science policy, and training future scientists to share responsibility with all actors need to be rooted in the education system to foster and consolidate ongoing changes. In this scenario emerges the concept of Responsible Research and Innovation (RRI), which tries to provide a holistic view of how the R&I system should respond and adapt to better align its functioning and outcomes to the needs, values and expectations of society.

HEIRRI (Higher Education Institutions and Responsible Research and Innovation – www.heirri.eu) is a European project, funded under the Horizon 2020 programme, aimed at starting the integration of RRI within the formal and informal education of future scientists, engineers and other

professionals involved in the R&D&i process. The project has conducted a state-of-the-art review and created a database after gathering results from other EU-funded projects on RRI, example cases and good practices of RRI-related learning and teaching. Results from this inventory represent the basis for RRI training programmes and educational materials that will be developed to offer students the knowledge and skills to develop solutions to specific problems related to R&I. These materials are designed for different educational levels and formats (undergraduate, MSc, MD and PhD, summer courses and MOOC). Different stakeholders involved in and/or affected by R&I participate in HEIRRI through online and offline activities discussing RRI learning, and all results and products created by HEIRRI are uploaded on open access at the RRI Tools platform (www.rri-tools.eu).

RRI has the capacity to ‘make research and innovation investments more efficient, foster better knowledge and innovation co-production with society, or draw better lessons from early warnings with a view to more efficient precautionary approaches’.¹ Nonetheless, there are several barriers in relation to teaching RRI within higher education institutions. One of the HEIRRI deliverables highlights that ‘the discussion regarding responsible research and innovation already exists within several universities but that the emerging RRI agenda nevertheless is faced with several barriers. Resistance or lack of support at the lev-

¹ Expert Group on the State of Art in Europe on Responsible Research and Innovation (2013) ‘Options for Strengthening Responsible Research and Innovation’

el of management of HEIs and lack of incentives for the individual researcher to engage with RRI teaching are the most important obstacles² identified in the review carried out during the project. It is very important to find a way to overcome these hindrances and start a systemic change so that RRI can be truly applied. The HEIRRI project actively tries to break down these barriers by introducing RRI at the early stages of researchers' training.

Training on RRI is necessary as is strengthening the relationship between science and society. Educating today's students, who are members of society and future researchers, is critical for developing a responsible voice for tomorrow. An education beyond the technical core of the subjects is necessary to engage students as committed, active, critical-thinking citizens. In this context, future researchers should be trained to understand their communities. That is why HEIRRI addresses RRI by inciting critical evaluation and engaging students to question their perceived ideas about models of how the world works. The learning methodology plays a key role in this process, and that is why Problem Based Learning (PBL) is used. With this approach, students learn through the process of solving open-ended problems within a team and understanding the social, economic and ethical implications of research. PBL engages students in constructing knowledge and shifts the teacher role from that of a knowledge provider towards being a learning facilitator.

The HEIRRI project involves nine partners from six different countries, offering a global scope and wide expertise in RRI. The consortium consists of five European Higher Education Institutions (Universitat Pompeu Fabra UPF, University of Bergen UiB, Aarhus University AU, Institut für

Höhere Studien IHS, University of Split UNIST), the European Network of Science Centres and Museums (AEESTI/Ecsite), 'la Caixa' Foundation (FBLC), the Catalan Association of Public Universities (ACUP, which chairs GUNi) and a private company specialized in R&I (Innovatec). The project started on 1 September 2015 and will finish on 1 September 2018.

2 HEIRRI deliverable 2.3 'HEIRRI Database' (2016)
https://issuu.com/heirriproject/docs/d2.3_heirri_database_-_wp2_stock_ta



A short description of the RRI Tools project

Enric Banda

In order to properly integrate science and society, there is a growing consensus that what is required is science and technology which is not only excellent, but also socially desirable, ethically acceptable and sustainable, and which involves the wider society in its processes. This is the core of the ambitious initiative of the European Commission on Responsible Research and Innovation (RRI) as a cross-cutting issue in Horizon 2020. In this context, the RRI Tools project is one of the more important endeavours to empower all the actors involved to contribute their share to the Responsible Research and Innovation initiative. Funded under the Seventh Framework Programme (FP7) (2007–2013), the outcomes of RRI Tools include:

- » A practical framework for the application of RRI. RRI is an umbrella term for a number of different crucial science policy issues (open access, gender equality, public engagement, etc.), but also a way of governing R&I that takes all of these factors into account from a holistic, cross-fertilizing point of view.
- » The RRI Toolkit: a collaborative digital platform with digital resources for the practical application of RRI and its key issues.
- » A network of 19 national RRI Hubs that are advocating, training, disseminating and contributing to the implementation of RRI under Horizon 2020 across 30 countries in the European Research Area.

The RRI Toolkit aims to encourage the uptake of research and innovation processes that better answer the needs and expectations of society. It is designed for individuals, as well as institutions involved in research, science policymaking, business and industry, education, and civil society organizations. It is available at <http://www.rri-tools.eu>.

Currently, the RRI Toolkit contains more than 400 resources that will help researchers to design and realize their projects, as well as providing training on Responsible Research and Innovation. These resources include:

- » Examples of inspiring practices, selected from throughout Europe, which demonstrate the application of RRI and its key issues;
- » Manuals, guidelines, how-to guides, catalogues and online databases of resources that will help researchers to put RRI into practice;
- » Background documents including presentations, reports, cross-analyses and pan-European surveys;
- » Other European projects that have developed RRI resources; and
- » A self-reflection tool on RRI for users to assess their professional practice.

As a complement to these resources, videos and presentations introduce the concept, scope and

main aspects of Responsible Research and Innovation to newcomers.

RRI Tools is now in its final year. An extensive training programme in the project is being carried out through the RRI Tools Hubs and at European level through collaborations with umbrella institutions (such as Ecsite, the European Foundation Centre or the European Business and Innovation Network) and external collaborators (for example, the EC SWAFS National Contact points, the European Association of Research Managers and Administrators, and the European Citizen Science Association).

The RRI Tools project is carried out by a multidisciplinary consortium consisting of 26 institutions led by the 'la Caixa' Foundation (Spain). This consortium brings together considerable experience in the key components of RRI across Europe through creative collaboration between universities, research centres, science centres and museums, research foundations and other relevant actors.

Source: Courtesy of Ignasi López-Verdeguer, coordinator of the project at 'la Caixa' Foundation.

4

Institutional Governance, Organization and Management

4.1. Institutional Governance for a Shared Glocal Engagement Mission

Peter D. Eckel

Abstract

Governing bodies can and should play essential roles in advancing a glocal agenda. Governance is essential because glocal work is strategic, includes an accountability dimension and relies on the talents and perspectives governance participants can bring to the university. Boards should leverage their traditional oversight and accountability functions and their strategic work. However, to be most useful in this work, boards should also add a leadership function, in which they make sense of a dynamic environment and raise key issues for the university to address.

A good governance structure and favourable regulatory conditions can promote innovative behaviour among tertiary education institutions.

The World Bank SABER Governance Report.

Too many college [and university] boards add too little value too much of the time.

Richard Chait, Trusteeship

Yes, governance is exceedingly important to universities around the world now and into the future as the first quotation suggests. Yet, as the second demonstrates, it is exceedingly difficult to do well and do well consistently. The challenges and opportunities of the glocal context only seek to exasperate these two points. This

chapter explores the need for increasingly effective governance as essential to actualize glocal universities and offers insights for those governing universities as to how to move forward. This chapter outlines the need for increased and different governance capacity. It offers strategies to ensure a glocal focus in governance, provides a three-dimensional framework for glocal governance, and offers a checklist to ensure governance effectiveness. The ability to address global issues such as health, security, human rights and climate change, while also addressing local needs such as workforce and economic development, citizenship,

tech transfer and innovation will tax university governing bodies unprepared for the challenges. **If they are not intentional about governing the glocal university well, which includes putting the right processes and structures in place but also adopting the necessary mind-set and perspective, governing bodies will fall short of their responsibilities and risk becoming a burden rather than a strategic asset for their universities.**

“If they are not intentional about governing the glocal university well, which includes putting the right processes and structures in place but also adopting the necessary mindset and perspective, governing bodies will fall short of their responsibilities and risk becoming a burden, rather than a strategic asset for their universities.

Writing about university governance in a global context is challenging because of the variance in governance structures and scope of authority and because the policy contexts in which governing occurs differ. To find common ground within this diversity, governance is defined as the structures and patterns of interaction through which key stakeholders make strategy-level decisions that affect the future trajectory of the university. It adopts a future emphasis and addresses strategy-level decisions to differentiate it from management. Furthermore, this chapter focuses specifically on governing boards, which also vary in their composition, structure and scope of responsibilities as well as their relationship with government and with university administration.

Why governance matters more in a glocal context

The demands facing universities around the world are too great and the issues too complex for ineffective governance (Association of Governing Boards, 2014; Fielden, 2008; Shattock, 2013). One of the pillars of world class universities is having ‘appropriate governance’ (Salmi, 2009: 27). However, effective governance does not come without appropriate intentionality. Systems in both established and developing governance contexts fall short. For instance, even exclusive of the complexities of a glocal agenda, a survey of American university presidents found that one in five individuals leading research universities – those types of institutions arguably advancing both local and global agendas that include teaching, research, and economic development, tech transfer and other types of service – lack confidence in their board’s effectiveness to address future challenges over the next five years (Eckel, 2013). The sentiment is echoed in a recent survey of Malaysian vice chancellors (Ministry of Higher Education, 2015). Forty-six percent reported that “not all board members are clear on their roles” and 76 percent noted that the “current board composition is not optimal”.

To risk vast over simplification, universities are facing three challenges that call for increasingly effective governance and which come into sharper relief in the glocal context:

1. **Universities will need to do new things and embark on new pursuits.** The world is not stagnant and universities must understand, shape and respond to evolving challenges in the myriad contexts in which they operate to remain viable civic institutions.¹ Governance plays an important role in bridging to the external environment, particularly for those governing bodies that have external stakeholders serving in governing roles (Aghion et al., 2008). It is also the arena in which stakeholders come together to make decisions about future institutional or system direction.
2. **Because universities tend not to have sufficient financial resources to pursue everything they would like to, they need to make choices among competing priorities.** Governance is the structure where institutions make choices. “Good governance requires institutional leaders to be attentive to the mission of the institution. Without a clear mission, institutions often fall into the trap of trying to be all things to all people” (Harkavy et al., 2014: 103). Governance determines mission and sets priorities and strategy within that mission.
3. **Universities need to be increasingly accountable for their actions and impact.** When governments provide universities with more autonomy, as is the case in many countries, there is a corresponding shift in accountability.

While these three charges are not new, they are likely to continue to evolve, often exponentially, along two dimensions: complexity and speed. The result is more pressure to get governance right (Association of Governing Boards, 2014, Ministry of Higher Education Malaysia, 2015) and do so within more consequential time constraints.

To complicate matters further, the environments in which universities must operate are changing rapidly, and the variance in policy context calls for different responses to a glocal governance agenda. For instance, those universities in countries with a strong market-orientation and low state control (Dobbins et al., 2011), such as the USA, the UK, Canada and Australia, will require continued governance capacities to successfully balance market forces with increasingly complex public policy and mission-serving objectives that may be at odds with them (Berdahl, 1971; McGuinness, 1997). The pull of the market may suggest one set of priorities and pursuits while those of public policy or mission may suggest another (Marginson and Considine, 2000; Morphey and Eckel, 2009). For example, universities may be driven to invest in yet another Executive MBA programme in the pursuit of revenue and cut back funding for teacher education or music that requires subsidy. Countries with historically more state-centred higher education systems, such as India (Ministry of Human Resource Development, 2013), Kazakhstan (Hartley et al., 2015) and Malaysia (Ministry of Education, 2015), are advancing autonomy agendas that require new and heightened capacities for self-governance. Less direct governmental control and intervention, including financial support, mean more responsibilities

¹ Some will argue with this point, seeing that universities also serve an important conserving function, which they do. However, they also need to be responsive to evolving needs, new fields and disciplines, cutting edge research and social and economic development.

for universities and their governance bodies. Compliance with ministerial policy is no longer the gold standard, but financial success and mission relevance are the twin indicators of university wellbeing. These universities most likely need to develop their governance capacity within a complex glocal context where little robust governance capacity existed before (Hartley et al., 2015).

The importance of governance is increasing and it is evolving at the same time that 1) universities are changing, and 2) the environments in which they operate are shifting. These threads create a dynamic situation calling for more intentional and effective governance.

Without intentional focus on the needed governance, universities will likely struggle to meet the demands of both local and global challenges. Too many governance bodies are ‘mired in mediocrity’ and do not focus on substantive issues, do not have the ability to tap the intellectual capacity of board members, do not put in place a culture of collegiality and effective discussion and decision making, and do not work to intentionally improve their own governing processes (Trower and Eckel, 2015). Such middling performance will be a detriment to universities in a glocal context. As heightened demands outstrip the current capacity of most governance bodies, higher education will need to improve governing bodies that intentionally evolve to add value. They must ask themselves hard questions about their priorities, structures and cultures (AGB, 2014; Chait, 2016).

Ensuring a glocal focus

The starting point to governing the glocal university is to understand the multiple roles of governance and then to be familiar with how those roles function in a glocal context. **Governance has traditionally been seen as having two functions – ensuring accountability and providing institutional strategy, or conformance and performance roles** (Cornforth 2003, as cited in de Boer et al., 2010). In the first function, governance focuses on the evaluation of efforts and often public (or governmental) reporting. Governance pursues questions related to how well the university is conforming to its mission and purpose. The second strand of work focuses on the forward-vision, strategic work of boards to advance the university.

However, governance in a glocal context may well need to step into a third role. Chait, Ryan and Taylor (2005) argue that boards should provide leadership, or what they call ‘generative work’. The *leadership* work of boards brings diverse governing board member knowledge and wisdom to the challenges and opportunities facing the university to provide overall leadership in conjunction with the CEO for the long-term future of the university. Trustees contribute their abilities to think, perceive and frame issues and understanding to the collective work of the board to help the university think wisely about its future.

The leadership/generative work of governance is about “perceiving, grasping and grappling” (Trower, 2013: 18) collectively on behalf of the university in partnership with the administration and academic staff. This work asks governing bodies to look into the future and the unknown, to spend time not approving policies or ensuring compliance and progress, but “being playful and inventive,” and “focusing on higher-order problems” (Ibid: 134). In this line of governance work the board “generates: 1) insight

and understanding about a question, problem, challenge, opportunity or the environment; and 2) a sense of the organization’s identity in order to most effectively respond... It is about how the organization or board wishes to frame – consider, examine – an issue”. (Trower, 2013: 12).

The likely complexity of a global agenda demands this type of work because it is fast-moving, ambiguous and full of contradictory signals and priorities. In this role, boards should look for clues and cues in the environment that will be important to the university, determine how to make sense of what they see, determine what ‘frames’ will they use to define and understand the problem or opportunity (Chait, et al., 2005), and make collective sense, turning perception and speculation into action. Trower (2013: 12) cites the long-time head of research at General Motors, Charles Kettering, “a problem well-stated is a problem half-solved”.

Figure 1. Governance as leadership framework.



Boards will need to develop capacities that allow them to work across these three types of work. Trower has an extensive comparison (2013: 17-18). Brief highlights appear in Table 1.

Table 1. Comparing the different work of boards

	Accountability	Strategy	Leadership
Board’s role	Sentinel (oversight)	Strategist (foresight)	Sensemaker (insight)
Approaches to problems	Identify them	Solve them	Frame them
Meeting time	Report listening and evaluating	Deliberating	Exploring
CEO-board dynamics	Evaluative	Partnership	Think-tank

The work of boards is and should be complex. Boards need to understand and appreciate the diversity of their work across these three dimensions of accountability, strategy and leadership.

The challenge and opportunities of glocal governance provide ample opportunity to work across these three domains and place increased demands on the leadership aspect of governance. The table that follows outlines a set of glocal-related questions that boards should explore related to four functions of their work - *purpose*, *performance*, *resources* and *bridging to external communities*.

“The work of boards is and should be complex. Boards need to understand and appreciate the diversity of their work across the three dimensions of accountability, strategy and leadership.”

Table 2. A matrix of board responsibilities and governance modes²

	Accountability	Strategic	Leadership
Purpose	<p>Do we have sufficient priorities that focus on a local level and at a global level? To what extent do these activities align with our mission or extend it in new ways? Are our performance metrics for these efforts reasonable?</p> <p>Is there an appropriate balance between local efforts and global efforts?</p>	<p>Do potential new degree programmes make sense? What aims are they trying to serve? What types of education should we be emphasizing, given local demands and global trends? How will new degree programmes advantage us in the future?</p>	<p>How is the local environment changing and what new needs are emerging? How is the global environment changing? Can and should our university respond? What new parties or potential stakeholders should our university be engaging with?</p>
Performance	<p>What are key performance indicators for our local impact? Are they being met?</p> <p>What are our key performance indicators for the global impact? Are they being met?</p>	<p>Given our future directions, what local and global indicators now make sense? What indicators are no longer useful given how the context and our efforts have changed?</p>	<p>What is the most important work that the institution should be doing in the next 5 to 10 years locally? Globally? To what extent is the university organized to get there?</p> <p>What lessons might we learn from other sectors that are successfully working locally and globally?</p>

² Some of these questions are modified from Chait (2009), and Chait, Ryan and Taylor (2005) as well as from Trower (2013).

Resources	Is the university's budget consistent with priorities? What share of our money is spent on local efforts? What share is spent on global efforts? Are these percentages what is needed? How did we do budgetarily this year?	What key investments can we make that will have desired returns to advance a local and a global agenda? What should the balance be between local and global efforts? Do we have the right academic staff to drive these priorities? What new physical space or technological investments might we need?	How robust is our business model? What are our model's current assumptions and how likely are they to be reliable in the future? What new opportunities are emerging locally and globally to potentially secure additional resources?
Bridging	How many new alliances did the university make and are they working as predicted? What is the evidence of local impact? Of global impact? As a board, how well did we help broker such relationships locally and globally?	What are the emerging sectors locally and globally? To what extent is their synergy between what is happening locally and globally? What new alliances and partnerships should the institution be pursuing?	What do we as a board need to learn? Where can we develop needed new insight? How is the global context changing? How is the local context changing? What are emerging points of synergy?

A checklist for effective governance

The work of governing in a dynamic environment can be challenging. However, boards can and should make intentional efforts to be effective. A definition of effective governance by American university governance scholar Richard Chait can be extremely helpful in creating a checklist for those governing universities and those ensuring effective governance:

Effective governance entails influential participation in meaningful discussions about consequential matters that lead to significant outcomes (Chait, 2009: 2).

This simple statement, although complex in practice, has four elements that can serve as a template for boards to ensure their effectiveness. Furthermore, these four elements must work in tandem. Failure in any single dimension will lead to ineffective governance.

- » Influential participation: Does the board have on it the right people and to what extent are their skills, knowledge and talents being fully tapped? Too often boards are not composed of the right people for the job of governing. **In a glocal context, are board members well versed in global trends and issues as well as local ones? Do they have a firm understanding of trends in both of these contexts to do the work of governance?** Secondly, are these individuals prepared for the tasks of governing? Is there an orientation? Do clear expectations for board members exist and are they communicated to them?

- » Meaningful discussions: **Does the board have the knowledge and ability to engage in meaningful discussions about local as well as global issues?** Are board members well informed about the university's mission, values and history, as well as future challenges? Are they clear about the context – the global and local contexts – in which it must operate?
- » About consequential matters: **Does the board spend its time on substantive matters?** Too often board meetings are full of content that is not sufficiently substantive or consists of too many presentations without sufficient discussion. **To what extent is meeting time used well to focus on the most important issues (and not simply the urgent ones)? How intentionally are meeting agendas crafted to ensure that they have the right issues and are allocated appropriate amounts of time?** Is sufficient time spent on both global and local issues; on glocal ones?
- » That leads to significant institutional outcomes: **To what extent is the board confident that its work adds value to the university? To what extent does the work of the board matter? And how does the board know this?** Has it conducted an evaluation of its impact and of its meetings?

Building governance capacity

Boards many need to develop new structures or revise their current ones to accommodate glocal issues. For example, the University of Pennsylvania has the Local, National and Global Engagement Committee of the board, which is atypical in the USA (See Box). An alternative, and more common, strategy is to embed such work across board committees. For example, the Academic Affairs Committee addresses issues associated with teaching, learning, the curriculum, assessment and faculty. Whereas, new business opportunities might fall to the Committee of Commercialization and Economic Development, such as exists at the University of North Carolina at Chapel Hill. At the University of La Verne in California, the board addresses issues of environmental sustainability across its committees. The Facilities Committee discusses the university's efforts on LEED certified buildings, water resources and electrical usage. The Academic and Student Affairs Committee learn about new and novel curricular issues related to teaching the science and practice of sustainability, and the Finance Committee discusses issues of sustainable financial investment as well as the ROI on various capital expenses.

“Boards may need to develop new structures or revise their current ones to accommodate glocal issues.

University of Pennsylvania Board of Trustees: Local, National, and Global Engagement Committee Charge

Building on and incorporating the work of the former External Affairs and Neighborhood Initiatives Committees, the Local, National, and Global Engagement Committee supports the university in its efforts to foster the university's presence, positive engagement and contributions at every level from our West Philadelphia neighborhoods to the global arena. Recognizing that international scholarly/academic initiatives are within the purview of the Academic Policy Committee, the Committee is concerned with how best to build on the university's extensive international network of alumni, students, parents, faculty and friends to promote and effectively communicate Penn as a global leader in education, research, public policy, service and environmental responsibility.

Conclusion: elevating purpose

This chapter has asked and answered many questions that are arguably essential to governance in a glocal context. **However, it has yet to address what might be the most important but often unasked question: For what purpose governance?**

The common refrain regarding most problems with governance is that the roles and responsibilities of governance participants – academic staff, administrators, trustees, the government – need to be clarified (American Association of University Professors, 1995; AGB, 2015). More clarity equates with better governance, goes the argument. An alternative view is that most problems arise not because governance participants do not know what to do, but because they do not find the work meaningful or engaging. Chait, Ryan and Taylor (2006) argue that purpose is what really matters to governance:

What if one of the central problems plaguing the board is not, in fact, uncertainty about its important roles and responsibilities, but rather a lack of compelling purpose in the first place? We maintain that many board members are ineffectual not just because they are confused about their role but because they are dissatisfied with their role. They do not do the job well because the job does not strike them as worth doing (Ibid, 15-16).

Nothing could be more challenging for university governance when the members do not believe their efforts matter. Purpose is essential for effective governance. **The question for boards in a glocal context is simply: For what purpose are we governing this university as the world is changing?** Asking such a question in the boardroom should sharpen the focus and help boards craft their reason for governing. To do so in light of the university's mission will be powerful.

“The question for boards in a glocal context is simply: For what purpose are we governing this university as the world is changing?”

As the environment changes and the demands on universities evolve in ways that require a local and a glocal focus and set of priorities, governing bodies will need to develop the mechanisms and skill to address this question and the ones it spurs, and then to put their answer into practice. This is no small task.

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4.2. Institutional Governance for a Shared Glocal Engagement Mission

Sharifah Hapsah Syed Hasan Shahabudin

Abstract

The goals for higher education Institutions (HEIs) to deliver education, research and innovation for local impact and competitiveness are compatible with the goal of addressing and contributing to societal challenges globally. In this glocal mission, HEIs can form deeper global partnerships and integrate research with education and social entrepreneurship to find sustainable solutions for millions of people and their families to be educated, earn a living and increase their standards of living in a safe and ecologically-balanced environment. At the same time, this glocal mission for the global good can also be viewed as an opportunity to explore ways to generate revenue from global sources such as students, philanthropists, industry and global collaborations, to tap into the global pool of academic talent and build brand value which attracts more students and investment.

The governance for a glocal mission is built on the strengths of the governance for local engagement which are adapted to a global platform and reflected in the way the HEI extends its education and research competencies to engage with global issues of equal relevance. Two broad approaches can be used. The first is through incremental changes whereby the HEI builds its capacity in the core areas of education and research by addressing challenges specific to its local context and extending niche competencies for global application. The second approach is to explicitly state a specific global agenda as an institutional mission and the HEI reshapes and refines the range of services and markets it wants to operate in, targets particular 'stakeholder' segments (niche) and designs the governance model to provide tailored education, research and related services. In both approaches six imperatives for governance need to be incorporated: leadership for effective glocal governance; availability of appropriate and diverse talent with glocal mind-set; strong system for knowledge creation and diffusion; curricula and learning experiences for leadership; entrepreneurship and civic responsibility; institution-wide support for civic roles and glocal social responsibilities and leveraging the benefits of digital technology. Each HEI will evolve its own institutional model according to its mission, set of objectives, principles, values and capacity for glocal engagement and the clarity of the roles of different stakeholders. It is not one glove that fits all.

Introduction

Since the 1970s, HEIs have increasingly been called on to make education and research the engines of national economic productivity and competitiveness. As shown in the OECD Science, Technology and Industry Outlook (2014), funding cuts have been used to pressure HEIs to generate revenue from cross-border students and competitive research. Facilitative measures such as taxes, incentives, subsidies and property rights as well as legislation have also been introduced by governments to grow the

innovation economy. Competition has induced HEIs to be run like businesses. According to Ernst & Young (2012), to be viable, HEIs have to significantly streamline their operations to be lean and mean and use their assets more efficiently. The Internet will transform universities in the same way it has the media, entertainment and retail markets.

In this transformative landscape of higher education, and the failure of the capitalist for-profit economy to contribute to a more equitable and sustainable society at both local and global scales, HEIs are now being called on to help solve the problems of the millions of people in the bottom 40 per cent of the world's population who are languishing in poverty, illiteracy and ill health, very often threatened by ecological disasters and their aftermaths. The goals are to be collectively achieved through the Sustainable Development Goals.

Glocal as an extension of local engagement

From merely being a local or national asset can HEIs now also play a greater role in the global agenda? Local communities are very much a microcosm of the larger global community. They face similar problems and have the same shared purpose and aspirations for peace, wellbeing, harmony and prosperity. In all communities the same challenges abound – be they economic, financial, ecological, agricultural, health, education, social, security or natural resource depletion. As such, it is tempting to conclude that HEIs can upscale their local activities as a *glocal* mission to chart a new course towards a secure and prosperous world for future generations.

The term *glocal* needs to be properly understood in the light of what HEIs can and cannot deliver for the larger society. As stated by Boulton (2009), HEIs should not undertake tasks they may be ill-equipped for and should concentrate on the bedrock of their potential – what they are uniquely able to deliver in terms of education, research and innovation. HEIs are good at producing skilled personnel, excellent leaders and entrepreneurs for the workforce by using innovative curricula and pedagogical methods. They also attract international talent. Through internationally competitive research, HEIs produce, co-create, mobilize and exchange knowledge from across the natural and social sciences. They apply technologies and new approaches that contribute to wealth creation, social wellbeing and ecological balance in sustainable and inclusive ways. They integrate into the local and larger community as agents of social justice, mobility, cultural vitality and determinants of health and wellbeing.

In undertaking a *glocal* mission, HEIs forge 'contracts' with the different stakeholders at both local and global levels. The stakeholders include an expanding range of public sector agencies and policymakers, civil society, foundations and non-profit organizations, entrepreneurs, students and other consumers, communities, cities, scientific institutions, other HEIs and academic networks, as well as enterprises. The stakeholders often work in close collaboration with each other, allowing access to a broader pool of resources and knowledge at lower costs.

Demands to be nationally competitive and globally relevant are compatible

The unprecedented global demand for higher education offers both challenges and opportunities for HEIs to be competitive and to collaborate and become globally relevant. In its Agenda for Policy

Action, the OECD (2015) states that talent recruitment and retention, competition for students, budget and other critical resources are drivers for remaining viable and competitive. HEIs have the opportunity to widen access to the millions living in poverty, particularly by establishing branch campuses and by harnessing the potential of digital learning to drive innovative teaching-learning and distribution approaches. **The growth of social entrepreneurship is creating opportunities to find sustainable solutions for millions of people and their families to be educated, earn a living and increase their standards of living in a safe and ecologically balanced environment (Yunus, 2010).**

Facilitative government policies for integrating education and research with industries and venture capital form the platform for deeper global partnerships which create greater collaborative potential for new products and markets. Multi-stakeholder collaboration has seen the development of Massive Open Online Courses (MOOCs) as new teaching and learning delivery mechanisms which are creating global brand impact. **In research, the potential to address global issues through collaboration in converging technologies at the nano level is overwhelming and may be the harbinger of the next industrial revolution.** The OECD (2015) predicts that

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the convergence of biotechnology, nanotechnology, information and cognitive sciences will lead to ongoing transformations in manufacturing and the nature of jobs, as well as assist in issues of ageing, health, food security, national defence, environmental sustainability and climate change mitigation efforts.

The goals of deepening involvement and impact locally by responding to competitiveness and, at the same time, contributing to societal challenges globally are not mutually exclusive, rather they are potentiating. A *glocal* mission for the global good has a greater chance of success when it is also viewed as an opportunity to explore ways to generate revenue from global sources such as students, philanthropists, industry and global collaborations as well as the opportunity to tap into the global pool of academic talent.

Since a *glocal* mission is compatible with a local mission of competitiveness, the issue of duality in management and governance does not arise. Instead, **the governance for a *glocal* mission is built**

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on the strengths of the governance for local engagement and is reflected in the way the HEI extends its education and research competencies to engage with global issues of equal relevance. Each HEI

will develop its own institutional model according to its mission, set of objectives, principles, values and capacity for glocal engagement and the clarity of the roles of different stakeholders. It is not *one glove that fits all*.

“The governance for a glocal mission is built on the strengths of the governance for local engagement and is reflected in the way the HEI extends its education and research competencies to engage with global issues of equal relevance.

Glocal mission in action

Two broad approaches are usually used. The first involves incremental changes towards a global agenda. In this approach the HEI makes incremental changes in the way it engages with students, government, industry stakeholders, other HEIs and the community to deliver its services locally and globally. It builds up its capacity in the core areas of education and research to address challenges specific to its local context and extends niche competencies for global application. The second approach is to explicitly state a specific global agenda as an institutional mission. In this approach the HEI reshapes and refines the range of services and markets it wants to operate in, targets particular ‘stakeholder’ segments (niche) and designs the governance model to provide tailored education, research and related services globally. In both approaches glocal engagement evolves from the issues selected by each university based on its purpose, values and capacity. This includes the way the HEI integrates into the global value chain to influence and shape policies, to generate revenue from the research and education value chain, to form partnerships across borders, to tap into the broader pool of resources and knowledge at lower cost, to share risks, to bring global innovations to address local needs and to contribute to mutual learning as significant actors in the glocal system.

Approach 1: incremental changes towards a global agenda

Universiti Kebangsaan or the National University of Malaysia (UKM) is a research intensive university established to strengthen research and innovation for the nation’s socioeconomic growth. One of its strategies is to steer education and research to meet the emerging needs of society through community engagement and social responsibility. The aim is to educate future leaders and mobilize professors, students and staff to address pressing societal and environmental issues, to combat poverty, to improve public health and adopt socially and environmentally responsible institutional policies and practices, in participatory people-centred development. Civic engagement is not mere outreach, but a mindset shown by the commitment of the leadership to establish the office of a deputy vice-chancellor responsible for community and industry partnership. Similar units are established at every faculty and research institute, with a coordinator appointed to support the community engagement function as a university-wide effort. The network of community engagement offices partners with industry, government agencies, philanthropists, foundations and so on to secure funding and other resources for each project. Students earn academic credits for community engagement activities. It also accounts for about 20 per cent of the staff annual appraisal. Exemplary community engagement activities are given recognition awards annually. Community-based research is funded by UKM. Two examples of incremental changes towards a global agenda from UKM are given in Box 1 and Box 2.

Box 1: Incremental change towards a global agenda: bringing global innovations to address local needs and extending local capacity globally.

Since the 1990s, UKM's Institute for Environment and Sustainable Development (LESTARI) has accumulated a vast amount of knowledge about the geological, archaeological, cultural, biodiversity and ecological wonders of the 99 islands of Langkawi situated in the northern part of the Malaysian peninsula. Its researchers collaborated with the Langkawi Development Authority (LADA) to use their findings to turn Langkawi into a Geopark. On 1 June 2007, the Langkawi Geopark was declared the first UNESCO Global Geopark in Southeast Asia, and the world's 52nd Geopark in the UNESCO Global Network of Geoparks. Since then, there has been an exponential increase in ecotourism, bringing revenue that uplifts the socio-economic status and revitalizes the cultural life of the people. UKM's Geopark research station continues to collaborate with LADA in providing entrepreneurial training in sustainable ecotourism activities for the local people. Community awareness programmes on keeping the Geopark sustainable are conducted for the island community. Through the Langkawi Geopark activities UKM has built a team of experts who now participate as international evaluators to establish new Geoparks, thus bringing development which benefits the people living in those areas.

Another example of community engagement comes from the research station maintained by the Faculty of Science at Lake Chini, the second largest lake in the country. More than 10 years of research revealed that development in the surrounding areas had caused heavy sedimentation in the lake. This affected water quality and led to the disappearance of various aquatic flora and fauna, thus threatening the livelihood of the indigenous people who depend on the lake. Advocacy from UKM resulted in the formation of the Lake Chini Development Committee, in which UKM is also represented. The government has adopted conservation plans to help restore the water quality as well as bring back the plants, fish and other aquatic life forms. The techniques applied are outcomes of the UKM research. Students have also conducted studies into the rich heritage of the indigenous people and helped revive cultural traditions and handicrafts. Entrepreneurial training is given to enable the indigenous people to earn income from handicraft sales and cultural performance for tourists, thus helping to eradicate poverty. Through UKM's efforts Lake Chini has been designated a UNESCO Biosphere Reserve. The phyto-remediation techniques have since been applied by the oil and gas industry.

Box 2: Incremental change towards a global agenda: developing competence as a community engaged university and leveraging an international network to contribute expertise globally

Having developed competencies in addressing economic, cultural, social and ecological issues through community engagement, UKM was accepted as a member of the Talloires Network of Community Engaged Universities based at Tufts University. The network is an international association of institutions committed to strengthening the civic roles and social responsibilities of higher education. The Talloires Declaration on the Civic Roles and Social Responsibilities of Higher Education, crafted in September 2005 states, “Our institutions recognize that we do not exist in isolation from society, nor from the communities in which we are located. Instead, we carry a unique obligation to listen, understand, and contribute to social transformation and development.”

As a member of the network’s steering committee, UKM shared its experiences in planning and implementing the Youth Economic Participation Initiative (YEPI) at the global level. YEPI is designed to catalyse change in the way universities across the globe prepare their students for economic life after graduation. UKM, through its Centre for SME Development (CESMED), has competencies in developing an innovation and entrepreneurship culture by integrating education with research and commercialization at both the undergraduate and postgraduate levels to produce a new talent pool of job creators for the innovation economy. In a model called ‘technogenesis’ developed by UKM’s collaborating partner the Stevens Institute of Technology, USA, an enriched learning environment for innovation and entrepreneurship is introduced to faculty members and students whereby research inventions and services are brought to the marketplace. Faculty staff and students define solutions to technical challenges, are assisted with prototype development, registration of IPs, development of business models and are matched with potential investors and industries. Students have graduated with the confidence and ability to grow and launch companies or introduce innovation into their firms. Both are important functions in vitalizing the economy. UKM becomes a source of innovation for the economy.

Together with seven other universities in the Talloires Network, UKM has been awarded a YEPI demonstration grant covering a period of three years to allow the technogenesis programme to expand the learning and deepen its impact. The University of Minnesota (UMN) is working together with the demonstration grant programmes to study the effectiveness of their strategies and discover the ingredients for creating sustainable institutional change. The learning, knowledge and key strategies from each of the demonstration grant institutions will be shared with a wider audience and an online professional community of practice.

Approach 2: explicit statement of a specific global agenda as an institutional mission.

The Albukhary International University (AiU) is a private non-profit HEI whose founder believes that charity is the cornerstone of commerce, and that business has a social agenda in creating a more caring and progressive society. The Albukhary business conglomerate contributes to the Albukhary Foundation which gives form and structure to the social agenda activities, one of which is education at AiU. Education is driven by values of charity, scholarship, excellence, quality, integrity and compassion which are reinforced through activities that foster leadership, volunteerism, civic responsibility, mutual cooperation, respect for diversity and human rights. An explicit goal of AiU is to empower the bottom 40 per cent with opportunities for creating innovative sustainable solutions to promote a life of dignity, compassion, wellbeing, respect for human rights and success for themselves and their societies. To support this mission, AiU reserves 40 per cent of admission for qualified students from low-income families who are recruited from all over the world and supports them with Albukhary scholarships. It has designed an Entrepreneurship and Social Business module using the unique Albukhary Social Business Approach as a compulsory module of every programme of study. The social entrepreneurship skills will help students create jobs for themselves and others as well as sustainable solutions to eradicate poverty or address other social agenda issues in their communities such as ill-health or low agricultural productivity. They also learn how to mobilize available resources in implementing the social business plan. Most importantly they internalize values key to the Albukhary philosophy, namely, charity, compassion, integrity, respect, excellence, valuing diversity and volunteerism. AiU has also established a Yunus@AiU Social Business Centre to coordinate the courses and experiential learning beginning from Year 1 and ending in the final year with a capstone project for 16 weeks where they execute and monitor their social business plan and measure the impact. Students continue with internship for another 16 weeks in a company related to the social business project. An example from AiU is given in Box 3.

Box 3: Explicit statement of a specific global agenda as an institutional mission: social business as a sustainable solution to social issues

Social business is offered as a comprehensive and sustainable strategy for investing in people with the potential to address the problems afflicting humanity today. An integrated approach in social business called the Albukhary Approach is used. The Albukhary Approach integrates the activities of the Yunus@AiU Social Business Centre, the Albukhary commercial entities and the Albukhary Foundation and its charitable activities. In the Albukhary Approach, identification of the social agenda and the community involved may be initiated by any of the three parties. The solution, however, is implemented by all three in a comprehensive and sustainable manner.

An example of the Albukhary Social Business Approach is the activity carried out in Baling, Kedah, where rubber tappers are among the poorest in Malaysia. Their income has dropped drastically because of the low price of rubber. With an income of about RM800 per month, many are living below the poverty line in Malaysia. The reasons are many, chief among which is that they are

smallholders or they own no land and earn wages from rubber tapping. This is compounded by low yield and poor quality latex. On rainy days they do not earn any income. They are also exploited by middlemen who pay very low prices for the latex.

The business entity, MARDEC Berhad, a subsidiary of the TRADEWINDS Group in the Albukhary Conglomerate is involved in the processing (midstream), and manufacturing of value-added rubber and polymer products (downstream). It faces great challenges in obtaining sufficiently high quality latex direct from source. In the Albukhary integrated solution MARDEC establishes collection centres nearer to the rubber estates and collects latex directly from rubber tappers, thus eliminating the middlemen. The rubber tappers get a better price margin. MARDEC also transfers technology to increase yield and improve the quality of latex, as well as provide advice on agronomy.

The Albukhary Foundation empowers the community by providing educational and enrichment programmes, health services, welfare and family counselling. The Yunus@AiU Centre engages students and the community in developing sustainable business solutions through entrepreneurial activities and cooperatives which provide discounted goods and services related to the Albukhary group of companies such as rice, sugar, bread, mobile internet, fertiliser, motorcycles, pick-up trucks and rubber tapping supplies. The Yunus@AiU Centre conducts research, provides training and monitors impact. It connects the rubber tapper community to other stakeholders for training, market and technology access, and micro-financing. They include government agencies responsible for community development, the Malaysian Rubber Board, research institutions, Muamalat Bank and Agro Banks. Most importantly, the rubber tapper community is linked to and obtains support from the rubber smallholders' association, civil society and women's groups. The Yunus@AiU is the springboard to other Yunus Centres in the world.

The Entrepreneurship and Social Business Curriculum begins in Year 1 with courses on entrepreneurship and innovation and social business. The social agenda and community to be assisted are identified in Year 1. In Year 2 the students refine the social business proposal with courses in financial planning and development studies. Year 3 comprises the social business capstone project for 16 weeks in which students execute their social business plan, including monitoring and measuring its impact. The curriculum ends with internship for another 16 weeks for students who choose to work in a company related to the social business projects. The learning approach is community- and problem-based with experiential learning. Students have to identify the social issues, develop the social business model, pitch for funding, implement and measure impacts.

Effective governance for glocal mission

From the examples given it is obvious that the HEI system must perform efficiently as a whole, as weak links will hinder its glocal mission. This is reflected in the institutional vision and framework of structures, policies, procedures, practices, funding and incentives which orientate the mindset of the people in the organization towards integrating education and research into glocal engagement and impact. Six imperatives of governance are highlighted:

1. Leadership for effective governance: Essential features of leadership include a strong commitment to the glocal mission where the HEI is not only a critical resource for a knowable future, but also provides the radical ideas, thoughts and technologies for an unknown and unpredictable future, and forges that future in all dimensions – economic practice, social and religious experience and political relationships. The leadership mindset is that the HEI is an integral part of society and the community in which it is located. It has an obligation to steer its education and research and share its expertise and resources to meet the emerging needs of society (e.g. tropical diseases, malnutrition, poverty) in their local and global contexts. There is commitment to collaborate in joint partnerships, networks, consortia and alliances with all stakeholders in the public, private and civil society sectors at all levels towards sustainable transformation and development. Leaders build an institution-wide management framework that is dynamic, modern, productive, flexible and entrepreneurial to deliver innovative services in a competitive environment with speed. There is sufficient trust and autonomy in the creative units and promotion of academic independence and integrity. Autonomy is balanced with accountability embedded in strong capabilities for risk management, evidence-based decision-making, quality assurance, evaluation and monitoring of outcomes and impact, as well as learning from experience, and good local and international practices to enhance performance. Leaders promote less reliance on institutional funding, reallocate resources and devise incentives to drive glocal activities in both research and education.
2. Availability of appropriate and diverse talents with glocal mindset: Engaging in a glocal mission requires cultural and skills-set changes among academia, students and staff, similar to that expected in the leadership. This will ensure commitment to glocal engagement, with continuity of stewardship. The move from didactic teacher-dominated teaching practices and research directed at publications, to a mindset that also embraces inclusivity and societal responsibility needs to be managed. There must be capacity-building efforts to nurture leaders throughout the organization whose passion for teaching is not just about imparting knowledge and practical skills but also about nurturing social justice values so that their graduates become accomplished and sought-after leaders, entrepreneurs and professionals in a globalized cross-cultural environment. They must show courage in exercising independent thinking and opinion-making on societal issues. They are willing to engage with glocal communities to co-create and exchange knowledge, expertise and resources. They network and negotiate to influence others to adopt and implement new ideas or cut the right deals to bring ideas to market. Capacity-building efforts need to highlight the evidence that those who are socially responsible are also productive in research, publication

and commercialization. Fears about a fall in research performance in global rankings need to be allayed. Stakeholders need to see the beneficial impact of societal responsibility on communities and the HEI itself. Ideas such as social business need to be introduced as strategies for the sustainability of societal responsibility programmes. Above all students, faculty and staff need to be assured that being socially responsible counts for academic credits and promotion.

3. Strong system for knowledge creation and diffusion: HEIs invest effectively in the systematic pursuit of fundamental knowledge in science, technology, humanities and social sciences for durable benefits and research excellence rather than merely responding to present demands and short-term outcomes. They organize research in areas with the highest impact, addressing issues of national and global concerns such as poverty, climate change and so on, and forge knowledge networks for international cooperation in these areas. They build a strong ecosystem for research, technological innovations, university-industry-venture capitalist linkages and entrepreneurship that bring inventions and other research outcomes to the marketplace and the global society. They couple undergraduate and postgraduate programmes with entrepreneurship and social business, thus producing a new generation of entrepreneurs with both economic and social agendas. They count starting a company, including social enterprise, towards tenure consideration for faculty.

4. Curricula and learning experiences for leadership, entrepreneurship and civic responsibility Through: their curricula and learning experiences, HEIs should induce personal changes in the intellectual, moral and ethical aspects of the individual, ultimately inducing similar changes in society. Such individuals drive knowledge generation for human development and contribute to an equitable k-economy and society living in ecological balance. HEIs provide a range of specialized courses that closely fit the requirements of a modern workforce by partnering with industry in creating value providing services within the higher education value chain. Examples of partnership include internship and industry placement, developing and distributing content, recruiting and securing market share of students, providing student support services using digital technology, cloud-based customer relationship management tools and techniques and employer-led certification and accreditation to assure relevant workforce skills (Butler, 2016; US Chamber of Commerce, 2016). The curriculum and pedagogical methods must develop competence in higher order thinking (HOT), research culture, evidence-based decision-making and a stake in students own learning as the foundation for lifelong learning. The curriculum should also provide a broad understanding of other fields by integrating the major disciplines with the sciences, humanities and social sciences, designed to give a well-rounded education for 21st century leaders. Leadership and values of compassion, respect for diversity and human rights, civic responsibility, mutual cooperation and global peace are nurtured through volunteerism, managerial and social entrepreneurship designed to create sustainable solutions to address issues afflicting humanity and to promote a life of dignity, wellbeing and success.

5. Institution-wide system for civic roles and glocal social responsibilities: HEIs establish explicit visions and missions and a system that supports the civic roles and social responsibilities of their people as active agents and partners in glocal engagement. Discourses for greater understanding of social engagement and for reinforcing values of inclusivity and mutual respect are institutionalized. Capacity-building in areas such as social participatory research, skills and competencies to access funding for societal engagement, systems and processes for stakeholder engagement and examining the social impact of societal engaged projects are intensified through workshops, seminars and conferences. The community is used as a classroom for real-world lessons in inculcating ethics, responsibility, values of sharing, caring, loving and respect for diversity, appreciation of tradition, custom, culture, beliefs and spirituality. Students and staff are encouraged to exercise academic freedom to think and give opinions on societal issues independently, without fear or favour, as well as to advocate and lobby based on evidence from their research.
6. Leveraging the benefits of digital technology: HEIs make effective use of the digital ecosystem for innovation, growth and a larger audience. They invest in new infrastructure such as mobile devices, broadband with enough spectrum and Internet addresses for the future. Cloud computing as a platform for new services, MOOCs, new learning informatics and a robust social media strategy are applications to grow online audiences and networks for knowledge diffusion. They address issues related to access, privacy and security concerns. They are more open to use of 'big data' generation, storage and analytics (the Internet of Things) to drive R&D and create data-based innovations.

Conclusion and recommendations

The goals for HEIs to deliver education, research and innovation for local impact and competitiveness are compatible with the goal of addressing societal challenges globally. The competition for students, academic staff and other critical resources as well as the growth of social entrepreneurship are potential game changers for innovations in products and services that provide sustainable solutions to address social issues. Global engagement is an opportunity to build brand value which attracts more students and investment. HEIs can contribute to the global agenda through incremental input from their education and research competencies that are developed in the local context, or they could set a global agenda in their institutional mission from the very beginning. The governance for a glocal mission is built on the strengths of the governance for local engagement which are adapted to a global platform. While each HEI evolves its own institutional model, six imperatives for governance need to be incorporated: leadership for effective glocal governance; availability of appropriate and diverse talents with glocal mindset; strong system for knowledge creation and diffusion; curricula and learning experiences for leadership; entrepreneurship and civic responsibility; institution-wide support for civic roles and glocal social responsibilities and leveraging the benefits of digital technology.

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The case of the University of Torino and the Process of Social Reporting

Laura Corazza

Introduction

Universities have a key role in influencing society, which they exercise through the three areas of teaching, research and 'society outreach'. The relationship between universities and society has a double effect: on the one hand, it has a social impact in the local arena, and, on the other, the aim is to attain a high global international reputation in competition with other universities. As a consequence, the management of institutional governance for a shared *glocal* engagement mission requires paradigms, strategies, policies and tools for achieving both local and a global goals.

In order to successfully manage the institutional pressures and the engagement of its stakeholders, the University of Torino decided to implement a process of social reporting that includes enlisting local stakeholder engagement. The process has been carried out by an editorial team composed of teaching and administrative staff, and supported by the strong commitment of the academic governance body. The content of the resulting 'sustainability report' is focused on achieving the three missions, and includes the disclosure of the results of the policies adopted by the institution to fulfil its social and environmental goals. This tool is used to highlight its accountability as a public university and reinforce the lines of communication with stakeholders (going beyond the practice of only disclosing administrative data to ministries). As such, wider informative purposes are achieved through the disclosure of performance indicators which meet

the needs of a broad range of internal and external stakeholders (mapped and engaged). The disclosure of material information forms the essential core of the report and stakeholders have been consulted in order to determine their information needs. In addition, the tool has the managerial effect of monitoring the yearly sustainability performance of the University of Torino.

The case of the University of Torino and the process of social reporting

With over 67,000 students (3,800 international) and more than 4,000 academic and administrative staff, the University of Torino (UniTo) in north-west Italy is one of the country's largest and most prestigious universities. Founded in 1404, today UniTo offers over 150 undergraduate and postgraduate degree courses in almost every field of study.

A growing number of courses are taught in English, and Italian-language tuition is available for incoming students (UniTo offers courses in all subjects except Engineering and Architecture). The university's 27 departments offer training and research opportunities for Italian and non-Italian academic staff; four doctoral schools provide 29 doctoral programmes; start-up incubators offer services relating to knowledge transfer; and there is a research centre dedicated to public engagement. More than 120 university buildings are located in the city of Turin and in the metropolitan area (including offices, libraries, laboratories, etc.). As an example of social

impact, UniTo manages half of the health services provided to Turin's citizens through strong collaboration with the local hospital (one of the biggest in Europe).

These structural elements of UniTo imply that the university exercises economic, social and environmental impacts over the local area. Simultaneously, the increasingly competitive international research environment requires that the university enjoys a high academic reputation in international rankings, while recognition of UniTo's social responsibilities is necessary so that it may make a concrete contribution to the sustainable development of society and maintain its reputation in the local community.

For these reasons, UniTo, backed by the strong commitment of its rector, has included in its management strategies (i.e. its Strategic Plan), in addition to its core missions, several social and environmental goals, for example:

- » Removing economic and social obstacles which limit access to higher education;
- » Upholding the right to work and the creation of employment;
- » Enhancing corporate welfare;
- » Participating in the elaboration of development strategies and contributing to the competitiveness of the territory;
- » Communicating to stakeholders those initiatives implemented in areas of social, environmental and economic sustainability;
- » Promoting environmental sustainability (through an energy-saving plan);
- » Supporting economic sustainability.

The process of reporting on and accounting for these social responsibilities is based on the work of Lozano (2011). The process starts with the choice of guidelines used to edit the sustainability report. Despite the presence of several guidelines, there is no clear standard for sustainability reporting in universities and the existing guidelines must be contextualized. In the case of UniTo, an international reporting standard (Global Reporting Initiative) has represented the recommended choice in terms of the different phases employed: materiality analysis, stakeholder engagement activities, interviews, data retrieval and editing. It transpires that editing a sustainability report is an organizational process. In that sense, those involved in the process are used to working within a heterogeneous group under the guidance of the rector of UniTo. The working group is composed of: the vice-rector for Public Relations, the director of the Finance Department, professors, researchers, experts and administrative staff members.

The involvement of different professionals in the scientific committee has the advantage of facilitating information retrieval, as access to uncodified knowledge varies under different conditions (for instance, data related to scientific projects are different from data concerning financial expenditures or data related to carbon emissions, and people manage data differently). Furthermore, different data owners have different perceptions regarding the importance of data management and timing considerations (for example, approaches to deadline), as well as different attitudes towards data responsibility. However, one solution implemented in UniTo is to communicate the importance of sustainability reporting not only as a communication tool with external stakeholders, but also in its coherence with other internal and external documents produced by the university in order to fulfil mandatory ministerial regulations or for management purposes

(budget, plans, etc.). The process of sustainability reporting has boosted the awareness of the need for a clearly identified organizational structure to deal with sustainability issues in UniTo. As a consequence, UniTo is creating a permanent board, with an inclusive management model, where students, professors, managers and other personnel can deal with sustainability actions together.

The logical process of accounting should be the last phase of a sustainability plan, even in the case of UniTo, where the managerial variables, numbers of students, professors, financial resources and intangible resources are complex, while the first edition of a sustainability report presents a snapshot of the existing situation. In order to set concrete plans for the future, the sustainability report should highlight the strengths and weaknesses of the managerial and governance centres of the university in terms of sustainability issues. The use of reliable information based on shared data reinforces the communicative purpose of the document, allowing people to speak clearly and translating a complex administrative process into easy-to-understand contents. In addition, the choice of the reporting guidelines, which in this case are internationally well-known, allows UniTo to speak the same language as the other organizations adopting the same guidelines, such as local and international companies, NGOs and other universities.

Adapting the content of the sustainability report to the requirements of the guidelines has a double effect. The first is the disclosure of only relevant information, without redundancies. The second is having the ability to actively manage every aspect of the performance indicators disclosed (i.e. gender balance, financial ratios, carbon emissions, water consumption, rate of university leavers, etc.), thus creating benchmarks and suggesting policies.

In conclusion, managing the process of sustainability reporting requires a strong commitment from the academic governing bodies and a passionate team of dedicated staff. Conversely, the process itself is a source of added value for managing the relationship between university and society. The report facilitates a transparent dialogue with stakeholders and simplifies the language used by public administrators in making information available to a wide audience, as the reader can find different types of information in one document (financial, social and environmental, as well as statistics relating directly to the university, for example numbers of students, graduates, courses, research projects awarded, patents, etc.). Finally, such reporting allows universities to make a concrete contribution in terms of sustainable development by indicating any gaps in their governance related to teaching, researching and transferring knowledge.

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5

Glocal Higher Education Institutions' Engagement and Ethical Implications

5.1. Global Challenges and Value-based Quality Education for Holistic Development in Higher Learning Institutions

Anand Mohan and Sanjay Bhushan

Abstract

The steep decline and deterioration in the overall global fabric of societal and moral values in recent times has necessitated the adoption of the idea of holistic education as a truly universal value concept with the potential to create substantial impact on educators and the teaching and grooming of students at different stages of development. Global research and case studies have been conducted with very persuasive evidence suggesting that values in education are indeed the missing link in quality teaching. The need of the hour is to identify and institutionalize a diverse set of values and quality attributes of Holistic Education across different higher educational models adopted by institutions of local, regional, national and international status.

Consistent with the systems philosophy approach of 'Holism', Holistic education involves understanding a body of knowledge by examining its value interactions with other epistemological constituents that are vital for the well-being of any civilization and its ecological and cosmological existence. The unique attribute of value-based education is that it can integrate within the framework of its postulate the meth-

ods and systems of providing educational contents across a multidisciplinary body of knowledge. With the value perspective, one is able to see the world in terms of facts and events with their contextual reference and as a 'whole'. It brings forth a reorganization of the way of thinking that is desirable in inclusive, dynamic, multiple and mutually enriching modes of inquisitive thinking and in-depth understanding of the needs of the evolving socioeconomic and environmental realities of human race. The present paper postulates the wider adoption of a scheme of innovative and comprehensive education policies and programmes, both at university and pre-university levels, promoting the physical, intellectual, emotional and ethical integration of individuals. It advocates the need for higher learning institutions to impart values among students in an integrated fashion, giving measurable benefits like knowledge acquisition, earning capacity, increased life-expectancy, work productivity, efficiency, ethical behaviour and most importantly an enriched sense of socio-environmental consciousness. Community engagement is another integral and valuable aspect of this form of holistic education model. Towards the end, the present study refers to some renowned value-based educational models and programmes practiced in India and Australia with a unique blend of policy elements and programmes put together and implemented under an educational system that leads to the development of a 'complete human being'. Certain actionable recommendations are also mentioned at the end.

Section I: Introduction

1.1. Value deficit: a global crisis

It is increasingly becoming evident that as the world economies are collectively moving through the phases of development and growth mobilizing economic resources and might of immense magnitude, there is a corresponding equal and exponential drift of contemporary modern society into the darkness of immoral, manipulative, values-deficient and culturally disoriented society. Incidences of atrocities against women and children, drug-addiction, human trafficking, mass shoot-outs, the emergence of extremist forces, radicalization and terrorism are only few of the various social ills and evils which are on the historical upsurge and taking a toll on all of humanity.

This presents us with a totally contradictory picture of the state of world affairs as they exist today. On the one hand, there is immense progress on technological, social, political and global fronts in terms of rapid transportation, modernization, urban development, communication technologies, social networking and infrastructural expansions; on the other hand, the virtues of all of the above are countered ruthlessly by an unprecedented misuse, loss and wastage of vast amounts of material and environmental resources, global warming, the spread of crime of all sorts and scope and, more alarmingly, the rupture of the very sacred fabric of tolerance, socio-cultural harmony and the physical and psychological wellbeing of the present human race.

1.2. Role of education and educational institutions in handling the global values crisis

As countries across the world advance towards becoming a developed society at large, they are faced with the dilemma of adopting an education model that could shape the present and next generation to face the challenges of tomorrow and today as described above. In an effort to build educational institutes that could serve this purpose and compete with the best in the world, somehow, somewhere we lost track of the foundations of education that prepare responsible citizens who are sensitive to the needs of their nation and global society. The essence of values in education is universal in nature irrespective of national boundaries, permeating through different cultures and social groups towards building a sustainable and resilient world order. Educational institutes and universities are facing the huge challenge of providing value-based education to develop socially responsible citizens. The lack of adequate infrastructure and a model of education are inhibiting the process of building the moral character of the society and nation.

The most valuable thing about a university is its atmosphere, something in its life and embedded in the culture that permeates the character and influences everything in later years. The essential part of university education is evolved, innovated and fostered by its teachers and instructors who create the spirit of the place.

This social virtue does not depend on learning, on the number of books you read or the number of facts you know, but in the proper understanding of human nature. It is universally accepted that human nature is not a matter of surfaces but of strata, of external experience, of reflective consciousness, of moral and aesthetic apprehension, of religious insight. These factors embodied in value-based quality education for holistic development make up the soul of a university. However, the steep decline and deterioration in societal and moral values in recent times across the global community has necessitated the adoption of the idea of holistic education as a truly universal value concept with the potential to create substantial impact on educators and teaching and schooling of students at different stages of development.

Global research and case studies have been conducted with very persuasive evidence suggesting that values in education are indeed the missing link in quality teaching. The need of the hour is, therefore, to identify and institutionalize a diverse set of values and quality attributes of Holistic Education across different educational models by institutions of local, regional, national and international status. The development of appropriate and relevant educational models equipped with right set of values and quality attributes will be able to groom and develop a well-rounded person who is capable of giving a fuller response to evolving socio-economic and environmental needs. It would be helpful to imbue students with values that develop knowledge acquisition, earning capacity, increased life-expectancy, productivity and efficiency, ethical behaviour and socio-environmental consciousness.

1.3. Fundamental postulates of value-based education

The fundamental postulate of value-based holistic education is in sharp contrast to the mechanistic professional education systems that are largely followed today.

Consistent with systems philosophy, Holistic education involves understanding any body of knowledge by examining its value interactions with other epistemological constituents that maintain the wellbeing of any civilization and its ecological and cosmological existence.

On the contrary, the atomistic and singular thrust of modern educational models promotes professional thinking by overemphasizing the end purpose of economic and materialistic gains and individualistic prosperity, which suffers from the disadvantage that it is easy to lose sight of feelings of solidarity in the community and global prosperity at large.

The unique attribute of value-based education is that it can integrate within the framework of its postulate the methods and systems of providing educational content across a multidisciplinary body of knowledge. With the value perspective, one is able to see the world in terms of facts and events with their contextual reference and also as a 'whole'. It brings forth a reorganization of the way of thinking that is desirable in inclusive, dynamic, multiple and mutually enriching modes of inquisitive thinking and in-depth understanding of the needs of the evolving socio-economic and environmental realities. Value education propagates the idea of 'meta-concepts' which facilitates the paradigm of 'unity in diversity'. It advocates the adoption of universal ethical values that all real-world systems need to benefit from comprehensively. This approach of educational enquiry benefits from a 'holistic' perspective rather than reduced atomized approaches to resolve any problem.

Of closer concern and value to social evolution is the idea of the role of individuals in human organizations. One ought to aspire to developing a well-rounded personality equipped with intelligence, emotions and consciousness to give a fuller response to the challenges and needs of one's community. Hence, the basic postulate of values education inculcates both in educators and students equally, the probing mindset and character to appreciate that the human organization, its immediate environment and mutuality of the 'whole' defines a system, which underpins and unifies a range of human endeavours and knowledge domains. The content and substance of values education has the potential to go to the very heart of the power of quality teaching by focusing the attention of the teacher and the system on those features of their professional practice casting a significant impact, namely the relationship of due care, mutual respect, fairness and positive modelling established with the student and in turn, the network of systemic 'relational trust' that results. The relationship between values education and quality teaching can be expressed in terms of a 'double helix', a particularly powerful conjunctive term borrowed from the field of genetics. No longer is values education on the periphery of a curriculum that enshrines the central roles to be played by the teacher in our society. Unlike the assumptions that seem to underpin so many of our concerns relating to structures, curriculum and resources, values education is premised on the power of the teacher to make a difference.

1.4. Modern global society and the values-education framework

The essence of values in education is universal in nature, irrespective of national boundaries and permeating through different cultures and social groups towards building a sustainable and resilient world order. Below are some intriguing questions that judge the relevance and appropriateness of today's

higher education models with regard to solving broader social and economic ills, evils and problems of our contemporary global society:

- » What are the socioeconomic-environmental interfaces of the present day higher education system?
- » Is it capable of offering solutions to the micro-level problems and challenges faced by humanity at large?
- » How can we examine the relevance of higher education and knowledge capacity-building and its dissemination for the development of economically underprivileged communities?
- » What are the prospects of knowledge capacity-building through higher education under a holistic 'stakeholder' framework?
- » How can we evaluate the nature and scale of the global implication and impact of the higher education system?
- » What policy guidelines and action plans should be developed for large scale acquisition and dissemination of higher education and research outputs?

In this context, across the world educators today are seized with the idea that educational institutes and universities must provide value-based quality education to develop socially and environmentally responsible citizens. Some also believe that quality without values in education is an oxymoron.

The main function of education is the development of an all-round and well-balanced personality in students. The prominent Indian educational thinker Swami Vivekananda observed, "education is not the amount of information that is put in your brain and runs riots there, we want that education by which character is formed, strength of mind is increased, the intellect is expanded by which one can stand on one's own feet."

Our global society is facing a tremendous crisis of values today and so many unsatisfactory occurrences have arisen due to this crisis of values and character. Now the question arises: what is the remedy for all these ills? There is a great need to equip the present education being imparted to children with values for life in order to make them good human beings. Values bring quality and meaning to life and give a person their identity and character. Values may be regarded as 'certain behaviour or ways of life regarded as more desirable than others'. The most valuable human possessions are health, harmony, happiness, wisdom and, above all, character reflecting ethical and human values. When these values are manifested in people's thoughts, speech and actions, they could be called enlightened people. As we think sincerely and consciously, we become more value-conscious. Our actions and behaviour reflect our ideas and feelings. It must be injected into the minds of students through the education system that 'we do not work for name, fame, money, power and status, but for greater growth, for cultivating values, for building up strong character and for wisdom so that our intrinsic value is enhanced.'

1.4.1. Values and quality education as a core constituent of the higher education framework: significance for India and the global society

Offering a solution to the global values crisis, it can be reiterated that by making values an explicit and central part of the curriculum and the learning process, we can produce enriched and enhanced teacher-student outcomes in terms of intellectual depth, communicative competence, capacities for reflective and innovative thinking and, most importantly, socially and environmentally responsive citizens giving fuller responses to the global challenges of today.

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In line with the objective of developing a unique need to provide innovative, comprehensive, interdisciplinary and value-based education that fosters academic excellence with holistic development, modern educational institutions need to produce well-rounded people who are ready to take on challenges and be leaders with a fine blend of top quality academics, work-experience and a strong value system.

Hence, there is a need for a system of ‘transformative education’ that can bring about a holistic change in the teacher-taught relationship by facilitating a teaching-learning ambience within which values and quality flourish more easily, naturally and organically. This can be attained by employing systematic teaching-learning procedures, spending more time working with students in the classroom and laboratories, encouraging constant feedback, adjusting the content delivery to student ability, providing a variety of opportunities for students to apply and use knowledge and skills in different learning situations and, ultimately, fashioning a very positive disposition towards ‘learning’. The learning curriculum and activities have to be restructured in order to consolidate the compliance and practice of values together with quality teaching and learning (UNESCO-APNIEVE, 2002)

As per this wisdom, values need to be clarified, modelled and practised first by teachers or educators themselves so that they can be objectively negotiated with students later. It can also be suggested that values education requires far more than a surface approach to knowing. It must find application, enactment and expression in concrete, practical situations across the board. It can also be noted that, activities conducted during the educational process trigger different centres in the brain leading to changes in the cognitive and behavioural patterns of knowledge seekers. Repeated stimulation of these centres through constant and enriched value inputs may significantly impact the thought processes and decision-making abilities in later life. Hence, it may prove to be meaningful to identify value-based educational content and the pedagogical mechanism in order to develop the most effective educational models to bring about the much desired holistic personality development.

However, a lack of understanding of how an actionable model of value-based quality education can be created is inhibiting this process. Two dimensions which could potentially be effective at addressing these issues can be elaborated as follows:

1. Design, development and implementation of a value-based quality education framework; and,
2. Generation of a wider 'stakeholder'-based community engagement in India's higher education system.

The values-oriented quality education approach benefits from providing a well-rounded perspective on life, making education not only of immediate relevance but making it of continuing value throughout life in a more meaningful way. Given that the world today is torn with strife and conflicts at every level, there is an urgent need to make modern education more balanced with emphasis on values and quality in a synergistic way and promote the overall idea of holistic education to resolve this crisis.

India, and for that matter, the global society, requires educational reform that aims at excellence but not at the cost of relevance, which inculcates the dignity of labour, encourages initiative and creative work, which is multidisciplinary and prepares students for the increasingly techno-social systems of tomorrow without uprooting them from their heritage and cultural moorings.

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The aim should be an education model that generates the basic values of humanism, secularism and democracy in students by exposing them to the principles of all the major spiritual and moral traditions of the world and to their own cultural heritage, thus developing in them an integrated personality of well-adjusted persons whose world has not been broken into fragments by narrow domestic walls.

It will establish what is believed to be a useful way of understanding the demonstrable role being played by values education in transforming the role of teaching and the impact of academic institutions. It can potentially bring about a paradigm shift in providing complete education to the modern society by developing a complete, competent and competitive person with respect to domains like academic excellence, moral and spiritual values, social sensibility, quality and physical wellbeing. This kind of educational reform is also imperative for creating a better world-order for propagating the ethos of 'Fatherhood of God and Brotherhood of Man'.

With the objective of developing a benchmark framework for auditing value-based education practices, active research and studies are required to prepare an 'Educational Values and Quality Index' framework that can holistically estimate the effectiveness of educational programmes based on promoting the physical, intellectual, emotional, ethical and spiritual integration of an individual with his/her surroundings.

Research will be significant to test and validate appropriate and relevant educational models equipped with the right set of values and quality attributes which are able to groom and develop a well-rounded person capable of giving a fuller response to evolving socio-economic and environmental needs. De-

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velopment of such an educational value index would facilitate wider adoption of a scheme of innovative and comprehensive education, not only at university level, but also encompassing non-university levels. This would eventually help institutions to impart values among students, yielding measurable benefits like knowledge acquisition, earning capacity, increased life-expectancy, work productivity and efficiency, ethical behaviour and socio-environmental consciousness. Values education requires an in-depth knowledge that penetrates below surface understandings to reach conceptual clarity as to the nature of values and a reasoned approach to the way that they are applied, enacted and expressed in concrete, practical situations. Values education will induct students into the skills and arts of communicative competence. A well-rounded values education will provide an environment for developing the confidence and self-efficacy required for critical reflection to know the values which impel one’s actions. Values education requires depth of knowledge, induction into communicative competence and action, and the knowledge of oneself and one’s actions that arises from sustained reflection.

1.4.2. Wider community engagement

In order to attain the aforesaid objectives, perhaps what could not be more emphasized is the relevance and necessity of community engagement at national and international levels with institutions of higher studies and research. This calls for community-institutional partnerships promoting research projects which are needs-based and community oriented, leading to policy formulation for sustainable ecological and societal development to achieve the broader goal of national development under India’s 12th five-year plan. According to this initiative, specific villages and communities can be adopted to provide engagement opportunities for academia from various disciplines and courses to integrate their knowledge with community-based indigenous knowledge. It would then be possible to address the challenges of the specific community as well as the broader environmental challenges that humanity is confronted with. Any holistic framework of community engagement in the higher education system would invariably require a facilitating interface between both formal and local methods, as well as local people and formally trained educators and professionals coming through the higher education system. For academics, however, this type of community-based educational project can become an intrinsic part of learning and teaching. It would facilitate partnerships between communities and institutions of higher education so that students and teachers could also learn from indigenous knowledge and wisdom, thereby democratizing knowledge production.

Section II: Research and case studies on values-education models and recommendations

The reflections in various research studies at international and national level in the area of educational values and quality education from the holistic standpoint primarily reveal that:

- » A holistic view of education is not only considered to be materialistic, rather it opens the doors to understanding the ultimate reality of life;
- » The effective application of a derived holistic model is dependent on social and organizational culture;
- » The culture of the modern higher education system is bureaucratic and creates the conditions for conflicts to emerge;
- » The prosaic behaviour of students undergoing values education is found to be significantly different from students in schools exposed to other types of educational models;
- » Values education also imparts holistic citizenship education;
- » Education is one's ability to structure processes in the learning environment where the learner's personal values are examined, clarified and enriched;
- » Various studies have demonstrated positive correlations between teachers' values scores and their students' future academic performance and other long-term outcomes.

It is pertinent to underline here that further studies are needed to develop a link between values and quality parameters through a common measure signifying the causality and interface of educational values and quality objectives and their linkages with the holistic development of individuals capable of resolving the values-crisis in today's society.

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Experimental verification of different models of education can also be done to ascertain their value potential, developmental impact and future relevance. Do current education efforts address the whole human being – mind, heart and spirit – in ways that best contribute to our future on this fragile planet? How can integrative learning be effectively woven into the culture, curriculum and co-curriculum of our colleges and universities? These questions remain active guideposts for ongoing work in higher education.

2.1. Reference cases of various value-based quality education models and programmes in India and abroad

A. The Australian government's values education programme¹

Under this programme, the study has covered 386 schools across all age groups and sectors with 100,000 students, 5,000 teachers and 50 university researchers. The study has revealed that values education has a profound effect on the total educational environment of a school, affecting relationships of care and trust, teacher practice, partnerships with parents and the community, classroom climate and ethos, student attitudes and behaviour, student resilience and social skills, intellectual depth of teacher and student understanding.

According to this research, focused learning has been found to have produced focused classroom activity, calmer classrooms with students going about their work purposefully, and more respectful behaviour between students, improved student attendance, fewer reportable behaviour incidents and outcomes that all testify to good practice at work.

Within the limits imposed by the nature and timing of the study, it is evident that the central question that drove the study, namely, "Can the impact of values education on teaching and school ethos, as well as student achievement and behaviour, be tested empirically and observed reliably?", has been answered in the affirmative.

B. The Dayalbagh Educational Institute (DEI)'s value-based quality education model²

Education, more education, education made perfect is the only panacea for our country's ills and evils. With more and real education I daresay we can easily raise the general level of intelligence of its teeming millions, create, in its future generations, the habit of clear and deep thinking and of appreciating new values that turn the acquisitive impulse of its people from its present direction to the direction of truth.

*Reverend Sir Anand Sarup Kt. (Param Guru Huzur Sahabji Maharaj)
August Founder of Dayalbagh*

Dayalbagh Educational Institute, which is presently celebrating 100 years of education in Dayalbagh (1917-2017), has evolved an education programme with the mission objective of developing a 'complete person', providing opportunities to develop physical, mental and spiritual faculties under its unique innovative and comprehensive education policy with an accent on 'values-driven quality education'. Since its very inception, DEI education policy has persistently emphasized the physical, intellectual, emotional and ethical integration of an individual with a view to developing a complete person who possesses the basic values of humanism, secularism and democracy and who is capable of giving a fuller response to social and environmental challenges. Through its various innovative course structures and academic programmes,

¹ Terence Lovat and R. Toomey, 2009

² DEI Profile Handbook and www.dei.ac.in

DEI has created facilities to develop the faculties of thinking, analysis and reason and a habit of learning in an individual, in order for that person to realize their maximum potential; to increase their general awareness and knowledge and to impart education of excellence as well as of relevance to contemporary needs. Dayalbagh Educational Institute has had a long-term commitment to Holistic education. Over the last 100 years, the institute has actively encouraged a vital conversation between education and spirituality that is prompted by the recognition that education, especially higher education, serves as an incubator of intellectual and professional life. It has both responded to and encouraged the art and practice of transformational education as integral to the central and best purposes of higher education. Transformational education is understood as educating the whole person by integrating the inner life and the outer life, by actualizing individual and global awakening, and by participating in compassionate communities. Higher education's chief responsibility is to foster this transformation from independence to interdependence.

All the students who join the undergraduate programme at DEI's main campus, and its 94 centres spanning the Distance Educational Network in India and abroad, must perform not only intellectual activities, but also take part in physical and social activities through foundation courses, field experience (work experience), rural development, limited specialization, etc. These different educational activities lead not only to academic objectives, but also inculcate moral and spiritual values and develop social sensibilities among the students. High performance standards, fundamentals and continuous assessment in the educational system also lead to 'quality' assurance.

DEI's curriculum includes core courses and co-curricular activities which encourage the well-rounded development of the individual. These include cultural education, comparative study of religion, scientific methodology, general knowledge and current affairs, rural development, agricultural operations, social service and co-curricular activities (cultural and literary activities, games and sports). It would be prudent to mention here that the rural development component fosters a greater understanding and appreciation of rural life and societal needs. Agricultural operations create an awareness of agricultural processes so that students from purely urban backgrounds are exposed to rural realities. Social service inculcates a spirit of kinship and engenders societal commitment, discipline, ability for hard work, selfless service to society, humility, cooperative spirit and not least, dignity of labour.

Embedded in the DEI's educational framework, cultural and literary activities and games and sports direct the energy of every student into useful channels and develop a high level of self-reliance, self-confidence, maturity and leadership qualities and nurture a team spirit. Comparative study of religion ingrains an attitude of religious tolerance, humanism and secularism in a world of discord, fear and suspicion. In a nutshell, the various core courses and work-based training provide a background of humanities and social sciences that is essential to retaining a human touch and tempering the harshness of a mechanical world; to promote the study of classics and develop pride in national culture and heritage, so that one may not lose one's moorings.

Women's empowerment: this has also been the hallmark of the Dayalbagh education community. Women are treated with respect and educated from a young age. Female students outnumber male students at the DEI, which is indicative of the fact that Dayalbagh promotes education for women which will ultimately lead to their empowerment.

Community engagement: under this theme, the focus is on integrating knowledge, bringing together education and work, theory and practice, university and society. The institute has been extending its services for developing the community through various programmes such as adult continuing education, its work and field outreach programme, organizing vocational training, hobby classes, non-formal school, exhibitions, competitions, etc. Students and faculty members take active part in these engagements. The DEI has been conducting surveys to identify the needs and requirements of the target population to design the various community engagements. Rural development is an important focus of teaching and research for the DEI. The Dayalbagh Educational Institute has also recently embarked on a bold initiative, VISION 2031, and formulated a comprehensive and progressive Strategic Plan for 2012-2031, with the goal of becoming a top teaching and research institute through an exemplary system of education. To establish Total Quality Management across all the institute's activities, the plan encompasses undergraduate and postgraduate education, research, infrastructure, information and communication technology and campus development.

C. Banaras Hindu University, Varanasi (Central University), India³

India is not a country of the Hindus only. It is a country of the Muslims, the Christians and the Parsees too. The country can gain strength and develop itself only when the people of the different communities in India live in mutual goodwill and harmony. It is my earnest hope and prayer that this centre of life and light which is coming into existence, will produce students who will not only be intellectually equal to the best of their fellow students in other parts of the world, but will also live a noble life, love their country and be loyal to the Supreme ruler.

*Mahamana Pt. Madam Mohan Malaviya
Founder of Banaras Hindu University*

As part of its values-education curriculum, the university promotes the teaching of Hindu Shastra and Sanskrit literature as a way of preserving the best Hindu thought and culture for the benefit of both Hindus and the world at large. It promotes building character in young people through the study of religion and ethics as an integral part of education. The purpose of the strategy statement is to initiate efficient measures for promoting human values and ethics as a fundamental ingredient of education. The education policy includes various programmes which the institution plans to begin for different segments of the university. The main purpose of value-based education is to mould students into good humans and citizens. To achieve this, it helps to check whether the person is following social, human and cultural orders. This particular sense helps an individual to meet their moral responsibilities towards society. Hence, the institution has different curricular and non-curricular programmes to develop students, such as:

- » Common course on human values and ethics for the students;
- » Specialized courses in context to present issues of values in various specialized fields, e.g. management, medicine, engineering and so on;
- » Facilitating and encouraging student participation in community projects and social service work;

³ www.bhu.ac.in

- » Informal seminars and workshops on themes associated with values and problems of values in the modern era;
- » Specialized courses for doctoral students on ethical issues.

2.2. Recommendations for an actionable framework for value-based education

1. Holistic values and quality education programmes should be designed with a broader goal to create an impact in areas like human development, community-societal-national development and environmental sustainability at the grass-root level.
2. Values and ethics should also be taught as a compulsory component across undergraduate, postgraduate and research level core courses, with particular emphasis given to human values, social sensibility and environmental consciousness and stressing the fact that teachers should first develop themselves as values educators while imparting values education to the students.
3. Carry out research on the impact of value-based education on the holistic personality development of students that might be useful in evaluating correlation between values-oriented quality indicators and student personality development in terms of physical wellbeing, academic excellence and moral and spiritual values.
4. A periodic system of student feedback should be incorporated into the values-oriented quality parameters in the mentors' assessment format.
5. Organize regular workshops, special lectures, student counselling and interaction with parents.
6. Monitor schedule and teaching/laboratory practices, aiding preparation of course files, academic calendar, development of institutional professional code of conduct for teachers, designing vision plan and measuring key performance indicators (KPI).
7. Identify vocational education and entrepreneurial ventures for student self-employment, and provide an online admission system that promotes transparency and efficiency. Undertake research in socially and environmentally relevant areas, empowering socially and economically deprived sections of the population through an e-education network and open distance learning programmes.
8. Review progress towards attaining the ideals and mandates of the value-based education programme in order to infuse enthusiasm and zeal in the students. In fact, a series of inter/intra-institute literary and cultural competitions should be organized each year on the core theme of 'values and quality in education' and students and teaching staff should be encouraged to participate.
9. Examine the impact of value-based education on the prevailing environment as part of Corporate Social Responsibility (CSR) programmes by involving people to regularly take part in selfless social services. Such statistics would eventually delineate the impact into two groups (those adopting value-based education from others).

Table 1. Value-based education action framework:

IMPACT AREA	VALUES AND QUALITY ACTIVITY INDICATORS (KEY PERFORMANCE AREAS)		
	PEOPLE (Faculty, Students, Alumni)	PROGRAMME/FACILITY (Main Campus)	PROCESS
Human Development	<ul style="list-style-type: none"> » Academic recognition/awards » Faculty h-index » On government services/non-govt. services » International contributions and recognition » Vision/ leadership/organizing quality 	<ul style="list-style-type: none"> » Value-based core courses » National social service schemes/ community partnerships » Sports/cultural activities participation » National/international youth programmes/competitions » Research & development projects » Faculty development programmes/ workshops/ conferences 	<ul style="list-style-type: none"> » Campus routine of education » Attendance regularity » Discipline thrust » Value ambience » Soft-skills development (e.g. seminar and group discussion) » Student action teams for local social issues » Student/staff counselling
Community-Society-National Development	<ul style="list-style-type: none"> » Regular community work » Employment enablers » Social entrepreneurs/ enterprises » Skills-based enterprises » Partnering with government mission/ programmes of national importance » Conservation of environmental resources for sustainable development 	<ul style="list-style-type: none"> » Agro-research projects (e.g. dairy campus) » Healthcare programmes (e.g. medical camps) » Employment agencies/ small-scale industries » Community colleges » Vocational courses » Tribal area education campus » Low-cost green building projects » Incubation centre/product development programmes » Entrepreneurship/art, cross-culture and heritage protection programmes 	<ul style="list-style-type: none"> » Advisory and monitoring committee on education » Community participation » Low-cost education » Online education » Girls' education/girls' enrolment ratio » IT infrastructure (connecting remote, rural and tribal areas) » Transparency in accounting and auditing » Process monitoring and quality certification
Environmental Development	<ul style="list-style-type: none"> » Green start-ups » Social activists/non-government organizations » Environmental volunteers » Cleanliness /hygiene programmes 	<ul style="list-style-type: none"> » Energy conservation (low energy usage) » Zero-waste programmes » Solar projects » Bio-diesel initiatives » Medicinal plants project » Forest area conservation projects » Yoga/meditation centres 	<ul style="list-style-type: none"> » Low-impact living on campus » Non-motorized transportation (cycling on campus) » Tree planting » IT infrastructure (saving paper) » Eco-building design

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Banaras Hindu University: www.bhu.ac.in

Dayalbagh Educational Institute: www.dei.ac.in

Dayalbagh Educational Institute Profile Handbook.

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5.2. The Social Distribution of Knowledge: University Ethical Commitment to the Intelligent Management of the Territory – SmartLand

Santiago Acosta, Nelson Piedra and Juan Pablo Suárez

Abstract

Interactions between people, cities and territories are the centre of attention nowadays. Inspired by advances in the concept of smart cities, the authors present an initiative for the intelligent management of highly biodiverse territories, SmartLand. The initiative is promoted by Universidad Técnica Particular de Loja (Ecuador) and is committed to the creation of a data ecosystem to support decision-making processes. The creation of social, academic and technical bridges facilitates the exchange and opening up of scientific and public data using web semantics and linked open data approaches. This allows us to collect and link the data needed to mitigate misinformation problems relevant to policy, provide recommendations for decision-making and increase the value of data in general. Research data is essential for any scientific undertaking, and it plays a key role in the intelligent and sustainable management of a territory. The authors will discuss the ethical implications of the university's obligation to reach out to society. In this regard, SmartLand will serve as a case study to reveal such ethical factors affecting knowledge dissemination.

Introduction

The convergence of information and communication technologies (ICT) is generating dynamic changes in the management of territories and urban environments, resulting in unprecedented experiences up to now. In the past century, the idea of an 'intelligent territory' was more likely to be found in fiction. Today the possibility of a city or a territory becoming 'intelligent' is coming to fruition thanks to the increase in connectivity, the Internet of Things, and the development of artificial intelligence.

Among the countries with the highest biodiversity rates in the world, nine are located in Latin America – Mexico, Guatemala, Costa Rica, Colombia, Ecuador, Peru, Brazil, Bolivia and Venezuela – , six are in Asia and four in Africa. It is estimated that between them these countries are home to over 70% of the planet's biodiversity, though their territories account for only for 10% of the total surface of the earth. The preservation of this legacy in Latin America and the Caribbean is a complex priority. Its management calls for interdisciplinary approaches based on research, development strategies, innovation, civil society involvement and public policies.

In the Latin-American context, universities face the challenge of generating knowledge and ensuring its transfer to society, in order to achieve a social distribution of that knowledge. The Universidad Técnica Particular de Loja (UTPL) addresses this challenge by carrying out an institutional initiative called SmartLand, aimed at the intelligent management of territories with high biodiversity. **The SmartLand initiative fosters the acquisition of knowledge in the field of biodiversity and the understanding of human interactions within a territory**, taking these into consideration as the key drivers of the population's wellbeing and security, within the framework of sustainable development.

“In the Latin-American context, universities face the challenge of generating knowledge and ensuring its transfer to society, in order to achieve a social distribution of that knowledge.

“The SmartLand initiative fosters the acquisition of knowledge in the field of biodiversity and the understanding of human interactions within a territory.

SmartLand envisions biodiversity and ecosystems managed by synergies among computing scientists, biologists, researchers from other fields, natural resources managers, political leaders and other stakeholders who are willing to overcome real-world chal-

lenges while at the same time advancing the underlying scientific subjects. **This approach allows the university to have a bearing on the immediate context by pursuing the improvement of the population's quality of life.**

The SmartLand initiative

SmartLand is about the ‘intelligent’ management of the interactions between people and territories. As far as urban zones are concerned, the majority of the world population lives in cities. Cities have thus become the only models of growth capable of responding to increasing demands and the tensions faced by global provider systems, which are affected by demographic growth, climate change, globalization, competitiveness, and the problems of international security. Sometimes, these demands are contradictory and place considerable challenges on urban planners. Cities are the nucleus of consumption of global resources.

“SmartLand is about the ‘intelligent’ management of the interactions between people and territories.

The number and proportion of the urban population will grow in the future. It is estimated that global cities occupy approximately 2% of the planet's land surface, consume between 60-80% of its energy, and are responsible for 75% of carbon emissions. In addition, many of the decisions carried out by the inhabitants of cities directly affect biodiversity and ecosystems. In light of this, the current trend is to seek to create intelligent cities, or Smart Cities. The idea of smart cities (Albino et al., 2015) refers to the promotion of more ‘intelligent’, sustainable and inclusive cities through the use of appropriate technological innovations (Hollands, 2008). Cities and territories are considered the key element in strategic plans for the future (Deakin and Al Waer, 2011). The main reason seems to be related to

the principal role of cities in the social and economic aspects of people worldwide, and their huge impact on environmental sustainability (Mori and Christodoulou, 2012). Therefore, **creating an intelligent city or territory is more about people than technology** (Nam and Pardo, 2011). It allows a greater awareness and responsiveness to the needs of its citizens and stakeholders, thereby improving the efficiency, participation, safety, convenience and vitality of the built environment (Dirks et al., 2010). **The citizen should be the centre of attention.**

“Some of the contemporary challenges in research relate to the development and maintenance of habitable, sustainable and resilient territories.

Smart city systems support urban development policy goals in areas demanding competitiveness, sustainability and productivity. Moreover, scientific literature related to these topics characterizes an intelligent environment based on economic development, the environment, human capital, culture, citizen participation, openness, inclusion, transparency and the use of ICT. With respect to the rest of the territory, one should take stock of the way in which citizens exert an influence on the conservation of biodiversity, and how they distribute their benefits among various groups of society.

The intelligent management of territories

Some of the contemporary challenges in research relate to the development and maintenance of habitable, sustainable and resilient territories, as well as to finding solutions to challenges within the context of ecosystems and biodiversity. **‘Intelligent’ territory management refers to the promotion of a wise and informed use of biodiversity to achieve its sustainability, as well as the ethical and equitable sharing of benefits arising from the use or exploitation of biodiversity resources.** The means is the promotion and use of appropriate technological innovations to lead the way towards the smart management of human-nature interactions in highly biodiverse territories. The complexity of its management requires interdisciplinary focuses based on research, development, innovation, civil society participation and public policies. Recent progress on research and project execution related to smart cities has shown enormous potential that could be taken into account for the smart management of highly biodiverse territories.

“‘Intelligent’ territory management refers to the promotion of a wise and informed use of biodiversity to achieve its sustainability, as well as the ethical and equitable sharing of benefits arising from the use or exploitation of biodiversity resources.

The challenge of managing the megadiverse heritage in Latin America and the Caribbean

Megadiverse countries are those ranked with the highest indexes of biodiversity on the planet – an important number of which are located in Latin America. Protecting this heritage in Latin America and the Caribbean is a priority for which innovation and technology provides opportunities that encom-

pass improving citizens' quality of life and increasing the sustainability and competitiveness of our territories. The management of extensive biodiverse territories is complex, and requires interdisciplinary focuses based on research, development, citizen participation and technological innovation (Figure 1). The UTPL SmartLand initiative (see: <http://smartland.utpl.edu.ec>) provides a trans-disciplinary nexus whereby various research groups from different scientific specializations can integrate into one general objective by contributing to the valuation of highly biodiverse territories and to improvements in the management and efficiency of resource use.

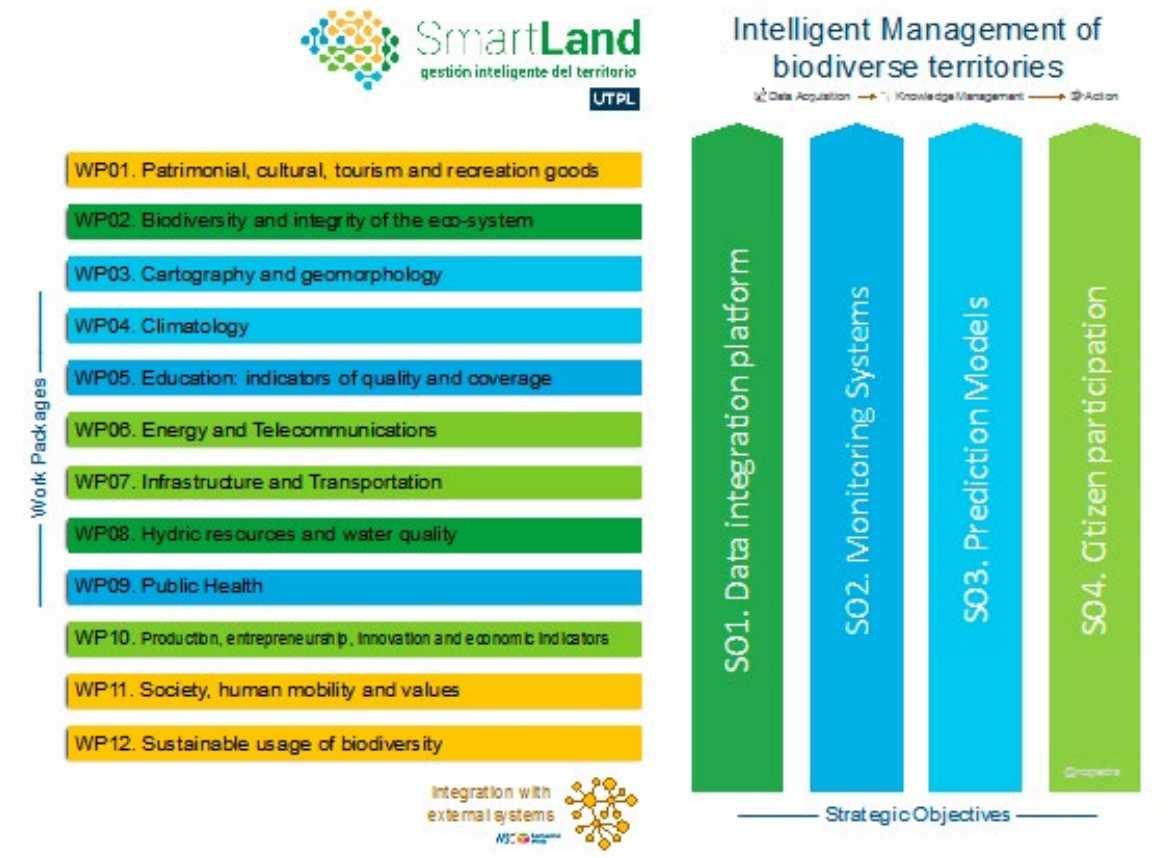


Fig. 1 Organization of SmartLand: work packages and strategic objectives

According to UTPL, the southern region of Ecuador urgently requires an initiative with an approach based on a 'SmartLand'. This southern region is the smallest in the Ecuadorian territory, but the most biodiverse: 10,948.95 km² (39.90%) of its total area of 27,440.98 km² (11% of Ecuadorian area) are covered with forest which is home to an estimated 8,000 plant species and around 1,000 bird species from the total 1,630 species of birds registered so far in the country. The Ecuadorian province of Zamora Chinchipe is the pilot province chosen to become the first Smart territory in Ecuador. Zamora Chinchipe is located in the southeast of the Ecuadorian Amazon and borders with the province of Morona Santiago to the north, the province of Loja to the west, and Peru to the southeast. It has a land surface of 10,556 km², which consists of a unique mountainous topography which distinguishes it from the rest of the Amazonian provinces. Among its characteristics are mining production, indig-

enous ethnic groups, rich archaeological legacy, immeasurable biodiversity, attractive tourist spots, and rivers, waterfalls and lagoons that distinguish and characterize it as a province. Various studies have demonstrated that this region possesses a natural heritage of huge value, which explains why it is one of the 'hot spots' of biological diversity (Balmford et al., 2005). Moreover, UNESCO declared an extensive area of the province as a biosphere reserve – Podocarpus Biosphere Reserve - The Condor (RBPC).

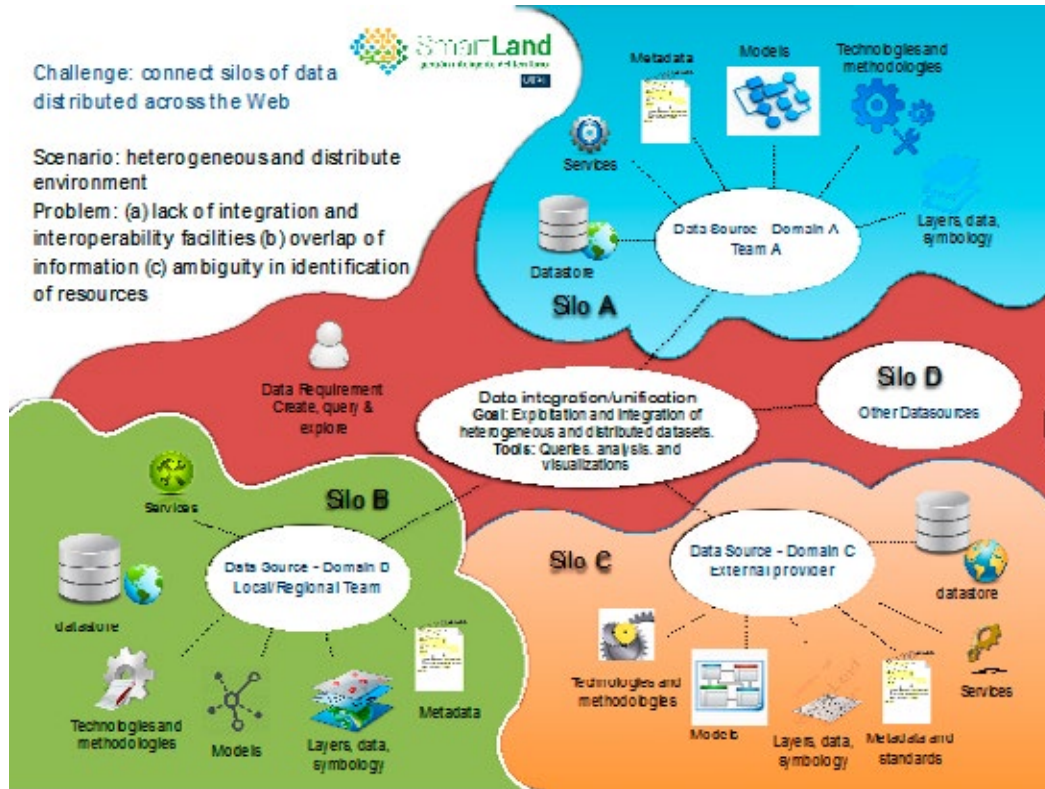


Fig. 2 The SmartLand challenge: connecting silos of data and disseminating environment information.

Highlights of UTPL SmartLand

SmartLand began its activities in 2014 with 38 research projects, the participation of 213 individuals, 162 researchers from UTPL, and 51 external researchers. In 2015, SmartLand was implemented by means of 17 research programmes and 25 seed projects. This included the participation of 287 UTPL researchers and 172 external participants. In 2016, the initiative brought together 14 seed projects, five research programmes, 153 researchers and 100 students, who were committed to monitoring and managing data from different scientific perspectives.

Once the technology is chosen, society and policy interfaces should work in harmony, prioritizing needs, enabling integration by breaking down barriers of existing silos and delivering purposeful tech-

nology. SmartLand is organized into twelve work packages that cover a variety of topics. Work packages contribute to the successful completion of the initiative's core objectives via research projects proposed by researchers from different knowledge domains (Figure 1). Each research group works on its own research questions, while sharing four strategic objectives:

1. (SO-1) To consolidate a system that preserves knowledge and that guarantees free access to it. SmartLand promotes the creation of a technological infrastructure with a distributed focus that helps to collect, monitor and reuse data and information that is highly heterogeneous in various fields of knowledge such as biodiversity, ecosystems, economics, territory, entrepreneurship, society, values and identity, among others.
2. (SO-2) To improve our understanding of selected indicators and their permanent monitoring. SmartLand promotes a strategy of sustainable data collection based on networks of sensors and monitoring systems overarched in long-term indicators.
3. (SO-3) To improve the management of territories through resource efficiency, heritage preservation and sustainability. SmartLand seeks to exploit, model, visualize and monitor various variables to develop probabilistic scenarios and virtual territorial ordinances, and enhance decision-making and policy analysis through up-to-date data.
4. (SO-4) To strengthen citizens' capacities and potential. SmartLand promotes responsible citizenship participation by strengthening identity, awareness and moral values related to the environment. Sharing and re-using scientific data for territorial management is also an asset of the project.

SmartLand and the value of data – ethical consideration

One of the main goals of the SmartLand initiative is to combine and integrate research efforts into a shared platform and thus build a common vision of expertise, tools, activities and resources for digital preservation, digital curation (Weidner and Alemneh, 2013) and data integration between research silos and integrated topics (Figure 2). In order to integrate the monitoring of data and the results of experiments SmartLand will compare institutional data with other datasets provided by associated research teams. Ideally, all the data from each project would be preserved in a comprehensive database ecosystem integrated through a semantic schema that covers all aspects of research data.

Long-term digital preservation combined with the principle of open access to data and metadata from research and public institutions offer broad opportunities to the scientific community and society in general (Piedra et al., 2015; Swan et al., 2015). These opportunities are the cornerstone of the SmartLand initiative's ethical dimension. The 'openness dimension of information' synthesizes all the ethical implications contained in the different projects, since it involves not only the scientific com-

munity's access to the collected data, but also all the interaction and complementarities of disciplines intervening in SmartLand. The integration of academia in research in various fields and data collection pertaining to the needs of a region, will permit a multidisciplinary approach that is currently sorely missing from many of the university projects tackling problems related to the social setting and the physical environment.

The ethical inferences underpinning the SmartLand initiative can be outlined as follows:

1. Pushing forward openness related to information and data accessibility.
2. Fostering a multidisciplinary approach to find solutions to societal problems posed by the context – both local and global – surrounding the university.
3. **The initiative does not urge a development model for the population located in the area encompassed by SmartLand.** Development models usually have an implicit ready-made idea of what a given society should be after the application of the model. **The initiative offers data for local and national decision-makers to embark on specific projects aimed at improvement.**
4. SmartLand gathers information regarding the population's way of living, beliefs, customs, expectations and values, to take all these elements into consideration when setting up projects aimed at solving the population's problems.
5. **The flexible design of SmartLand leaves room for innovation and 'thinking out of the box', particularly when it comes to imagining new ways to respond to challenges posed by the territory and the population's living conditions.**
6. The database is open to the future in the sense that it is a 'never-ending' undertaking. This implies a permanent commitment to the population and the territory in which it is located.
7. **The great amount of data and information collected will be encompassed in a coherent, open, reusable and semantically interoperable framework, united by the connection provided by the territory and population.**

Conclusion and further directions

The rise of data science has emerged as a major force shaping our communities. There is growing recognition that the expansion of access to data can contribute to accomplishing further economic, social and policy goals, including those of the scientific community. The field of community development has increasingly turned its attention to how to use data effectively to drive decision-making within territories. The use and greater understanding of data collected from biodiverse territories helps raise people's awareness and feeling of connection with their most valuable resources. SmartLand is com-

mitted to creating a data ecosystem that supports decision-making processes based on building social, academic and technical bridges that facilitate the exchange and opening up of scientific and public data using web semantics and an open linked data approach.

Developing a long-term technological innovation strategy and a participative and inclusive policy could be achieved using open data as an effective instrument through digital infrastructure. In this sense, a perspective of open data has the potential to create scientific and economic opportunities, to help communities understand complex issues, to make informed decisions, and to implement solutions tailored to specific needs and objectives.

In the SmartLand context, knowledge transfer activities are an essential means of maximizing the impact of research. As a future research activity, we will continue the framework implementation with bigger data sets from different domains and expand the geographical area of interest.

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5.3. The Role of Universities in Local and Global Engagement

Bjørn Asheim

Abstract

The chapter argues that responsible and sustainable economic development is a precondition for solving global challenges. Universities can play a key role in contributing to achieving competitiveness and solving societal challenges through research and supplying human capital. However, to do this, organizational and institutional innovations are required in the formation of new organizations as well as in the way universities are run (e.g. by developing interdisciplinary studies and research). The chapter uses Sweden as a good example of a successful high-tech country with, on the one hand, rapid economic growth and a competitive, resilient economy and, on the other hand, a very good track record of dealing with societal challenges locally, nationally and internationally, where universities have played a strategic role in accomplishing this.

1. Introduction

Ideas about the economic and social usefulness of research-based knowledge date back far in history, and there are numerous ways in which public policies, private initiatives and individual relations have supported the generation of such knowledge as well as the ways in which such knowledge has been disseminated to users. In many countries, e.g. in the USA and in Northern Europe, the first examples of this 'instrumental' approach to higher education and research can be found in the establishment of technical and agricultural colleges, known in the USA as 'land grant' institutions in the latter part of the 20th century.

After a period of decreasing state support for science and technology in the first couple of decades of the 1900s – a state of affairs that resembles the contemporary situation –, state support started to increase again in the 1930s. This was partly influenced by a strong belief, prevailing in the Soviet Union, in the importance of science and technology in societal development. Many European academics were inspired by this policy. Bernal, a British chemist, wrote a widely disseminated manifesto, published in 1939, in which he argued that state support for science would stimulate economic growth and improve welfare by advancing the knowledge frontier (Bernal, 1939). This was one of the first explicit examples of the so-called 'linear model' of innovation policy introducing science policy as a policy area (Lundvall and Borrás, 2005). This model argues that the promotion of basic research leads to applied research, which in turn produces product and process innovations, which ultimately secure more rapid economic growth (Fridholm, 2010). In the USA, Vannevar Bush's 1945 report *Science: The Endless Frontier*, like Bernal's manifesto, expressed a strong belief in the potential economic impact of investment in science (Bush, 1945; Lundvall and Borrás, 2005). A more contemporary expression of

the same strong belief in science is Fidel Castro's determination to promote the development of the Cuban biotechnology industry. This was partly based on the same conviction that Bernal expressed about the potential of science, and partly based on the pragmatic economic reason that the science/biotech route would be the cheapest way of achieving an inclusive public health system in the long term (Plahte, 2010). Since the 1960s, the OECD has played a central role in spreading the idea of the strategic role of science, technology and innovation in the promotion of economic development (Lundvall and Borrás, 2005).

When discussing different types of science, technology and innovation policies, the figure below might be useful (Figure 1). The vertical dimension distinguishes between science policy, technology policy and innovation policy (Lundvall and Borrás, 2005). The horizontal dimension distinguishes between 'indirect general' policies (i.e. sector-neutral policies, such as tax relief schemes), 'direct general' policies, and 'direct specific' policies.

TYPOLGY OF POLICIES

Principles of policies Types of Policy	Indirect, general (framework cond.)	Direct, general	Direct, specific
Science policy		Basic research in universities and research institutes/ (T-H) - IPK policy	
Technology policy		Specific 'strategic' technologies and sectors - public procurement policy	
Innovation policy	SkatteFUNN (tax relief) - Norway		Vinnväxt (T-H)/ VINNOVA - Sweden (CRA)

CIRCLE EUROPEAN COMMISSION, 2010

Figure 1: Typology of science, technology and innovation policies

In the next section, theoretical perspectives that have informed and influenced innovation policy initiatives will be presented and discussed. These initiatives have been important in aligning higher education institutions and systems with industry and government to promote innovation, competitiveness and economic growth. We start by presenting the innovation system approach, followed by the triple helix approach and the Mode 2 production of knowledge.

This chapter will maintain **that there is no fundamental contradiction between promoting competitiveness and solving societal challenges. On the contrary, responsible and sustainable healthy economic growth is a precondition for dealing with global challenges.**

“A responsible and sustainable, healthy economic growth is a precondition for dealing with global challenges.

Universities play a key role in producing the outcomes of competitiveness and solving societal challenges through research and the supply of human capital.

However, organizational and institutional innovations are required for universities to generate social benefits.

Sweden is a good example of a successful high-tech country with, on the one hand, rapid economic growth and a competitive, resilient economy. On the other hand, it also represents a well-functioning welfare state with a very good track record of dealing with societal challenges locally, nationally and internationally.

Sweden pioneered universities' 'third task' as early as 1997. It introduced the innovation system/triple helix approach as an organizational model for its innovation policy and prioritized the funding of interdisciplinary research milieus when its centre of excellence scheme was introduced in 2006, thus paving the way for a transition from the Mode 1 to the Mode 2 method of university research. **As all societal challenges are interdisciplinary, and cannot be approached and solved by a traditional disciplinary approach, this institutional innovation is of strategic importance for engaging universities in contributing to solving local and global societal challenges.**

“Promoting interdisciplinarity at universities is of strategic importance to engage universities in contributing to solving local and global societal challenges.

“Moreover, research has shown that there is no contradiction between world leading, excellent research and third mission tasks.

Moreover, research has shown that there is no contradiction between world-leading, excellent research and third mission tasks.

Sweden is one of the top countries when it comes to investing in R&D as a share of GDP (around 3.7%). It is also the country that has pursued most systematically an innovation system strategy in its innovation policy, which is implemented in accordance with a triple helix model, i.e. it is based on strategic, long-term and close collaboration between industry, universities and public authorities/government at both national and regional level. With respect to the universities, this type of cooperation is based on the fact that Swedish universities were given a 'third task' in the Higher Education Act of 1997 in order to promote the dissemination of knowledge to the general public (Wigren-Kristoferson et al., 2011). Specifically, this means that, in addition to teaching and conducting research, Swedish universities are required by law to cooperate with the wider society. Typically, all major innovation programmes run by VINNOVA (Sweden's state innovation agency) use this strategy of close and committed cooperation between industry and universities, together with the pro-active involvement of the public sector in the implementation of innovation programmes, especially at regional level. In addition, this model is also used by other research councils as well as by more industry-driven research funding agencies.

The increased interest in and importance of the ‘third task’ of universities could be described as a change from mainly taking on ‘generative’ roles to engaging more and more in ‘developmental’ roles (Gunasekara, 2006). Generative roles refer primarily to the provision of limited, discrete knowledge outputs such as scientific and technological information, equipment and instrumentation, skills or human capital, networks of scientific and technological capabilities and prototypes for new products and processes in response to business or public sector demands (Benneworth et al., 2009).

In taking on developmental roles, universities interact constructively with broader governance structures and thus promote economic development more directly and contribute to solving global challenges. This perspective is accompanied by an understanding that in principle there is no contradiction between conducting world-leading, excellent research and carrying out third mission tasks at the societal level. A Swedish example in support of this is Lund University. With around 48,000 students, Lund University is the largest university in the Nordic countries. Established in 1666, it is the third oldest university in the region, after Uppsala and Copenhagen universities. According to global university rankings, Lund University ranks among the 100 leading universities and is one of the best in the Nordic countries. Moreover, of the 40 centres of excellence that the Swedish Research Council nominated in 2006 and 2008, Lund University accounted for 14 of them, i.e. 35%. On the other hand, Lund University has also been very successful in supporting high-tech clusters in the Scania region (ITC, biotech and functional food) as the key node in the knowledge exploration subsystem of the regional innovation system (RIS) as well as in promoting knowledge-based entrepreneurship within these areas through in-house incubators and science parks (Benneworth et al., 2009).

A study by individual researchers in strong research milieus at Lund University on the relationships between the production and diffusion of scientific knowledge can be used to further undermine the idea of a contradiction between research excellence and third task activities. The main conclusion of the study was that a virtuous cyclical model was created, ‘where high-performing scientists connect excellence in research with commercialization and public dissemination as routes of knowledge diffusion’ (Wigren-Kristoferson et al., 2011: 490).

From an international perspective, universities in Sweden have a very strong position with respect to innovation as there are very few specialized sector or industrial research institutes in Sweden. Another point worth mentioning in this context is that Sweden still maintains ‘the university teacher’s exemption’, which means that university researchers (and not the universities as organizations) retain full control of their research results. One implication of this is that Swedish professors engage more often in academic entrepreneurship than is common in other countries and that Swedish universities file even more patents than US universities.

2. Models of university-society interaction

2.1 Innovation system approach

Innovation systems represent a ‘direct, specific innovation policy’. The best examples of this are VINNOVA’s centre of expertise programmes, such as Vinnväxt and VINNEXcellence. These aim at building

regional innovation systems, or in the contemporary language of VINNOVA ‘strong research and innovation (R&I) milieus’, over a ten-year period in regions that have been selected using a peer-reviewed application process. These programmes build on a triple helix framework and are very specific as their aim is explicit: to support the building of strong research (exploration) and innovation (exploitation) milieus.

This corresponds to an understanding of innovation systems as the interaction between the two sub-systems of explorative organizations (e.g. universities) and exploitative organizations (firms). Thus, an innovation system understood in this way comprises: (i) organizations generating knowledge (universities), (ii) organizations using knowledge for innovation (firms), and (iii) the mechanisms/structures/relationships that secure the transformation of knowledge (exploration) into innovation (exploitation) in a systemic (and long-term) way.

The need for a policy governing innovation systems is clearly illustrated by the inability of EU policy to boost innovation. As is well known (or at least should be well known), investment in basic science and R&D does not automatically lead to innovation,

job creation and economic growth. Denmark is an example of this phenomenon, where basic research has been strongly promoted through centres of excellence, leading to improved rankings with respect to publications and citations, but not to similarly strong results with respect to innovation and economic growth. Denmark’s economy is still only at the level it was in 2008 and it is the Nordic economy that was hit hardest by the economic and financial crisis. Its productivity growth during the 2000s was the third lowest in Europe, just above Spain and Italy. Thus, **the crucial or challenging question is what kind of agencies, institutions and network dynamics enable and promote the transformation of scientific research into socially useful innovation**, or the ‘exploration-exploitation puzzle’, which can provide answers and solutions to the major global challenges confronting today’s societies. Innovation systems are a logical response here.

“The crucial question is what kind of agencies, institutions and network dynamics enables and promotes the transformation of scientific research into societal useful innovation.

Innovation systems should thus embrace a broad-based innovation policy of both research-based STI (Science, Technology and Innovation) and experience-based DUI (Doing, Using, Interacting) modes of innovation (Lorenz and Lundvall, 2006) as well as supply and demand drivers of innovation. STI includes research that is based on both analytical knowledge (basic) and synthetic/symbolic knowledge (applied). Companies also engage in application development (incremental innovation (D)) in house in addition to technological development ((applied) research (R)) in collaboration with (technical) universities. The Aristotelian distinction between ‘episteme’ and ‘techne’ has been the inspiration behind the development of the knowledge base approach differentiating between ‘synthetic’, ‘analytical’, and ‘symbolic’ types of knowledge bases. This approach partly transcends the tacit, codified dichotomy arguing that the two forms of knowledge always co-exist but in different combinations, and partly maintains that all types of economic activity can be innovative but that the modes of innovation differ, thus transcending the high-tech/low-tech dichotomy (Asheim and Gertler, 2005; Asheim, 2007).

The innovation system approach was developed in the early 1980s in the context of an OECD project on ‘Science, Technology and Competitiveness’. The ambition was to develop a more dynamic perspective on innovation and learning in promoting economic growth with the active involvement of government (Lundvall, 2008) or a ‘high road strategy’ of innovation-based competition, which was also subsequently proposed by Porter (Porter, 1990).

The innovation system approach thus places innovation at the centre of economic growth. It advocates continuous upgrading of productive capabilities in shaping selection processes and stimulating creativity. **It represents a shift from a linear view on innovation, mainly understood as conventional science and technology policies, to a policy approach that views innovation as an interactive process in which many different social actors take part** (Lundvall, 2008). Therefore it is also the first policy approach to emphasize that a systematic long-term relationship between key stakeholders (university, industry and government/public sector) can play a strategic role in the promotion of innovation and competitiveness. Earlier in the history of heterodox economic thinking, Schumpeter defined entrepreneurs (and later intrapreneurs) as the key actors in the promotion of innovation. The role of human capital was used by Solow in order to explain the residual of what leads to economic growth after physical and financial capital and labour have been taken into account. The level of R&D was later added as an explanatory factor. However, while these attempts only look indirectly at the contribution of universities (i.e. as providers of human capital and R&D), the innovation system approach builds on the direct contribution of universities’ research in collaboration with industry (later developed even more explicitly in the triple helix approach).

Innovation systems are both selection environments and sources of new variety creation. Innovation arises from new combinations of new and existing knowledge, skills and resources. As evolutionary theory suggests, the broader and more diverse the knowledge bases, the larger the scope for innovation (Asheim and Gertler, 2005). New research has shown that firms combining a science- and experience-based mode of innovation perform best, and that firms sourcing broadly from both R&D and experience-based knowledge are the most innovative (Lorenz and Lundvall, 2006). An important point for policy may therefore be to contribute to the necessary variety in the knowledge available for innovation, which could increase the transformative capacity of innovation systems, making them more dynamic and open, and thus better able to support new initiatives.

In all economies, except possibly a few very large ones, the most important source of such variety in knowledge bases is to be found outside the region and nation, and often globally. The ability of a region’s or country’s universities and firms to tap into globally distributed knowledge networks, and use them productively (open innovation), will often be more important than the creation of new knowledge at home. This is especially the case when innovation systems take on the role of being formative environments containing the milieus where new ideas and concepts get the necessary support to make their way successfully from invention to innovation. However, in order to tap into globally distributed knowledge networks, firms need to have a sufficient level of absorptive capacity. This is determined by the competence of the workforce (i.e. the level and quality of human capital) in firms and their R&D capacity, and/or the R&D capacity of the regional knowledge infrastructure where the firms are located and which can be exploited within the context of a regional innovation system.

Arguably, an efficient knowledge economy is based on innovation systems with a high degree of openness and diversity, not only with regard to knowledge in the strict sense of the word, but also with respect to tolerance towards the cultural, religious and ethnic characteristics of the carriers (e.g. entrepreneurs and researchers) of that knowledge. Thus, the global dimension of globally distributed knowledge networks has increased dramatically in importance over the last decade. This means that it is more vital than ever for national and regional policymakers to understand how the international context interacts with region- and sector-specific conditions in affecting innovativeness, competitiveness and economic growth.

2.2 Triple helix and Mode 2

The triple helix approach represents one strategy of improving the connectivity in a regional innovation system (RIS). The triple helix perspective has attracted much attention among policymakers as well as among researchers in the area of innovation research (Etzkowitz and Leydesdorff, 2000). It underscores the increased interaction and interdependence between universities, industry and government in modern, knowledge-based economies by acclaiming the transformation to the entrepreneurial university. Based on the innovation system view that innovation stimulates economic growth, the approach is 'motivated by an assumed need to bring innovation processes closer to a context of application' (Lundequist and Waxell, 2010: 266). The triple helix approach can be viewed as the operationalization of a regional innovation system as an explicit regional innovation policy strategy. This is the way the triple helix approach has been used by VINNOVA.

The triple helix approach maintains that, in a rapidly emerging knowledge economy, places with entrepreneurial universities would increasingly see growing demand for knowledge transfer to industry and, through government, to society. The paradigmatic example of this phenomenon is the Massachusetts Institute of Technology (MIT). MIT is, to say the least, a successful case, and one that has served as a model for similar attempts to create entrepreneurial universities internationally, the latest example focusing on discussions to establish a European virtual MIT funded by the EU. However, not surprisingly, research has found that a model design based on MIT worked less efficiently in different contexts with more average universities, different university policies and forms of funding (e.g. in continental Europe). Three important contextual differences must be kept in mind. Firstly, MIT and most other leading American universities are private and receive generous funding, making them attractive to the best staff and students internationally. Secondly, these leading American universities have been exposed to institutional competition for funding, staff and students for a number of years, and, consequently, have learned and adapted their policies and organizations to this situation, something that European universities are only starting to experience in recent years as a result of globalization. Thirdly, in the USA, massive public funding has been invested in research-intensive areas related to the military sector (e.g. IT) and the public health sector (e.g. biotech). This represents a policy challenge to replace private funding with public funding to establish similar strong R&I milieus, of which VINNOVA's policy in this area is an example.

From another point of departure, these ideas are presented as a move from the disciplinary Mode 1 model of university research to the interdisciplinary Mode 2 model. This is precisely a consequence of universities adapting to the needs of industry for R&D input, generated in collaboration between universities and industry (Gibbons et al., 1994). However, while the triple helix approach operates with a

macro perspective on the need for close collaboration between university, industry and government, the Mode 2 literature focuses on the micro perspective of how this implies changing conditions for university research (Nowotny et al., 2000). Thus, both approaches 'claim that universities and firms are working closer together than before due to the changing nature of the knowledge economy' (Lundequist and Waxell, 2010: 266).

The Mode 2 literature argues that university research in general has become more contextualized and applied and consequently more oriented towards adapting to the needs of industry and other potential users in society. Thus, knowledge production in Mode 2 is moving towards a new mode which is more problem-oriented, application- and context-driven, heterogeneous and interdisciplinary than the traditional Mode 1 paradigm, which is described as being dominated by disciplinary hegemony and often associated with the linear model of innovation (Lundequist and Waxell, 2010: 266; Giddons et al., 1994; Nowotny et al., 2000). Following a Mode 2 approach, research design and the organization of research projects is therefore a result of close interaction between representatives from university, industry and government in which spatial, social and institutional proximity (found in communities of practice of regionally based, strong R&I milieus for example) can play an important role, and is not purely an internal matter for university researchers as is the case of the disciplinary-oriented basic research of Mode 1. However, in order to support and adapt to the transition from Mode 1 to Mode 2, the traditional organizational structure of universities in faculty and departments, which is based on Mode 1 disciplinary traditions, must be changed.

3. Conclusions: lessons learned

This chapter has highlighted the following lessons for a policy of strengthening universities' local and global engagement, which can form the basis for future policy recommendations:

1. There is no fundamental contradiction between promoting competitiveness and solving societal challenges.
2. Responsible, sustainable and healthy economic growth is a precondition for dealing with global challenges.
3. Universities play a key role in producing the outcomes of competitiveness and solving societal challenges through research and the supply of human capital.
4. To generate social benefits from universities, organizational and institutional innovations are required.
5. Sweden pioneered universities' 'third task' in 1997.
6. It introduced the innovation system/triple helix approach as an organizational model for its innovation policy.
7. It prioritized the funding of interdisciplinary research milieus when its centre of excellence scheme was introduced in 2006.

8. It paved the way for a transition from a Mode 1 to a Mode 2 method of university research.
9. As all societal challenges are interdisciplinary, this institutional innovation is of strategic importance.
10. There is no contradiction between world-leading, excellent research and third mission tasks.

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Special Contribution

IAU-MCO Guidelines for an Institutional Code of Ethics in Higher Education

Eva Egron-Polak

Both the International Association of Universities and the Magna Charta Observatory have developed normative policy statements that enshrine academic values. Both organizations are committed to not simply promoting these values but also to helping higher education institutions, and the academic community more generally, to navigate through the challenges and threats that undermine such key values as academic freedom, autonomy, scientific integrity, both from within and without the institution. The specific genesis of the IAU-MCO joint guidelines was an IAU international conference held in 2010 on the theme of Ethics and Values in Higher Education in the Era of Globalization. The participants were asked about and invited to consider the feasibility of a comprehensive global code of ethics for higher education. The guidelines represent part of the response.

The challenges and threats to academic values are multiple – some are inherent to the pursuit of science, others stem from the ever-increasing economic push from the market, others yet are brought about by technological advances that can at times facilitate misconduct. They also differ according to tradition, context and the strength of the rule of law in the nation where a given university is located, for example. Yet, the complexity of ethical dilemmas facing higher education leadership and stakeholders appears to be increasing everywhere and the scrutiny of the higher education and scientific communities is growing apace.

The Joint IAU-MCO International Working Group that came together, chaired by the late Pier Ugo Calzolar, former rector of the University of Bologna, worked for just under two years to draft and circulate the guidelines. They aim to offer a universally applicable instrument by which universities all over the world can examine how well prepared their policies and processes are to meet ethical challenges and respond to the complex dilemmas that arise in research, in the classroom, in the increasingly competitive employment or recruitment market for academic and administrative staff and in universities' relations with local and international communities. In all these functions, members of the higher education institution can be confronted with ethical issues as they relate to investment or receipt of funds, hiring of personnel, student admission and assessment, publications, copyright and plagiarism, inter-personal relations, security, etc.

The guidelines have another goal as well, namely to raise awareness about the high level of responsibility that is placed on higher education institutions to act in an exemplary fashion. They are comprehensive and detailed, not so much in a prescriptive way but rather to ensure that as many dimensions and as many areas of the institutional context and operations are covered. Since the ultimate aim of the IAU and the MCO is to stimulate ongoing reflection on how values and ethics become embedded in the university, the hope is that the guidelines will serve to stimulate discussion and point the way for policy development at all levels and by all stakeholders.



Bioethics and Law Observatory-UNESCO Chair in Bioethics at the University of Barcelona: 'Pushing the glocal bioethics engagement'

María Casado and Itziar de Lecuona

The Bioethics and Law Observatory (OBD) was established in 1995, at the University of Barcelona, to promote interdisciplinary research on bioethics and its relationship with internationally recognized human rights. In 2007, UNESCO conferred a Chair in Bioethics on OBD, due to its proven results and methodologies in the research, teaching and knowledge transfer setting. The main feature of this interdisciplinary group is its consolidated work on technology assessment. The fact that the work and opinion of a scientific and academic group has been so important in changing the law is extremely significant for the glocal perspective. It shows the closely related implications of technical standards as compared to legal rules, and gives meaning to the role played by formal and informal scientific and technical institutions in the drafting of laws; in the inception of policies related to healthcare issues, and core topics in bioethics such as assisted reproduction techniques, biomedical research or living wills.

In these three domains OBD has contributed towards designing and modifying policies and regulations, and even helped to develop procedures for making autonomy in healthcare a reality. In sum, Spanish and Catalan policies and acts on these issues have reproduced word for word the recommendations made and published in OBD reports. OBD can assert with satisfaction that

its work has achieved notable results in what matters most to lawyers and bioethicists: having an effect on changes in legislation, professional practice and informed social debate.

With the prestigious UNESCO recognition, the OBD has established and strengthened international, European and local networks of researchers and professionals with a strong profile in bioethics. The best example of glocal bioethics engagement is the IberoAmerican Network of the International Association of Bioethics, where the analysis of local bioethics issues is developed in line with global trends and local perspectives. Likewise, the Network of Research and Teaching in Bioethics, backed by the European Commission's ALFA programme in order to establish a common core curriculum in bioethics at university level, irrespective of the discipline, as a crosscutting issue, has been recognized as a good practice by the European Commission. Recently, the network has been held up as an example of how to integrate ethics from the start by the League of European Research Universities (LERU), in its report on the future of social sciences and humanities (October, 2013). This holistic view and the concept of responsible research and innovation that is in vogue today needs ethics as an engine and gearbox of scientific advances and its applications.

Some Latin-American countries, using grants awarded by the Spanish Agency for International Development Cooperation (AECID), have set up networks for building bioethics capacities in ethics committees and helping them to integrate the gender perspective into the healthcare setting. Lately, networks highlighting the bioethical issues that are at stake have been created with the support of European universities. One of the main topics to deal with, including development of methodologies and action plans, has been and currently is responsible research and innovation and how higher education institutions with a leading role in bioethics have a voice.

Along these lines, the UNESCO Chair in Bioethics established an Iberian Bioethics Network, in alliance with the UNESCO Chair in Bioethics of Porto. The network created by OBD in 2001 for sharing the good practices and experiences of ethics committees at university level has been identified by LERU as a good example to be replicated, due to its research integrity and the contributions of ethics committees towards promoting good practices in research. Members of the OBD are part of the LERU Expert Working Group on research integrity. Its recommendations could be taken into account in the European Commission research area.

Research conducted at university level must follow regulations on scientific research that establish the need for ethical review by a research ethics committee, prior to development. OBD established the first bioethics commission at university level in Spain and has helped other public and private universities to create their own ethics committees and to develop specific capacities and skills in bioethics on demand. It seeks to create and enhance bioethics capacities at university level with proven results (see the abovementioned OBD Network of ethics committees at university level, established in 2001).

The Bioethics and Law Observatory of the University of Barcelona (CBUB) has been encouraging universities in Spain to set up their own ethics committees and develop methodologies and checklists to properly review research projects. The CBUB fosters ethical review not only in hard sciences such as medicine or biology, but also in social sciences and humanities research projects. Today, CBUB is developing procedures to review big data research, and it has been a pioneer in designing the requirements to review social interventions (interviews, etc.). For these reasons the Catalan government appointed the Bioethics Commission at the University of Barcelona to review its public research calls, and private initiatives have requested CBUB's review and training services.

The Bioethics and Law Journal is an example of the open access policy established by OBD. Sharing the benefits of the knowledge developed is a policy that OBD applies (further information at www.bioeticayderecho.ub.edu/revista). The journal is indexed in the main open access repositories of recognized quality.

OBD has become a bridge between a higher education institution and society. The UNESCO Chair in Bioethics at the University of Barcelona leaves its social mark with measurable impact in different domains and on different stakeholders, including citizens. It provides an approach to bioethics conceived of as an inclusive process with and for society in the field of bioethics. There are no more than 10 UNESCO Chairs in Bioethics around the world. The UNESCO Chair in Bioethics at the University of Barcelona is the only one in Spain and forms part of the Catalan group of UNESCO Chairs.

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6

Incentivizing Institutions, Faculty and Students

6.1. Recognizing Excellence in Engaged Teaching and Scholarship: the University of Pennsylvania's Experience

Ira Harkavy, Matthew Hartley, Rita A. Hodges and Joann Weeks

Abstract

In this article we describe engaged democratic research and teaching focused on a university's local community as a powerful global institutional advancement strategy. We identify obstacles to engaged teaching and scholarship, including a continuation of dysfunctional traditions, commodification and commercialization of learning, intellectual and institutional fragmentation, a reward system based on a narrow discipline and field specific focus, and a corresponding rankings system that leads to competition rather than collaboration.

Strategies for reducing these obstacles are suggested, particularly a focus on solving universal problems (poverty, poor schooling and inadequate healthcare) that are manifested locally in a university's ecological community. We describe our work in the disadvantaged community of West Philadelphia to integrate research, teaching, service and learning through academically-based community service (a problem-solving approach to service-learning) and university-assisted community schools (a programme designed to contribute to the development of

democratic local communities, as well as improved education from pre-school through research universities). We emphasize that Penn and other institutions that are developing service-learning and university-assisted community schools still have a very long way to go to achieve equal recognition of engaged, problem-focused and discipline-focused teaching and scholarship.

National and global networks that connect universities engaged in this work are also identified as part of a strategy for reducing obstacles to engaged teaching and scholarship. The work of GUNi, the Talloires Network and the International Consortium for Higher Education, Civic Responsibility, and Democracy are cited as positive indicators of a global movement to advance engaged teaching and scholarship.

Besides strengthening and growing robust global higher education democratic civic engagement networks, we recommend that colleges and universities work to change institutional norms (including promotion and tenure guidelines) and that governmental support be given to higher education-civic partnerships that demonstrate community benefit (not simply benefit to the college or university). We include specific examples drawn from our work and the work of our colleagues at other universities.

Introduction

Given the increased recognition of the university's powerful and comprehensive societal impacts, it is not surprising that there has been a substantive and public re-emergence of engaged scholarship – scholarship designed directly to contribute to betterment of the human condition – with leading academics and university presidents making the intellectual case. That argument, simply stated, is that higher educational institutions, particularly urban and metropolitan universities, can *better* fulfil their core academic functions, including advancing knowledge and learning, if they focus on improving conditions in their regions, cities and local communities. **Engaged democratic research and teaching focused on a university's local community is, in short, a powerful institutional advancement strategy.**

“Engaged democratic research and teaching focused on a university's local community is, in short, a powerful institutional advancement strategy.”

More broadly, a higher education democratic, civic and community engagement movement has developed across the United States and around the world to improve the research, teaching, learning and service at higher education institutions, as well as the quality of life in their surrounding communities (Hartley, 2009; Harkavy, 2015). This movement, in effect, is working to realize the United Nations' Sustainable Development Goals in areas such as ending poverty and hunger, promoting health and wellbeing, and ensuring equitable quality education.

The higher education democratic civic engagement movement also emphasizes that collaboration inside and outside the academy is necessary for producing genuine knowledge that solves real-world problems and results in positive changes in the human condition. This movement works to connect colleges and universities with their local communities through the development of sustained, mutually

respectful and mutually beneficial higher education-community partnerships that not only provide learning opportunities for students and faculty, but also empower and improve the community at large (Benson, Harkavy and Puckett, 2007). The movement advocates a vision of the university as a democratically engaged institution – a part of the community, rather than a gated and privileged enclave within it or, as one of us (Harkavy) puts it, “shores of affluence, self-importance and horticultural beauty at the edge of island seas of squalor, violence and despair” (Boyer, 1994: A48).

A number of strategies have been employed by higher education institutions to advance this work. These include integrating community-based activities into courses to enable students to actively reflect on complex real-world problems (e.g. service-learning), reorienting scholarly activities to address significant societal and community concerns (e.g. community-based research and action research), developing sustained and reciprocal university-community partnerships, and preparing students to live in an increasingly diverse democracy and inter-connected world (Saltmarsh and Hartley, 2011).

At this time, moreover, when public colleges and universities in particular are facing serious and severe strain resulting from large-scale, significant cutbacks in governmental funding, particularly at the state level, they are also under increased scrutiny by the government to demonstrate that they are serving the public good. ‘Community benefit’ has become an essential component of funding appeals to many donors and foundations, as well as governmental agencies.¹ **Simply put, higher education institutions understand more fully than ever that it is in their enlightened self-interest to be civically engaged with their local schools and communities.**

The burden of tradition and other obstacles to overcome

The dead hand of tradition, in our judgment, functions as a primary obstacle to the radical transformation of colleges and universities into engaged, democratic, civic institutions. Although a primary obstacle, it is by no means the only one. In our judgment, the forces of commercialism and commodification, misplaced nostalgia for ivory-tower and traditionally elitist liberal arts, intellectual and institutional fragmentation, and the predominant faculty and institutional reward system also function as significant obstacles to much needed change.

Education for profit, not virtue; students as consumers, not producers of knowledge; academics as individual superstars, not members of a community of scholars – all of these are examples of the commercialization of higher education, which, among other things, contributes to an overemphasis on institutional competition for wealth and status (Bok, 2003). Perhaps the most important consequence of the commercialization of higher education is the devastating impact it has on the values and ambitions of college students. When higher education institutions openly and increasingly pursue commercialization, their behaviour legitimizes and reinforces the pursuit of economic self-interest by students and contributes to the widespread sense that they are in college *exclusively* to gain career-related skills and credentials. Student idealism and civic engagement are also strongly diminished when students

¹ For a case study on how one institution, Oregon State University, transformed itself in the face of declining public financial support by focusing on its land grant mission, democratic processes and community connections, see: Ray, E. J. (2013), Institutional change in a culture of democracy, in S. Bergan, I. Harkavy and H. van't Land (eds.), *Reimagining democratic societies: a new era of personal and social responsibility* (pp. 229-236), Council of Europe Publishing.

see their universities abandon academic values and scholarly pursuits to function openly and enthusiastically as competitive, profit-making corporations. Commercialism also powerfully contributes to higher education being seen as a private benefit, instead of a public good.

Partly as a response to galloping commercialism, some have made the case for a preservation of, or return to, traditional liberal arts education – an essentialist approach with roots in Plato’s antidemocratic, elitist theory of education. What is needed instead is, to quote Carol Geary Schneider, “a *new liberal art* [emphasis added]” involving “integrative learning – focused around big problems and new connections between the academy and society” (Schneider, 2014: 51).

A 1982 Organization for Economic Cooperation and Development report titled *The University and the Community* claimed, “Communities have problems, universities have departments” (Center for Educational Research and Innovation, 1982: 127). Beyond being a criticism of universities, that statement

“Colleges and universities need to significantly decrease the fragmentation of disciplines, overspecialization, and division between and among the arts and sciences and the professions, since these departmental and disciplinary divisions have increased the isolation of higher education from society itself.

neatly indicates another major reason why colleges and universities have not contributed as they should. Quite simply, their unintegrated, fragmented, internally conflictual structure and organization impedes understanding and developing solutions to highly complex human and societal problems. **Colleges and universities need to significantly decrease the fragmentation of disciplines, overspecialization and division between and among the arts and sciences and the professions, since these departmental and disciplinary divisions have increased the isolation of higher education from society itself.**

The predominant faculty and institutional rewards system, which is closely aligned with the norms of traditional academic disciplines and with traditional forms of scholarship, is another obstacle (Benson, Harkavy and Puckett, 2005). Many faculty reward systems at research universities focus narrowly on numbers of publications and grant dollars when judging faculty productivity. Applying scholarly expertise to real-world problems is often labelled ‘service’, which is one aspect of faculty work life but perceived as the least important, especially at research universities.

A related issue is that institutions compete with one another through rankings (especially the influential US News and World Report rankings). Rankings also rely on measures that offer a narrow conception of faculty work (e.g. numbers of publications and grant dollars). This is particularly true for many public institutions that compete for funds with other institutions within their states. This situation has led to institutional ‘striving’ where universities seek to reward activities that they hope will lead to higher rankings (O’Meara, 2007). In turn, rewards go to faculty members who publish in disciplinary journals and who secure grants – all of which are much easier to accomplish through tra-

ditional research than engaged scholarship. Performance Based Funding, which is occurring in many states now, looks at similar metrics when determining institutional 'productivity'.

Reducing the obstacles: focus on local engagement

So what is to be done to reduce the negative effects of the dead hand of dysfunctional traditions, as well as commercialism and commodification, 'ivory-tower nostalgia', intellectual and institutional fragmentation and the predominant faculty and institutional rewards system? To help answer that question, we turn to one of John Dewey's most significant propositions: "Democracy must begin at home, and its home is the neighbourly community" (Dewey, 1954: 213). Democracy, Dewey emphasized, has to be built on face-to-face interactions in which human beings work together cooperatively to solve the ongoing problems of life. In effect, we are updating Dewey and advocating the following proposition: Democracy must begin at home, and its home is the engaged neighbourly college or university and its local community partners.

The benefits of a local community focus for college and university civic engagement programmes are manifold. Ongoing, continuous interaction is facilitated through work in an easily accessible location. Relationships of trust, so essential for effective partnerships and effective learning, are also built through day-to-day work on problems and issues of mutual concern. In addition, the local community provides a convenient setting in which a number of service-learning, community-based research and other related courses in different disciplines can work together on a complex problem to produce substantive results. Work in a university's local community, since it facilitates interaction across schools and disciplines, can also create interdisciplinary learning opportunities. And finally, the local community is a democratic real-world learning site in which community members and academics can pragmatically determine whether the work is making a real difference, and whether *both* the neighbourhood and the higher education institution are better off as a result of common efforts (Benson, Harkavy and Puckett, 2011). Indeed, we would contend that a focus on local engagement is an extraordinarily promising strategy for realizing institutional mission and purpose. Or as elegantly expressed by Paul Pribbenow, president of Augsburg College, the "intersections of vocation and location" provide wonderful opportunities for both the institution and the community (Pribbenow, 2014: 158).

To explore this local engagement strategy in greater depth and to illustrate how it has enhanced institutional competitiveness and comparative standing, we now turn to the case we know best, the University of Pennsylvania. You will find it described in Box 1 in this chapter.

Box 1. Recognizing excellence in engaged teaching and scholarship and creating neighbourly communities: The University of Pennsylvania's partnerships in West Philadelphia as a democratic experiment in progress

In her inaugural address in October 2004, President Gutmann announced a comprehensive 'Penn Compact' (the Compact) designed to advance the university 'from excellence to eminence' (Gutmann, 2004). Although the Compact's first two principles – increasing access to a Penn education and integrating knowledge – had, and continue to have, significant importance for Penn, the third principle of engaging locally and globally is particularly relevant to advancing engaged teaching and scholarship.

Gutmann's articulation of Penn's core values and aspirations in the Compact brought an increased emphasis to realizing the university's institutional potential through working to solve real-world problems in partnership with communities, while continuing to invest its economic resources locally. **Local engagement work moved from being primarily a means to help Penn revitalize its local environment to becoming a way for it to achieve eminence as a research university.** Moreover, the Compact's clear directive has become infused in nearly every aspect of the university, shaping both operations and culture across campus. For example, Penn's comprehensive capital campaign from 2007 through 2012, *Making History*, was rooted in the principles of the Compact.

The Netter Center for Community Partnerships was officially founded in 1992, but its work in West Philadelphia began in the mid-80s. Since 1985, the university has increasingly engaged in comprehensive and mutually beneficial university-community-school partnerships. Coordinated by the Barbara and Edward Netter Center for Community Partnerships, more than 200 Academically-Based Community Service (ABCS) courses (Penn's approach to service-learning) have been developed. **ABCS courses integrate research, teaching, learning and service around action-oriented, community problem-solving. Penn students work on improving local schools, spurring economic development on a neighbourhood scale, and building strong community organizations. At the same time, they reflect on their service experience and its larger implications (e.g. why poverty, racism and crime exist).** In 2014-2015, approximately 1,600 Penn students (undergraduate, graduate and professional) and nearly 50 faculty members (from 26 departments across eight of Penn's 12 schools) were engaged in West Philadelphia through 63 ABCS courses (this represents significant growth since 1992, when three faculty members taught four ABCS courses to approximately 100 students.)

At the core of many of Penn's Academically-Based Community Service courses are ongoing faculty action research projects. For example, in 1991, professor and then-chair of the Anthropology department Dr. Francis Johnston, revised his undergraduate seminar on medical anthropology to focus on community health in West Philadelphia. Over the past twenty-four years, students on this course, as well as Johnston's other courses, have addressed the strategic problem of improving the health and nutrition of disadvantaged inner-city children by doing systematic in-depth research designed to understand and help improve the education and nutritional status of youth in West Philadelphia. Professor Johnston, whose work had previously been largely concerned with

nutritional problems in Latin America, found that his seminars on West Philadelphia were not only more enjoyable to teach, but they also contributed to his own scholarly research.

Currently, faculty members in anthropology, political science, psychology and nursing at the Wharton School teach and have research projects connected to what is now known as the Agatston Urban Nutrition Initiative (AUNI). AUNI has become the Netter Center's largest project with over 20 full-time employees working in university-assisted community schools in West Philadelphia, as well as in other sections of the city.

The Moelis Access Science programme further exemplifies the institutional and community benefits that result from academic partnerships with the local community. Begun in 1999 with support from the National Science Foundation, Access Science works to improve the science, technology, engineering and maths (STEM) education of both K-12 students and undergraduate and graduate students at Penn. The programme now involves faculty and students from across numerous Penn departments – including biology, mathematics, environmental science, physics, education, chemistry, engineering and computer science – working in local West Philadelphia public schools. For example, 'Community Physics Initiative' is an ABCS course taught by Dr. Larry Gladney, the Associate Dean for the Natural Sciences and recent chair of the Department of Physics and Astronomy, which connects the practical and theoretical aspects of fundamental physics and is aligned with the School District of Philadelphia's curriculum for introductory high-school physics. By creating and teaching weekly laboratory exercises and classroom demonstrations at a nearby high school, Penn students are learning science by teaching science to high school students.

The Netter Center has developed several strategies to recognize and incentivize the involvement of Penn faculty members in local community engagement. For example, Course Development Grants are awarded annually to support university staff to develop new courses or adapt existing courses that combine research with school and community projects. Awardees are selected by a sub-committee of the Netter Center's Faculty Advisory Board, a board that includes nearly 30 faculty members from across the institution who are deeply committed to Academically-Based Community Service. Faculty members are also provided logistical assistance for their students' involvement in the community, as well as on-site staff at the university-assisted community schools (where most of the students are placed) to promote mutually beneficial partnerships. Staff across disciplines are brought together for faculty-led seminars on thematically based topics such as STEM, public schools, arts, culture, and humanities, and teaching ABCS, as they relate to community engagement. The Netter Center also awards grants to faculty members who develop mutually beneficially partnerships that connect theory and practice through participatory action research projects. Finally, the Netter Center provides an annual award of \$5,000 to recognize outstanding faculty-community partnership projects in West Philadelphia/Philadelphia, with \$2,500 awarded to the faculty member and \$2,500 to the community partner to develop and advance an existing partnership.

A similar service-learning development has occurred at other institutions across the United States (Hartley, 2011). For example, Campus Compact, a US coalition of community college, college and university presidents dedicated to civic engagement, grew from three institutional members in 1985

to approximately 1100 today, roughly one quarter of all higher educational institutions in the United States. In a 2014 Campus Compact survey (with 434 of 1080 institutions responding), member institutions reported that 39 per cent of their undergraduate and graduate students participated in service and service-learning courses annually, with an average of 3.5 hours served per week; approximately 97 per cent of institutions had an office or centre supporting this work, with 35 per cent reporting that academic service-learning was the primary purpose of this office; and 65 per cent of campuses rewarded service-learning and community-based research in promotion and tenure decisions (Campus Compact, 2014: 2-5, 9). Campus Compact also recognizes exemplary engaged scholarship of senior faculty staff through its Thomas Ehrlich Civically Engaged Faculty Award. Similarly, the New England Resource Center for Higher Education awards an annual Ernest A. Lynton Award for the Scholarship of Engagement for Early Career Faculty who are integrating teaching, research and service.

Box 2. Developing University-Assisted Community Schools

The Netter Center has also been working for over 20 years on developing and sustaining university-assisted community schools (UACS). Community schools bring together multiple organizations and their resources to educate, activate and serve not just students, but *all* members of the community in which the school is located. University-assisted community schools engage students from grades pre-K to 20 in real-world community problem-solving designed to have positive effects on neighbourhoods and help develop active, participating citizens of a democratic society. Penn students taking ABCS courses (such as Johnston's and Gladney's courses described above), work-study students, and student interns and volunteers (over 2,000 students annually) provide vital support for these programmes, serving as tutors, mentors, classroom fellows or activity and project leaders. The Netter Center is currently working with a network of five university-assisted community schools in West Philadelphia, involving approximately 3,000 K-12 children, youth and their families. Many other institutions – Florida International University, Indiana University-Purdue University Indianapolis, Johns Hopkins University, Montclair State University, Seattle University, University at Buffalo, University of California-Los Angeles, University of Connecticut, University of Dayton, University of Maryland-Baltimore, and University of Tennessee-Knoxville, to name a few – are also developing a university-assisted community schools approach. Some specific examples of work in this area include:

- » At Indiana University-Purdue University Indianapolis (IUPUI), the Office of Family, School, and Neighborhood Engagement coordinates IUPUI's efforts in developing community schools in Indianapolis that began in the late 1990s, as well as providing technical assistance to other university-community-school partnerships across the state. See <https://engage.iupui.edu/fsne/>
- » Florida International University (FIU) and Miami-Dade County Public Schools established the Education Effect in 2011 to improve educational outcomes in the Liberty City neighbourhood through university-assisted community schools. See <http://engagement.fiu.edu/developing-the-community/the-education-effect/>

- » Since 2009, University of California, Los Angeles (UCLA) has partnered with the Los Angeles Unified School District and the local community to create and operate the UCLA Community School. See <https://cs.gseis.ucla.edu/>

It is important to emphasize that Penn and other institutions that are developing service-learning and university-assisted community schools still have a very long way to go to achieve an equal recognition of engaged, problem-focused and discipline-focused teaching and scholarship.

A global movement

We argue specifically that every university should democratically work with its neighbours to solve universal problems (including ending poverty and hunger, improving schooling and healthcare, and promoting inclusive economic growth) as they are manifested in its local community. And to produce optimal learning and genuine large-scale progressive social change, national and global networks need to be developed that connect universities engaged in this work.

In 2009, for example, a national task force coordinated by the University of Pennsylvania advised the US Department of Housing and Urban Development (HUD) on how the agency could leverage anchor institutions, particularly institutions of higher education and medical centres ('eds and meds') to improve communities and help solve significant urban problems. Soon after the Anchor Institutions Task Force submitted its report, 'Anchor Institutions as Partners in Building Successful Communities and Local Economies', it became an ongoing organization with the mission of forging democratic civic partnerships involving anchor institutions.

“Every university should democratically work with its neighbours to solve universal problems as they are manifested in its local community.

The Task Force is guided by the core values of collaboration and partnership, equity and social justice, democracy and democratic practice and commitment to place and community (Marga Inc., 2010). With approximately 650 individual members, the Task Force is an important voice for increasing the engagement of anchor institutions in their localities and regions in the United States and around the world. For higher education institutions, in particular, a primary goal is to fully engage the institution's resources – human, cultural, academic, economic – with its community in democratic, mutually beneficial and mutually respectful partnerships (Harkavy et al., 2009). Similar developments are occurring globally.

In 1605, Francis Bacon identified “a closer connection and relationship between all the different universities of Europe” as necessary for realizing his goal that knowledge contribute to the progressive, continued betterment of the human condition (Sargent, 1999: 53-54). Since 1999, the Council of Europe and the International Consortium for Higher Education, Civic Responsibility, and Democracy have worked together to advance higher education's democratic contributions to democracy and hu-

man rights across Europe, the United States and beyond. The International Consortium seeks to explain and advance higher education's contributions to democracy on community college, college and university campuses, in their local communities and in the wider society. It is comprised of the United States (represented by a Steering Committee from the American Council on Education, Association of American Colleges and Universities, American Association of State Colleges and Universities, NASPA, Campus Compact and the Democracy Commitment), Australia (represented by Engagement Australia), the United Kingdom (represented by the National Co-ordinating Centre for Public Engagement) and Ireland (represented by Campus Engage Ireland).

Other global networks have also developed, such as the Talloires Network, and the Global University Network for Innovation (GUNi). The International Consortium, as well as GUNi and Talloires, can be viewed, in our judgment, as positive responses to Bacon's proposal that higher educational institutions collaborate across cultures and national boundaries to advance learning and human welfare.

Creating and sustaining global networks is one of a number of recommendations and lessons learned.

“The International Consortium, as well as GUNi and Talloires, can be viewed, in our judgment, as positive responses to Bacon's proposal that higher educational institutions collaborate across cultures and national boundaries to advance learning and human welfare.

Recommendations/lessons learned

We discuss some key recommendations related to changing institutional norms, including promotion and tenure guidelines, through university-wide conversations on the role of engaged scholarship in realizing the university's mission. It is particularly powerful when such conversations occur at the institutional level (for example, through inclusive strategic planning processes). If an institution is deeply committed to its local community, to advancing social justice and to strengthening democracy, it must put in place policies that foster these outcomes.

Specific policy considerations should ensure that the priorities of the community are communicated to new members and that they inform hiring decisions. Policies should also ensure that the above values are reflected in the orientation of new staff and faculty. There need to be dedicated administrative staff or units who support faculty member's community-based teaching and research by helping people make connections with community partners. Community-based teaching and research should be included within promotion and tenure policies for faculty members, and faculty and administrators who serve on such committees must understand the value of this form of scholarship.

Ultimately, what is required is the establishment of an overall socialization process that promotes engaged scholarship and sees it as a valuable act of scholarship and one that advances the institutional mission. Establishing university-wide centres, such as the Netter Center, that catalyse

and coordinate university-community engagement, support faculty members in this work, and institutionalize engaged scholarship is particularly important.

Recognition and support should be provided for higher education-civic partnerships that demonstrate community benefit, not simply benefit to the college or university, as well as transparent and democratic collaborations with local partners. In effect, institutional recognition and governmental support would be based on what we have termed the 'Noah Principle' – funding given for building arks (producing real change), not for predicting rain (describing the problems that exist and will develop if actions are not taken). Institutional recognition and support might include some of the strategies developed by the Netter Center previously described, including course development grants, faculty-community partnership awards, thematically based faculty-led seminars, and support for participatory action research (PAR) projects, all of which specifically encourage engaged scholarship and teaching. Government, foundation and institutional funding should be awarded to faculty projects that work to solve (not merely describe) real-world community problems and do so in collaboration with local partners.

And finally, strengthening and growing robust global higher education democratic civic engagement networks is essential. The work of GUNi, the Talloires Network and the International Consortium for Higher Education, Civic Responsibility, and Democracy are all positive indicators of a developing movement and the growth and dissemination of engaged teaching and scholarship.

Conclusion

When colleges and universities give very high priority to actively solving strategic, real-world problems in their local community, there is a much greater likelihood that they will significantly advance knowledge, learning and democracy. More specifically, as increasing numbers of faculty members focus on helping to solve *universal* problems that are manifested in their institutions' local communities, as well as share the lessons learned across cultures and national boundaries, colleges and universities will be better able to realize Bacon's brilliant proposal that higher education institutions should closely collaborate to advance human welfare. We conclude by calling on universities all over the world to focus on genuine, local partnerships with schools, communities, government and non-governmental organizations, as well as to work together and learn from each other through growing international networks.

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6.2. Forging Solidarity 'Glocally': Engaging Institutions, Faculty, Students

Shirley Walters and Anna James

Abstract

In contexts of growing inequalities, which are one of the greatest threats to the sustainability of life on the planet, and the dominant organizational-cultural environment of many universities, we argue that the social responsibility of universities towards communities is inadequate. We suggest that a reframing towards 'situated solidarity', both on campus and with communities off campus, may help capture the urgency of the times to imagine alternatives. We use the initiative for African University Rankings as illustrative of the competitive, hierarchical impulses which hold sway currently.

We explore some contemporary African initiatives seeking innovative and creative mechanisms for universities to forge solidarities both locally and globally. One is taken from contemporary student movements in South Africa which resonate with 'glocal citizenship' initiatives in other settings, and from attempts to develop a 'university transformation barometer'. We provide guiding questions and a framework for 'a transformed socially responsive university'.

Introduction

We need global solidarity more than ever right now. As climate change fans the flames of conflict in many parts of the world through drought, displacement and other compounding factors, inequalities are one of the greatest threats to the sustaining of life on the planet. Inequalities are endemic to capitalism and the transformation of capitalism requires new modes of thought and new imaginings. We take our cue from an aboriginal Australian woman, Lilla Watson (2004), who said:

“If you come here to help me, you are wasting your time. If you have come because your liberation is bound up with mine, then let us work together.

Alert to contemporary practices in some African countries, we will be attempting to imagine alternative ways of supporting 'social responsibility' within universities as part of a feminist politics of resistance to dominant neoliberal practices. Our first move is to **speak of 'forging solidarity' rather than 'social responsibility'**. We will also shorten 'local/global', to 'glocal', as we understand the 'local' to be in the 'global' and vice versa – we only need to look, for example, at the relationships between drought in a local village and climate change to understand the intimacy of local/global.

“Speak of 'forging solidarity' rather than 'social responsibility'.

The dominant organizational-cultural environment of many universities reflects the same neoliberal economic and political hegemony – this plays out with centralization of authority, corporate managerialist approaches, an auditing culture which treats academics as workers and students as consumers – in which many of the spaces where creative, experimental work was occurring, have been or are being closed down in the interest of being more ‘efficient and effective’. Instrumentalism holds sway in many institutions with, for example, individualization being encouraged through ranking systems of both people and institutions.

The academy has, in many instances, separated itself from communities, with a binary notion of university and community. The meritocracy that dominates university life encourages individualization; it turns individual academics into celebrities through ratings. Academics that have high prestige because of their research ratings are able, in certain prestigious disciplines, to negotiate higher salaries and better conditions. Managers can use divide and rule strategies quite easily in this institutional cultural milieu which encourages people to remain silent. **Universities, of course, are not neutral; universities are integral to socioeconomic, cultural and political communities. They are intimately embedded within society. What they do matters. Universities are either part and parcel of the problem or of finding alternative solutions.**

“Universities, of course, are not neutral; universities are integral to socioeconomic, cultural and political communities. They are intimately embedded within society. What they do matters.

It is in this context that we seek innovative and creative mechanisms for universities to forge solidarities both locally and globally. We explore some contemporary African initiatives to find seeds of resilient hope, as Russel Botman urged, for an environmentally just and sustainable future. One example is from the contemporary student movements in South Africa which resonate with ‘glocal citizenship’ initiatives in other settings; and from attempts to develop a ‘university transformation barometer’.

Which frame to use? Problems as processes for solidarity

The notion of frames is considered in South African higher education debates by Universities South Africa (2015) when they note that preconceived ideas about what universities should be or do are:

A major weakness of higher education transformation studies in South Africa and elsewhere; it has bequeathed us with racist, sexist, discriminatory, preservationist, brutal and false conceptions of ‘excellence’ and ‘quality’ that have become its own ideology; a point easily demonstrated by content analyses in official and public discourses generated by universities themselves (Universities South Africa, 2015: 8).

Current-day practices in measurement and evaluation show dependence on framing prescribed from the top down. University rankings are an example of this, within which lie processes of separation through competition rather than connectedness through cooperation. In this chapter, **we explore alternative frames to encourage commitment to, rather than compliance with, the achievement of social and environmental justice.** As an illustration of what it is that we are ‘pushing against’, we turn

now to an initiative for ranking African universities and a critique of the pervasive ideology of rankings of institutions.

A critique of African university rankings

The Times Higher Education (THE) World University Rankings proposes that a specific ranking system be designed for universities in Africa. This is an effort to revise a system designed for “institutions in the rich developed world” (Spooner, 2015). As the THE indicators stand, the University of Cape Town made it to the top 150 of these rankings, despite them being designed for universities outside of Africa. Unterhalter (2013: 46) points out that this university has a history of serving the elite, in a context of extreme inequality, which may suggest that success in rankings is related to ‘income and wealth’.

Critical literature on rankings reveals that they are not neutral instruments which evaluate universities in a manner that is value-free. Instead “they are manifestations of ideologies about the purposes of higher education” (O’Meara and Meekins, 2012; Birnbauam 2009). An interrogation of the various ranking systems and alternative rankings that exist today clearly shows that the final rank is dependent on what values inform the selection of indicators. Ironically, while they enable comparison of universities across the globe, rankings are thought to incentivize global competitiveness rather than local engagement (Ordorika and Lloyd, 2014: 4). Literature on university ranking accuses the discourse of indicator juggling and an accounting culture, culminating in a global, imperial force which pervades university institutions through self-management, aligned with neoliberal conceptualizations of efficiency and homogeneity (Pusser and Marginson, 2013: 559). This discourse is potentially disastrous for a higher education that is striving to be democratic and socially responsible. Rankings also play a role in maintaining inequality in global education by creating a closed ‘circle of esteem’ (Unterhalter 2013: 46). Thus, rankings simplistically represent universities a-historically, force a preconceived idea of what a university should be globally, and present a consumable metric about the ‘value’ of individual universities, thereby hiding the process which might be an effective space of public reasoning (Sen, 2009) about what the purposes of a university may be. It can be argued that the ranking of universities incentivizes universities to uncritically support the status quo disconnected from broader society.

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Mamdani (2011) explains that in post-colonial periods, African universities have taken on roles as consultants “doing the field-work” for academics in the north. **The co-opting of universities into particular value systems happens at the expense of universities becoming the producers of knowledge integrated into particular African realities. If we consider the ranking of African universities, we need to ask two other questions: what are the roles of universities in societies across Africa and what is the point of introducing a hierarchy of these universities?** To the latter question, we might answer that there is none; we do not want to foster competition when Africa needs collaboration. The creation of uniform indicators across the diversity of contexts can encourage unquestioning consumption of university league tables by the public and universities themselves.

We question what should constitute an alternative measurement practice which takes environmental and social justice, collaboration and feminist politics (Mountz et al., 2015) as starting points. Engaging broadly across many different African contexts to create ‘common knowledge’ (Edwards, 2011) through deeply democratic processes around this question, could be an important start to alternative ways of thinking about ‘social responsibility’ and towards forging solidarity.

A transformation barometer

There are processes currently underway in South Africa to create a higher education ‘transformation barometer’ – the word ‘barometer’ is chosen especially as it signals an instrument which is dynamic and shifting “as it attempts to provide ways for thinking, doing and measuring transformation, and for analysing inhibiting and facilitative conditions for transformation” (Keet and Swartz, 2015: 1).

There is a push for transformation from both government and civil society in the wake of various students’ movements (see below). Transformation includes radical change in the demographics of the professoriate; ‘decolonization’ of curricula and research agendas; embracing intellectual contributions from Africa; elimination of racism and sexism and all other forms of unjust discrimination; improvement in academic success rates among black students; expansion of student support; promotion of socially just pedagogies; democratic and non-repressive institutional cultures; and ensuring accountable governance and management efficiencies.

‘Transformation’ is highly contested in South Africa presently. A survey across universities produced the following six transformation indicators and categories in order of weight: institutional culture; curriculum and research; teaching and learning; equity and redress; diversity and social inclusion; and community engagement (Keet and Swartz, 2015).

Despite the slipperiness of the concept of transformation, a broad meaning-making frame is emerging which has the “development of an inclusive narrative of progress and equality in mind; one that can facilitate the fundamental reconstitution and re-expression of the role of the university in wider society; as well as contributing to the reconfiguration of an economy based on the goals of social justice, democracy and human solidarity” (Keet and Swartz, 2015: 6).

As the authors of the draft transformation barometer acknowledge, diversity toolkits and transformation plans litter the higher education landscape in many parts of the globe. On the African continent this is not the case. **However, they caution against imposing these ‘toolkits’. The mandates, principles and themes which they propose and elaborate emerge from the work in a specific context, South Africa. The idea of the barometer is to develop a template for integrated transformation planning and execution and generate comparable reports across the sector, as well as facilitate the comparative sharing of ideas, good practices, learning and strategies.**

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The authors of the barometer recognize the limitations of barometers and urge that the results of barometers are subjected to perennial questions in relation to transformation – we offer a sample of these to illustrate their approach: Do we run universities with a larger sense of a social justice purpose? Do we understand symbolic domination in the contexts of universities; the consecration and naturalization of power? Do we undertake self-reflexive analysis of the political economy of the academy? Are we prepared to disrupt racial and ethnic economies; materially, intellectually, affectively? What does the barometer say about us? Are we prepared to study our disciplines and disciplinary disciples and ‘experts’? (Keet and Swartz, 2015: 18). As such, the idea of a perennially questioned barometer presents a potential starting point for a useful measurement practice.

Forging solidarity: ‘glocal citizenship’

As already stated, inequalities are endemic to capitalism. In a world where there is so much structural, psychological and physical violence, it is to be expected that many people live in fear. Fear and crisis can lead people to disconnect and pull away from one another. **There are scholar-activists, both students and staff, who against many odds, are constructing alternative ways of living; they are developing new organizational and epistemological models that counter the separation of people and institutions from one another; that counter the separation of feelings from thinking, and which embrace ‘heads, hearts and hands’ (Manicom and Walters, 2012). They are attempting to counter the sense of fear and disconnection which results in passivity, through community building.**

As some scholars emphasize, global citizenship education involves learning empathy for people and the environment and the interconnected realities in which we all exist on one planet. Capabilities that ensure responsive higher education have been highlighted by Nussbaum (Boni, 2015; Landorf and Doscher, 2013). They are: critical thinking – ‘capacity for critical examination’ of self and cultural traditions/background; cosmopolitan capability – ‘conception of oneself as a functional member of interconnected communities, at once, a citizen of local and national entities and responsibly bound to all earthly beings, human and non-human’; narrative imagination – ‘a creative acuity that allows one to inhabit others points of view in order to facilitate among individuals and groups the kind of responsiveness and interactivity that a good democracy will also foster in its political processes’. Here we consider glocal citizenship in two sites: mainstream curricula and student-led movements, and the potential interconnection between them.

Boni (2015) has theorized about global citizenship with respect to a student-led movement and elective courses within a technical university, Universitat Politècnica de València, in Spain. Two elective courses were run between 2010 and 2012 focusing on ‘development cooperation’. These are ‘formal’ courses within an engineering programme. The elective courses adopt an approach that values equally both the ‘how’ and the ‘what’ of learning. Interestingly, Boni describes how lessons in these courses were integrated into a student-led movement.

The student-led movement studied by Boni (2015) at the Universitat Politècnica de València is called Mueve – meaning ‘to move’. The movement was set up by students to inspire ‘analytical thinking’ and ‘participation’ as a result of their own critiques of the university environment and its educational ap-

proaches. Guided by principles of ‘solidarity, diversity, ethics and ecology’, the movement, for example, encouraged eco-friendly practices, questioned the ways in which the university’s research was being used for military purposes, and promoted fair trade.

Drawing on interviews with the students, Boni found that this movement provided a space for students to integrate lessons from the elective courses. Among the capabilities developed through the student-led movement were the abilities to work collectively, to develop problem-solving abilities, group commitment and perseverance (Boni, 2015: 11). This is an example of ways in which formal and informal learning can feed one another in helpful ways.

Another example of the possible relationships between student movements and formal curricula can be found in South Africa. Since 2015, a national student-led movement under the banner #FeesMustFall has been challenging ‘business as usual’ at the universities. #FeesMustFall has spread across many campuses in South Africa raising fundamental questions about the purposes of higher education; the need for fundamental change in institutional cultures, curricula and pedagogy. The movement was given impetus by the radical and disruptive organization of the #RhodesMustFall (RMF) student movement at the University of Cape Town. These social movements have opened up spaces where race, gender, sexuality, questions of decolonization, among others, are topics of enquiry and struggle. For example, #RhodesMustFall stated, “As we understand it, the general tendency or trend of colonial education is: the higher one climbs up the ladder, the greater the distance between the climber and those holding up the ladder” (Gamedze and Gamedze, 2015). On a national level, #FeesMustFall challenges issues of access for deserving but economically poor students. Together with the parallel worker-led, student supported #EndOutSourcing campaign, the student and worker movements have, at times, found common ground and are in solidarity with one another. Many academics have taken up the challenges presented through the student and worker movements to rethink what ‘decolonizing curricula’ means.

So where is glocal democratic citizenship learnt? From the student-led movements, it is clear that as with so much social movement learning (Hall and Clover, 2005), lessons are being learnt within the movement through informal and non-formal means; the movement is also impacting debate, discussion and decisions within the management of universities, among workers and academics, plus in the broader community. This example illustrates that to bring about change, members of the university community, i.e. students, workers and academics, need to be affirmed as worker and scholar activists whose individual and collective involvement is contributing to change.

The question for social movements, including RMF and #FeesMustFall, is how to sustain involvement once the ‘revolutionary moment’ has passed? And how, when in the midst of heightened activism, does the social movement avoid being hijacked by authoritarianism in various forms? This is where encouraging the integration of scholar-activism into a ‘transformation barometer’ (see below), with its deeper reflexive questions concerned with forging decolonizing solidarity, offers possibilities to sustain commitments for social, economic and environmental justice; as do the efforts to understand ‘mainstreaming’ for sustainable development within institutions.

The impetus which the student-led movements are giving to curricula change and development resonates with a number of other initiatives which some universities in Africa have begun to pursue. The innovative pedagogy within curricula which academics are developing within their fields of specialization, as seemingly disparate as Theology and Visual Design, is described in a new book (Costandius and Freeborn, 2016) focusing on South Africa, Nigeria, Malawi and Swaziland. The authors discuss, for example, education for citizenship in Nigeria in the context of the Islamic terrorist group, Boko Haram; a module on 'critical citizenship' in the Visual Communication Design course at University of Stellenbosch; a Global Citizenship: Leading for Social Justice programme at the University of Cape Town; a Malawian study of Protestant and Catholic churches' responses to homosexuality and the implications for development of critical citizens; and a Visual Communication Design curriculum for development of critical citizenship for designers at Tshwane University of Technology.

A regional initiative addressing the questions of development and climate change in Southern Africa is being led by the Southern African Regional Association of Universities (SARUA). SARUA is working with universities across 15 Southern African countries to integrate climate change and sustainable development thinking across a number of disciplines. Part of this initiative includes a jointly developed Master's Degree programme on Climate Change and Sustainable Development. This is an example of innovative curricula in response to rapidly changing times (see box for more details).

Box 1. Southern African Regional Universities Association (SARUA)

SARUA was set up as a member organization to support and build the capacity of higher education to respond to the development challenges of the region. Southern Africa is experiencing severe impacts of climate change in the form of low rainfall and increased drought.

It has developed a framework 'for trans-disciplinary collaboration and knowledge co-production' that involves research, teaching and learning, and community engagement in the Southern African Development Community region. The central aim of this framework is 'to strengthen university contributions to climate compatible development in Southern Africa'. A mapping study has been conducted to analyse knowledge needs and opportunities for collaborative partnerships (see the SARUA website for more information and mapping study reports). The mapping study is the first of a three-phase project before a 'transition and network planning' phase and a 'network development and collaboration' phase.

This initiative is significant as, firstly, it considers the position of higher education institutions with respect to urgent development challenges in the region; and, secondly, it facilitates cooperation among higher education institutions in the region.

Source: SARUA. Knowledge Co-Production Framework for Climate Compatible Development

As these examples illustrate, the various university communities are integrated into communities both inside and outside the university. The university itself is a site of struggle where much is learnt about social, environmental and economic justice and these ways of being/thinking are embodied in students, workers and academics at their homes, in the streets, workplaces and communities. A result of these movements is, in some instances, solidarity actions across student, work and academic formations. They want universities to be places which emulate a new set of democratic relationships, which are more egalitarian and just, and where students and workers feel they belong.

Guiding questions for a transformed, socially responsible university

As a push-back against the auditing, metric culture of neoliberal universities, we suggest three overarching guiding questions, which complement those questions already raised, and which we offer as key points with which to engage 'social responsiveness' or, our preferred goal, of 'forging decolonizing solidarity'.

Who are the students really?

Students are 'people in the world', i.e. citizens, human beings, workers, parents, activists and scholars. The dominant notion of undergraduate students that shapes many university administrative and support structures, curricula, research and community engagement, is of a predominantly homogeneous population of 18-24 year olds who 'have time on their hands' (SAQA and UWC 2015) to study full time and to attend classes during the day. Michelson (2015) adds that in general terms the university globally and the way it/we conduct teaching and learning has the 'young, prosperous white heterosexual male body as its reference'. In reality, the 'non-traditional' student is the new 'normal' – the majority are women who are financially stressed and are engaged in paid and/or unpaid work. The majority also 'drop out' or 'stop out' for a range of economic or academic reasons, many returning later.

The maintenance of a particular conception of who the majority of students are is an example of the middle-class view continuing to dominate understandings of higher education in South Africa and elsewhere in Africa. Most of the students, according to this argument, are therefore 'non-traditional'. This is preposterous (Transformation Oversight Committee, 2015). Therefore, it is essential to recognize this disparity in order to open up new ways of thinking about enhancing students' capabilities to be scholar-activists for social, economic and environmental justice. Linked to this, we need to question what adaptations are necessary for lecturers to teach a transformed curriculum to a transformed student body (Council on Higher Education, 2015). This embraces a lifelong, life-wide and life-deep conception of learning, which is the antithesis of the student as a 'client' (Maimela, 2015).

What do we know 'about' and 'for' transformation?

Lis Lange (2015) states that changing universities entails more than racial and gender equity. Transformation cannot be reduced to numbers. She questions that even if we had a perfectly aligned

university in South Africa which had majority black women in leadership, but they were not examining and probing institutional cultures, traditions and ingrained behaviours; were not challenging assumptions about the knowledge that is taught and whose knowledge counts; and were not promoting the improvement of the condition and position of all women, could we say that the university had been transformed? She emphasizes that transformation requires 'knowledge about transformation' and 'knowledge for deep transformation' – in other words, **we, as students, academics and workers, need to understand what we mean by transformation both in theory and practice, and we need to understand how to bring it about.**

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Are we forging solidarity locally and globally?

In a world of inequalities, injustice and environmental degradation, questions being asked by some African scholar-activists are: how do we forge a 'decolonizing solidarity' through the praxis of glocal citizenship? How do we learn to be connected and can universities help people to connect with one another locally and globally? What does it mean for the communities within universities to forge solidarity across racial, religious, gender, class, language or ability lines? What practices are educators, workers and students developing under what conditions to experiment with and encourage connection rather than separation in organizations, universities and communities? What are they doing? What ancient or contemporary knowledge are they drawing on and what insights can be gleaned? Are they learning what Richa Nagar and Amanda Lock Swarr (2010) suggest is a form of 'radical vulnerability' to open up to new ways of thinking, doing and being together? How are these insights embraced within the curricula, in teaching and learning?

Towards a guiding action framework

We suggest the following five actions:

1. Adopt a framework for integrated transformation planning and execution: Keeping in mind the three overarching questions above and taking a cue from the draft Transformation Barometer (Keet and Swartz, 2015), with some adaptations, developing a barometer with the active engagement of faculty, students, workers and administrators, for use at regional, national and institutional levels. The purpose would be to generate 'common knowledge' (Edwards, 2011) of what is meant by 'transformation' through deliberative dialogue within and between parts of the higher education system. Having developed 'common knowledge' the capacity for 'relational agency' becomes possible so that at institutional and systems levels people are able to act more effectively together to bring about change. **An approach committed to building 'common knowledge' works against a compliance approach to a barometer for measurement only, but aims to engender commitment to transformation.**

With an agreed barometer, it is possible to construct comparable status reports across the sector, as well as facilitate the comparative sharing of ideas, good practices, learning and strategies. The participatory process of developing the barometer is as important as the barometer itself, which must be seen as a work in progress.

As Keet and Swartz (2015) suggest, one should, as a given, acknowledge the limitations of barometers with a set of perennial questions in relation to deep transformation. The barometer should keep in mind the following broad parameters (see below an example of an emergent transformation barometer. Keet and Swartz, 2015). Following the arguments in this chapter, we make the following adaptations: ‘community engagement’ as one of the *mandates* becomes ‘glocal community engagement’ and this follows through in the *themes*. Under *principles*, we include ‘students are persons in the world’, ‘decolonizing solidarity’ and ‘scholar-activism’.

Mandates	Principles	Themes
Research	Students are persons in the world	Institutional culture
Teaching and learning	Decolonizing solidarity	Curricula and research
G/local community engagement	Scholar-activism	Teaching and learning
	Equity and redress	Equity and redress
	Democratization	Diversity
	Development	Social cohesion and social inclusion
	Quality	Local / global community engagement
	Effectiveness and efficiency	
	Academic freedom	
	Institutional autonomy	
	Public accountability	

- Acknowledge and support leading practices** of ‘glocal, decolonizing solidarity’ across regional, national systems and within universities themselves (these may be practices on the periphery of universities, or being brought into the mainstream through major projects like the Mainstreaming Environment and Sustainability in Africa (MESA) Universities Partnership; or UWC and SAQA action research on Flexible Learning and Teaching, 2015.

3. **Build capacity and ensure a strong ‘engine room’** at regional, national and institutional levels to drive the change processes needed.
4. **Build capacities among the leadership** of administrators, faculty and students to enable the forging of decolonizing solidarity through participatory pedagogies which draw on feminist popular education principles and practices (unlearning and learning is important in a process of transformation).
5. **Obtain the necessary political and financial support** for the transformative work that will be needed at regional, national and university levels.

In closing

Pregs Govender (2007), a feminist scholar-activist who knows a great deal about bringing about transformation through challenging the patriarchal frames, says “we must value and respect our own agency, our own power and each other’s power. But we need to redefine understandings of power – not of fear and hate, but of love and courage.” She urges us not to be afraid to believe that we can silence the patriarch in our own minds through love and affirmation, to know that we too can help to change the world for the better. We can foster resilient hope through our own courageous acts of insubordination, as institutions, students, academics, citizens and workers. But in doing so, we do need to remember, the sage words of Lilla Watson, that our own liberation is intimately tied to that of others – hence the need to forge a ‘decolonizing solidarity’.

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The Practical Experience at the University of Brighton to Support the Role of Academia for Community University Partnerships

David Wolff

The privatization of higher education, measurement of achievement by targets and league tables and competitiveness for student numbers, often seem at odds with the broader objectives of the Sustainable Development Goals (SDGs) and the importance of societal engagement. Universities are facing a number of competing demands to both respond to the needs of their local community, to the broader issues of sustainability and engagement at a global level and the need to compete for student numbers and against prescribed criteria for research.

The Community University Partnership Programme (CUPP) at the University of Brighton has grappled with the changing environment over the past twelve years. Beginning at a time when engagement was barely talked of in UK universities, challenges included initiating and brokering new partnerships with local civil society organizations and establishing a new sense of what partnership meant, rather than being understood in a more traditional role (funder, charity, marketing arm for the university). The establishment of our community-facing helpdesk, where local organizations could submit requests for assistance, was linked to a senior researchers' group where requests were discussed and evaluated, and forwarded to someone who had time and expertise to take the issue further. This was a new approach for academics more used to

finding their collaborators at a global university scale, and much of our work involved supporting the growth of these partnerships and helping to bring two very different cultures together. At that stage, academics appeared to have more time but needed to learn new ways of working. In addition to research assistance we were also able to respond with practical student help, designing modules that required students to work with community organizations as part of their accredited learning programme. Using reflective assignments to focus students on their own personal development and issues of sustainability we supported academics across the institution to include Student Community Engagement in their undergraduate programmes.

As pressure on academics and researchers increased and CUPP moved from being an innovation to an established part of the university, steering group meetings and those of the senior researchers' group, both valuable for exploratory discussions, came to seem an unviable call on people's time. CUPP responded to this in two ways: firstly by brokering requests for support within the team and contacting academics directly to see if they could respond, and secondly, by working more with postgraduate students on the provision of research support. Learning from the tradition of science shops across Europe we collaborated with postgraduate course leaders

to link dissertation modules to community requests for research. Working with a framework of 'Student Community Research' we were able to offer community organizations a postgraduate student to carry out research projects for them, under the supervision of established academics. This fell within institutionally allocated time and therefore placed no additional call on academics themselves.

Our focus on working closely with local partners and academics across the university, and understanding and growing the dynamics of knowledge exchange enabled us to build a reputation for this work that extended beyond the local level. Funded projects with European and non-European partners and international conferences enabled us to learn from and extend outwards to related fields of academic activity, including community based participatory research, education for sustainability and the development of communities of practice. We believed in partnerships that were mutually beneficial and multifaceted and, having begun to develop relationships at a local level, continued to work with partners in many different ways. The introduction of a seed fund, again targeted at local level (On our Doorsteps, as a way to develop new relationships with community groups in our own neighbourhood) encouraged academics who may not have worked in this way before to experiment with locally engaged research. Bringing people with different forms of knowledge together around the table to work on issues of shared concern enabled us to develop a conceptual understanding of how communities of practice work.

In an era of austerity where budgets are closely scrutinized and clear financial return on investment is required, this kind of work is often marginalized. However the realization that many of these early relationships established through

CUPP have contributed to impact studies in our national research assessment exercise is one justification of their value. Globally there is a move towards proving the impact of academic research on society and our mechanisms for supporting this have value beyond a local context. Similarly, students who participate in engaged modules, and student researchers who are able to apply their research skills directly have a deeper understanding of the SDGs, as well as meeting global agendas around employability. The modules we have designed to facilitate this have also been sought after, and applied in other international contexts.

A maturing understanding of this work, through close attention to local partnerships, has enabled us to share learning with others in different parts of the world. The many community-university practitioners who visit us are asked to present in our regular international seminar series. These are open to all to attend and represent an exciting 'local to global to local' activity. We attract a steady stream of international visitors who come to see our model for locally-based partnerships. They bring with them a rich array of knowledge to share with our local academics, students and community partners. Our international course, 'Developing Community University Partnerships' delivered through a mixture of intensive Brighton-based training and online seminars and mentoring provides a further forum for looking at the pertinence of this work for a global audience and its compatibility with the broader SDGs.

6.3. Beyond Rhetoric. Some Obstacles for a Responsible Global University

Mircea Miclea

Abstract

In recent decades, Higher Education Institutions (HEIs) have increasingly come under public scrutiny. General concern among stakeholders is focused on how a HEI should demonstrate and manifest increased sensitivity to its proximal (local) and distal (global) environment. All of the relevant stakeholders in higher education, from faculties and students to government authorities and leading employers, have expressed strong vocal support for a socially engaged university as a local and global problem solver, and every university aspires to 'glocal' status. The issue lies in how deeply this new identity is assumed by the HEIs or whether it is simply used as a new form of hype; a kind of rhetorical expression of wishful thinking by those involved.

This paper aims to offer a short institutional analysis of the capabilities of HEIs to offer adequate global responsiveness from the perspective of organizational design as expressed in two critical instantiations: the role of academic disciplines and the functioning of an incentivization system.

1. Discipline-centric design and its consequences

Our modern universities rely on four basic principles as expressed on the eve of modern times by Humboldt (1810) and Newman (1852). The first principle refers to the unity between research and teaching; emphasizing the duty of academic scholars to base their teaching on their research and to share the results of the research through teaching young students. The second concerns academic freedom; the liberty of any scholar to organize teaching according to their rationally-based convictions, against any political or administrative intrusions. The third refers to university autonomy in terms of the self-governance of the university as a protection against political or governmental control; as a kind of independent republic of sciences. The fourth refers to the university as an environment of free enquiry and communication or, to quote Newman, an environment 'in which the intellect may safely range and speculate (...). It is a place where inquiry is pushed forward, and discoveries verified and perfected, (...) and error exposed, by the collision of mind with mind, and knowledge with knowledge' (1852: 8). The implementation of these principles in the structure and functioning of our universities has generated an organizational design that has both strengths and weaknesses, as we will show in the analysis below.

The basic building block of organizational design implemented in our universities is the scientific discipline, the body of knowledge enriched by research and disseminated through teaching. The modern university is discipline-centric. Most research is undertaken within the boundaries of a specific discipline, with cross-, trans- and inter-disciplinary endeavours generally being a rare and short-lived exception. Each discipline has its own paradigms, methods, values, and even codes of ethics, with almost all scientific communities organized around disciplines. We have communities of physicists, biologists, mathematicians and social scientists, because we have the academic disciplines of physics, biology, mathematics and social sciences. The departments inside the university and their eventual arrangement into faculties is reliant on scientific disciplines or groups of disciplines. The main source of prestige and influence for any scholar is a function of their contributions to the expansion (through research) and dissemination (through teaching) of a specific scientific discipline. Academics currently identify more firmly with their disciplines and associated scientific communities than with the individual institution that has hired them and that pays their salaries. As academics, we are not so much concerned about our visibility inside the university as about our prestige inside our scientific community. Most study programmes and curricula are discipline-based, and each discipline develops its own specific didactics. In sum, the academic discipline is the organizing principle of academic life, in terms of research, teaching administration, source of identity and prestige.

This discipline-centred organization of the modern university has been remarkably successful. This approach has exponentially increased the quantity of validated knowledge and has shaped the destinies of millions of people through higher education, bringing with it new technologies and businesses as well as new lifestyles and forms of governance for societies. It is almost impossible to imagine our society without our universities. However, the very same discipline-based organization of academic life currently produces systematic biases that can have detrimental impact on the responsiveness of our universities to local and global challenges.

1.1 Discipline-centred research is self-serving, neglects knowledge exploitation and encourages compliance with existing paradigms

The main aim of any scholar is to discover new facts and to create and validate new theories as ways to expand the boundaries of their own discipline. The community of scholars within a specific discipline is the authority that decides on what is a relevant question or fact and what is not, what knowledge is valid or invalid, what methods are adequate or inadequate in pursuing an enquiry, what results are correct or incorrect (Kuhn, 1962). Academic disciplines are, to use the terminology coined by Dawkins (1976), a specific type of 'meme'. These 'memes', the cultural correspondent of genes, are units that carry cultural ideas or practices in a form that can be transmitted from one mind to another. Dedicated researchers in scientific disciplines build on these memes in their work, operating as hosts within which the memes can replicate, expand and increase their survival value (in terms of validity and influence), through the cycles of research, publications, teaching and conferences.

However, being so intensively preoccupied with the expansion and replication of a specific body of knowledge, academic researchers often give only marginal consideration to those practical problems for which this knowledge could be relevant. It is extremely rare for there to be binocular integration of scientific knowledge and the problems or opportunities arising from the socioeconomic environment.

The excessive preoccupation with serving a scientific discipline inevitably reduces sensitivity to the challenges and opportunities embedded in the extra-disciplinary environments. The production and dissemination of knowledge according to the consecrated paradigm substantially prevails over the exploitation of knowledge for social or economic welfare.

As was mentioned above, the prestige and influence of a scholar is directly related to his or her services for the promotion of a specific discipline, (or set of memes) not to how instrumental they may have been in resolving real-life problems.

Several years ago, for example, I used my knowledge on psychology and cognitive sciences to write the new Law of Education in Romania (2011). Although this work produced substantial changes to the educational system, it did not count as a disciplinary contribution. My citation index did not increase by even one digit, but fellow colleagues who published papers on the educational reform in Romania and the impact of this new legislation in peer-reviewed journals boosted their citation indices. This is undoubtedly a common situation, and examples abound of people who create a new software, public policy, urban design, etc. receiving less consideration from the academic community than those who publish papers about these contributions. Under the current system of scientometrics used by scientific communities, academics who create solutions for the socioeconomic environment lose ground against those who remain purely academic: the current proxies used (e.g. number of publications, citation index, h-index, impact factor) are highly sensitive to publications that serve the expansion and replication of an academic discipline, but are completely blind to relevant solutions to real-life problems.

Thus, the first negative effect of discipline-centred research is a systematic neglect of real problems; an approach that limits the extension of any disciplinary knowledge base. Knowledge exploitation – the use of scientific knowledge to solve practical (non-epistemic) problems – is systematically discounted in favour of knowledge production, i.e. the expansion of disciplinary field. Even the so-called mode 2 of knowledge production (Nowotny, et al., 2001) – which emphasizes the importance of research in the context of application and involves trans-disciplinarity and the participation of non-academic actors in the co-creation of knowledge – is rather a marginal and temporary endeavour, with no significant impact on the internal structure and functioning of the university.

Excessive adoration of the scientific discipline has hijacked the minds of many scientists, leading them to spend most of their careers focusing on minor problems of their disciplines (normal science) at the expense of relevant problems in the socioeconomic environment. Analysis of the CVs of many scientists reveals a large number of significant contributions to small problems that history counts as minor contributions in due course; a tragic waste of brilliant minds on discipline-legitimated but otherwise irrelevant problems.

Sterile disputes over minor problems are abundant in the academic world. The continuous pressure to 'publish or perish' leads many scholars primarily to approach small problems for which a publishable paper can easily be produced using a well-established methodology, and to avoid or postpone approaches to difficult problems or practical problems for which publication will be far slower. In an academic competition for professorship, a candidate who approached minor problems with the cor-

rect methodology and published several studies is likely to win against another who dedicated time and energy to a far more difficult problem requiring a brand-new methodology, or to one who has tried to offer solutions to socioeconomic challenges. Practicing normal science is a much safer game than iconoclastic problem-solving. There is plenty of evidence to show that papers disagreeing with the existing paradigm are more attentively scrutinized by reviewers and have a higher rejection rate than compliant papers (Koehler, 1993; Mercier and Sperber, 2011). In short, discipline-centric research is self-serving, disregards knowledge exploitation for practical benefits, and encourages compliance to the existing paradigm rather than innovation.

1.2. Teaching is discipline-centred not task-centred

All academic curricula rely on scientific disciplines as the building blocks of any educational trajectory. We teach various scientific disciplines and, within each of these, we emphasize the knowledge and skills necessary to assimilate and understand that particular discipline. The entirety of the knowledge acquired during their university studies is encoded and organized within the framework of the scientific discipline in the mind of the students. While each discipline has its own way to evaluate student learning, they all evaluate student capacity to assimilate the theories, methods and facts of the individual disciplinary field. If a student passes an exam, they are certified as a good host for the meme represented by that scientific discipline. In other words, teaching inside the university is subordinated to the goals of promoting a specific discipline, not to the needs of students or to the demands from the labour market. Ultimately, academic success is an expression of how well you can replicate the body of knowledge embedded in academic disciplines; it is discipline-centred.

On the other hand, professional or occupational success is related to how efficiently an individual solves the tasks inherent to a specific occupation; it is task-centred. A professional is appreciated if they complete tasks successfully, regardless of the type of knowledge, or the discipline they use. To become an expert in a professional field, an individual must re-structure their mode of coding and organizing knowledge. Real problems and the labour market do not care about the academic organization of knowledge. In order to efficiently solve professional problems we need to dis-articulate our knowledge from academic disciplines and re-articulate it around occupational tasks, a process described as the 'conditionalization of knowledge' by Mayhew (2012). In this approach, the task becomes the antecedent, while the condition and knowledge become the consequences of the problem-solving process in a approach that can be summed up in the following terms: for each task, activate task-relevant knowledge regardless of disciplinary origin. Becoming an expert means learning how to use knowledge reorganized around a relevant practical problem, or, in the words of Whitehead (1916: 1): 'education is the acquisition of the art of the utilization of knowledge.'

In a discipline-centred approach we: (1) favour in our teaching the knowledge and skills that conserve and expand our disciplines, neglecting knowledge relevant to the labour market; (2) undermine the process of knowledge conditionalization, i.e. we produce well informed people rather than experts. Our curricula are discipline-focused, where the labour market is task-focused, giving rise to the gap between academic awards on one side and labour-market relevant skills on the other. We teach the topics that serve our disciplinary interests rather than what is expected by future employees or employers.

This dichotomy also explains our difficulties in dealing with global problems and their contextual (local) expressions. The context of encoding knowledge (i.e. discipline-based) is different to the context of applications (i.e. task-based), and this makes knowledge transfer a very difficult process. Our universities reward academic, not occupational, success. Of course, there are some notable exceptions, but in general the rule remains: scientific discipline *über alles*.

Personally, I think it is highly unlikely that this self-serving bias in teaching will be changed: firstly, because the loyalty of scholars to their scientific discipline is critical to their self-identity and; secondly, because the vast majority of academics have no practical experience with the labour market or other contexts outside the university. It is difficult for academics to teach students how to solve a task they have never faced. However, universities could use several tools to address this bias including: a) longer internship stages, exposing students to occupational non-academic, non-disciplinary tasks and contexts; b) the involvement of more professionals from outside universities in the teaching of practical courses, and c) pedagogy and teaching methods reliant on real case-studies, participatory observation or action-research. Some HEIs have already implemented these principles in their teaching, with some variation according to scientific discipline or university policy, but these approaches remain rather peripheral. Current teaching practice has largely remained discipline-centric, serving the interests of the discipline rather than those of the labour market or socioeconomic contexts. In the future, employers will continue to experience a substantial degree of dissatisfaction concerning the skills of newly employed graduates to a greater or lesser extent, as a side-effect of discipline-centeredness of teaching promoted by our universities.

In conclusion, the discipline-centred design of the universities is producing an unprecedented explosion of scientific knowledge, but it is also generating collateral damage. In research, discipline-legitimated problems prevail over practical (non-epistemic) problems. Knowledge production for the epistemic benefit of the discipline is far more valued than knowledge exploitation for the benefits of socioeconomic development and welfare. In teaching, we overemphasize the knowledge relevant to the survival and expansion of the discipline, downplaying that relevant to the labour market and, thereby unintentionally slowing down the process of knowledge conditionalization and knowledge transfer. The unsatisfactory responsiveness of our universities to the external environment (local, national, global) is a consequence of their design, not a lack of will or understanding.

2. The incentive system and its consequences

In the university world, the incentive system is split between disciplinary communities and institutions.

The current incentive system, as enacted by communities of scholars and HEIs, has the following characteristics:

1. It stimulates contributions that aim to increase a disciplinary body of knowledge. Even in the best case scenario, successful use of existing knowledge to solve relevant non-disciplinary problems (i.e. practical problems) receives only marginal attention and financing.

2. The metrics in use: a) favour disciplinary research and discount teaching; b) favour publications, i.e. textual expression of the results and neglect other expressions of excellence, in technological or socioeconomic areas (an academic is judged by what they publish, not by the relevant solutions they produce. Judged from this perspective, all of the open-source software applications that have substantially contributed to human welfare are viewed as worthless, because they are not covered by scientific publications. On the contrary, a minuscule scientific contribution that satisfies the publication criteria brings credits to the authors), and; c) encourage approaches to small-scale problems with well-established methodologies while discouraging approaches to more complex problems that require innovative methodologies (the small-scale results can be published faster and more easily, increasing an individual's publication index, whereas the bigger issues bring slower publication, greater chances of rejection by the reviewer and a poorer publication index).
3. It can be easily implemented as it is generated by the community of scholars themselves, there is an established tradition and institutional support is provided.
4. Foundational principles such as university autonomy or academic freedom, for example, can be used to defend the existent incentivization system against the pressures of external stakeholders (business or government) who want to make the proxies of performance assessment more sensitive to their expectations, i.e. research able to support competitiveness and sustainable development.

Overall, the current incentive system within the disciplinary communities and HEIs is not very sensitive to the increasing expectations of external stakeholders, be they governmental agencies, business or communities on the local, national or global scale. Temporary changes can be produced, either as a result of special situations (e.g. wars or other crises that might spur scholars to contribute to human welfare) or by making grant allocation contingent on the socioeconomic impact of academic activities (e.g. mode 2 knowledge production). However, to date, these temporary changes have not had any impact on the existent incentive system used inside universities, at departmental and institutional level, nor have they affected the university ranking and league tables.

3. Lessons to learn and moving forward

This short analysis has revealed a real tension between the organizational design of the university and its incentive system, and the legitimate expectations of stakeholders that these entities will become more sensitive to the global environment.

The organizational design of the university and the inherent incentive system are completely congruent to the foundational principles of the modern university. Moreover, universities can invoke their successes in expanding the mass of validated knowledge to provide a strong argument that they are on the right track and that there is no need for any substantial change in their functioning. It is import-

ant, therefore, to understand that the limited responsiveness of universities to external expectations is not a question of willingness, but rather one of design and incentivization.

This situation begs the question of whether there is a solution that will reduce tensions between the inner structure and functioning of the university and external legitimate expectations, but also of whether these tensions are actually in need of reduction.

In my opinion, there is no normative or prescriptive answer to this problem. The most appropriate solutions rely on contextual details. Universities should consider the characteristics of their proximal and distal environments and try to maximize their strengths, whereas external stakeholders should calibrate their expectations according to the contextual constraints.

External stakeholders should continue to express their legitimate expectations, but they should also discriminate between contexts when their expectations are reasonable, and when they are not. For example, in Eastern Europe after 1990, government agencies increased pressure on the universities to contribute to economic and technological development although the objective social demand for advanced knowledge was relatively low. In general, the governments have preferred to import practices, technologies or legislation already tested in Western countries, showing less interest for local solutions. At the same time, business innovations were undertaken by transnational corporations that simply implanted their ready-made practices and technologies, showing less appetite for indigenous approaches. In a context where social demand for know-how is low, pushing universities to produce solutions for external stakeholders is just as irrational as it would be to push a producer for a commodity for an unknown complex market.

Timing is critical here. The socioeconomic environment has changed massively since 2000 and a real social demand for local innovative solutions has become evident. In this renewed context, there are legitimate grounds for increased government expectations for national and local sustainable development solutions produced by universities. Both universities and their external stakeholders should be working to achieve comprehensive representation of the local, national and global contexts against which to mutually calibrate their expectations and reactions. All of the actors should work towards a shared understanding of the context before setting their expectations and reactions.

On the other hand, external stakeholders should realize that sometimes free inquiry insensitive to immediate demands (as promoted by the discipline-centred universities) is the best way to achieve long-term goals. When crossing unknown terrain there are two alternatives: 1) create a plan and then follow the plan to reach the other side or; 2) set off on a rather idiosyncratic, unstructured walk and see where it leads. The second alternative could be less efficient than the first in the short term, but it could also be the only way to discover amazing new resources and opportunities that may be far more valuable in the long term. When facing uncertainty, keeping the alternative of free enquiry open can really pay off.

A similar statement can be made in reference to teaching. Being too focused on the current labour market could create difficulties in adapting to the new and developing labour market produced by

unpredictable technological innovations or dramatic environmental changes. In other words, external stakeholders should increase pressure to make universities more responsive to current needs, but should also respect and protect their discipline-centeredness. In an uncertain world, free enquiry pays off. Stakeholders should also seek other ways to accelerate innovation and increase satisfaction of their needs that avoid putting more pressure on universities: encouraging the recognition of non-formal and informal learning, supporting e-learning and blended learning or encouraging innovative start-up companies.

Conversely, there are a number of lessons that could also be taken away from the current situation by universities, the main five lessons of which are outlined below.

First, they should recognize that their excessive discipline-focus produces collateral damage and that this is actually an option, with its inherent strengths and weaknesses, not an ineluctable necessity and alternative designs could be imagined, especially at the postgraduate level where the entirety of teaching could be focused around big problems. A student who wants to cure Alzheimer disease, for example, could be exposed, in one semester, to neurologists, biologists, psychologists, social workers, geneticists and economists, all teaching various perspectives on the same problem. The entire university could offer problem-solving perspectives on a range of problems, in the place of single-discipline courses.

Second, they should face up to the fact that they are losing their monopoly over advanced knowledge. These days, advanced knowledge can also be produced inside corporate R&D departments or by innovative start-ups, not only in university labs. Good learning could be achieved through the offer of blended learning in corporate universities or in various communities of practice, not only in large lecture theatres. As the world of knowledge production and dissemination is becoming more democratic, the university is losing its monopoly. The time is ripe for universities and scholars to abandon their narcissistic perspective and to admire excellence in knowledge production and dissemination from many other fora.

Third, universities should learn to recognize the instantiations of excellent quality content in many presentations, not only in published papers. As the pantheist philosopher recognizes the presence of God in many aspects of reality, so the university and its scholars should celebrate excellent mind-works expressed in non-publishable achievements: a software application, an innovative institution, a groundbreaking surgical procedure or technology, a brilliant policy or piece of legislation, etc. Consequently, the universities should diversify the metrics used to measure academic performance and the incentivization system. Excellent work should be recognized wherever it may occur, in whichever form of expression, and it should be rewarded accordingly. The use of heterogeneous proxies for excellence assessment and diversified incentivization streams may produce great discomfort for academic communities, but they will test the maturity of our universities. If we accept that excellence of mind is expressed in various forms, not only in the traditional paper publications, and if we want our universities to be the forum for this excellent work, then we must change our metrics and diversify the incentives and career paths. Should this not be the case, we will have to assume that many dissatisfied brilliant minds will migrate to other types of organizations and the prestige or importance of the university

will decline. This phenomenon has already presented in Information Technologies (IT) where the most creative minds leave academic positions for start-up companies or innovative enterprises.

Fourth, the universities should maintain awareness of contextual details in order to carefully consider the appropriate timing of enhancements to the discipline-centric design and incentivization system and greater sensitivity to the needs of external stakeholders. Ethical considerations are paramount in this kind of endeavour. Under a delusional dictatorship, as was the case for Romania under Ceausescu's regime, increased discipline-centeredness could be the best option for a university over sensitivity to the ruler's demands, whereas in the UK of the Second World War, a substantial participation to war efforts by all university forces proved to be salutary.

Finally, universities should protect and honour their irreverent, marginal scholars: those less attached to their disciplines or to the university culture and more interested in satisfying the market needs or those of external stakeholders. Such situations have often proved to be the source of scientific, technological, and organizational innovation. Their continued presence in university laboratories and amphitheatres is an indicator of organizational health.

The universities and their stakeholders should consider these lessons carefully as it may be better in the long run to allow the current tensions between design principles and legitimate expectations to persist in the longer term, as these can become the source of spectacular enrichments.

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Special Contribution

What is the Brain Drain? Definition and Scope

Jamil Salmi and Katya Salmi

Brain drain is the term commonly used to refer to the migration of highly skilled or university educated individuals, one of the salient features of globalization. This phenomenon typically reflects the flow of highly skilled migrants (usually in STEM fields) from poorer, developing countries to richer, industrialized countries. It can also refer to internal migration (from rural to urban settings) and from one industrialized nation to another (Gibson and McKenzie, 2008). Immigration policies in industrialized/developed countries often favour the migration of skilled migrants over unskilled migrants, widening the pool of talent available to these countries (Altbach, 2013).

According to the UN, there were 244 million international migrants in 2015, representing a growth of 41% since 2000 (United Nations, 2016). OECD countries host nearly 50% of the world's migrants, with a higher rate of highly skilled migration (tertiary-educated) than net migration. OECD data shows higher rates (above 50%) of highly skilled migration from the poorest and least developed countries, such as Guyana and Haiti in the case of the Caribbean and South America (Dumont et al., 2010). Mexico has as many Master's or PhD holders working in the United States as in Mexico itself.

While some refer to brain drain, with the associated negative connotation, research on migration and education also discusses 'brain gain' and 'brain circulation', offering a differing perspective on the phenomenon of highly skilled migration. After examining both negative and positive impacts of brain drain, this article will highlight some key strategies for reducing the negative impact, especially by leveraging the diaspora.

Negative and positive effects of the brain drain

The migration of highly skilled professionals has some negative effects on affected countries of emigration. However, as the concepts of 'brain gain' and 'brain circulation' highlight, these migration flows can also have positive effects where countries of origin benefit in other ways – primarily from remittances, but also sometimes from technical assistance – from the outflow of highly skilled professionals residing and working elsewhere.

Brain drain is one of the earliest phenomena associated with globalization, which has significant adverse effects at the local level. The departure of skilled workers can weaken developing countries, especially smaller ones, by depriving them of important skills and workforce. This can prevent or limit innovation, business growth and national development (ILO, 2015). Development can be particularly impeded by the outflow of professionals in the health, education and agricultural sectors. The impact varies based on the demographics and level of development of countries (ILO, 2010).

Brain drain is also criticized for producing a fiscal burden on the country of origin as it loses out on the skills of a publicly trained and educated workforce. As Altbach (2013) notes, UNESCO figures indicate that countries like India and China have invested billions of dollars in American brain power, considering the huge amounts of resources spent by families and the public education system.

It is argued that brain drain robs poorer nations of research and innovation potential, thereby limiting the growth and development of local academic teaching and research institutions, as well as other public sector institutions. With fewer skilled migrants, developing countries might also benefit from fewer investments, further entrenching this problem (Tan, 2011). Research on migration patterns between the 1960s and 1990s indicates that high levels of skilled migration contributed to slowing the economic growth and development of sending countries, increasing inequality and poverty (ILO, 2001).

However, a 2015 World Bank report on African doctors argues that this fiscal burden is often exaggerated. Looking at the migration patterns of African doctors and where they were trained, this study found that the complexity of individual migrants' education and trajectories belies a simple situation where highly skilled migrants are trained in their country of origin and immediately after graduating leave to work in the country of destination. This schema does not accurately depict actual migration patterns where migrants are born in country A, educated in country B and live and work in country C. Furthermore, this report also found that not all highly skilled migrants educated in their country of origin left immediately after graduation, implying that countries can sometimes benefit from this group before they emigrate (Özden and Phillips, 2015).

Some forms of brain drain can also be beneficial for the country of origin. As the ILO (2010) states, "the brain drain may [...] become a 'brain gain' through migrant investments, networking for contacts and projects, knowledge transfer and other forms of migrant-home country collaboration." A moderate amount of brain drain can benefit a country of origin because it results in more educated workers: the possibility of emigrating pushing the population in sending countries to pursue more education. This benefit would require a certain number of educated workers to remain in the country (ILO 2001).

Diaspora and ethnic networks can lead to brain gain by boosting investments and exchange in both countries of origin and destination by migrants leveraging their knowledge of both countries. One way of mitigating the impact of brain drain is through the role of diasporas, who can benefit sending countries in several ways. Kuznetsov (2006) distinguishes between direct and indirect contributions of diaspora: the former relates to direct financial contributions or investments (as well as knowledge transfer), while the latter relates to the network and opportunities that global diaspora can provide for individuals as well as institutions. Migrants working in Silicon Valley, for example, have forged professional ethnic groups to support other migrants in their work and technological development (e.g. Silicon Valley Chinese Engineers Association, The Indus Entrepreneurs, and the Korean IT Forum) (Brookings Institute, 2002). Universities in developing countries have also actively participated in diaspora networks.

India, which has the largest diaspora in the world (16 million Indians living outside of India in 2015) (United Nations, 2016), has proved to be a good example of how reverse brain drain can be achieved

by leveraging its diaspora. Elizabeth Chako's (2007) study on the impact of highly skilled migrants returning to India highlights their contributions to making Bangalore and Hyderabad 'emerging niche world cities' with a strong foothold in the global IT sector. Transnational skilled migrants returning to India bring with them 'knowledge, expertise, access to global networks and capital' as well as 'international sensibility'. Coupled with government initiatives to promote research and development, and to attract international businesses and forge linkages with richer countries, returning migrants have played a strong role in establishing these two cities as leading technological hubs (Chako, 2007).

While some lament the financial burden that skilled professionals place on their country of origin by utilizing their publicly funded skills elsewhere, migrants also contribute significantly to the former through remittances. For smaller and poorer countries, remittances can constitute a large portion of the GDP and can significantly contribute to local development.

Inflow of remittances in millions of USD and as a percentage of GDP (2014)

Country	Remittances (US\$ millions)	% of GDP
Guyana	330	10.6%
India	70,389	3.8%
Jamaica	2,269	16.3%
Jordan	3,737	10.4%
Mali	895	7.4%
Nigeria	20,829	3.7%

Source: World Bank migration and remittances data

How to mitigate the negative effects of brain drain

To prevent brain drain and its negative effects on local development, governments of sending countries first need to address the key structural and institutional contextual factors that push skilled professionals to emigrate in the first place, including human rights and civil liberties. Racism, discrimination, violence, corruption, cronyism and protectionist economic policies are examples of significant push factors if they limit access to the job market or safe working conditions.

Some governments take a more restrictive approach to preventing brain drain: in Iraq, for example, graduates from medical school were not given their diplomas or transcripts to ensure that they remained in the country and worked in the national medical system. There are more cooperative ap-

proaches where countries work with the diaspora to ensure that effective exchange enables brain circulation or brain gain.

One way that the diaspora can be a positive force is through the return of skilled professionals to their countries of origin: brain circulation. The Thai government, for example, has been implementing the 'Reverse Brain Drain Project' over the last few decades to counter the flow of skilled professionals, which has promoted the return of Thai professionals to positions in Thailand. These professionals have also been used to facilitate and coordinate technology transfer, by recruiting both highly skilled and experienced professionals as well as recent graduates who may not have as much experience but have promising research potential. The project includes strong incentives to ensure that a higher number of candidates are attracted to this opportunity. Incentives are monetary or provided through services and assistance. For example, different types of grants are offered for participation in special projects. Requirements specifically exclude professionals already working in Thailand and emphasize a desire and commitment to spend a significant amount of time in Thailand (ILO).

Diaspora networks can also be utilized without migrants returning to sending countries, by leveraging them to work on projects or businesses locally. One excellent example of an efficient diaspora network is GlobalScot, an invitation-only network of high-powered Scots from all over the world who use their expertise and influence as antennae, bridges and springboards to generate projects in Scotland. Launched in 2002, this network has proven extremely attractive and efficient, with over 800 influential businesspeople participating in 2010, and therefore contributing to Scotland's economic development strategy (Salmi, 2009).

The Carnegie African Diaspora Fellowship Program promotes collaboration between the United States and Canada, on the one hand, and African institutions, on the other. This programme supports African-born academics participating in educational projects proposed and hosted by African institutions. This type of global collaboration can be successful in reducing the negative impacts of brain drain. A recent study (Marsh, 2016) of African alumni shows an overall return rate of 50%, with different return trajectories (direct or delayed). As the European Association for International Education (2014) states, 'for both developed and developing countries to mutually benefit, international exchange and genuine partnerships should happen while the poorest nations retain a critical mass of talented scientists and technologists.'

As the 2007 OECD report 'Gaining from Migration' notes, however, it is primarily upper-to-middle income countries who benefit from diaspora networks and returning skilled migrants, while poorer countries continue to lose their more skilled workers. Unless the institutional and structural conditions in the country of origin are favourable to research and supporting returning migrants (resources, salaries, etc.), then it might be difficult to retain returning professionals in the long term. A 2010-2012 brain gain programme initiated by the Inter-American Development Bank in Peru faced many challenges when returning scientists were unhappy with working conditions due to inadequate resources, lack of funding and poor job security (University World News, 2014). Countries can allay the negative effects of brain drain and promote brain gain or brain circulation by investing in local research centres and institutions and by adequately supporting researchers.

Additionally, industrialized countries can promote migration programmes and regulations that encourage the return of migrants after their studies, or after a short period of time working in the country of study or a third country. DAAD, the German Academic Exchange Agency, gives a grant to finishing PhDs from developing countries so that, when they go back to their country of origin, they have some money to buy equipment and conduct research (World Bank, 2002). Sending countries can also mitigate brain drain through programmes that finance studies abroad, while simultaneously forcing their internationally educated nationals to return. Initiated in 1993, Kazakhstan's Bolashak Scholars Programme, for example, requires funding recipients to demonstrate enough collateral (usually property) to cover the amount of the scholarship or have four guarantors. If recipients do not return to Kazakhstan and work there for at least five years, they are required to repay the full amount of the scholarship (Perna et al., 2015).

To alleviate the fiscal burden that is believed to be created by brain drain, some propose levying a tax against migrants, to be collected by the receiving country and sent to the sending country. However, this proposal, first elaborated in 1973 by Jagdish Bhagwati, has proven difficult to implement and complicated to administer. Scholars continue to debate how such a framework could be effective and implementable (Brauner, 2010).

Conclusion

The traditional view of brain drain is that of a global phenomenon that has adverse consequences locally in the sending countries, especially low-income developing countries. Alternative definitions of brain drain focus on migration that is not "offset" by other factors such as remittances, knowledge exchange, trade and investments (ILO, 2001). When evaluating the impact of migration, and whether brain gain occurs, it is therefore important to take into account the positive impact that highly skilled migration can have on both sending and receiving countries. By focusing on policies that promote the contributions of the diaspora, either directly or indirectly, and whether through returns or collaboration, sending countries can also benefit from migration through the phenomena of brain gain and brain circulation. Developing countries' universities can be important actors in that respect, through diaspora programmes that allow academics to return to their country of origin and partnerships that facilitate collaborative arrangements between academics established in the North and universities in their home country.

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7

Mutual Learning and Empowering Support: the Role of Networks in Achieving Glocal Engagement

7.1. Mutual Learning and Empowering Support: Networks and Balance between Local and Global Demands

Crystal Tremblay, Wafa Singh, Walter Lepore

Abstract

Community-University Engagement (CUE) networks and research partnerships may be particularly useful for advancing sustainable social and ecological development as they can mobilize the knowledge, skills and assets of both Higher Education Institutions (HEIs) and communities. In this chapter, we present a series of principles for stakeholder engagement and partnership at HEIs, showcase key global CUE networks committed to strengthening the civic roles and responsibility of HEIs, and propose recommendations to help policymakers and practitioners use networks and partnerships as a practical tool to engage with global and local pressing problems.

There is growing evidence that indicates a large aggregate trend to unite civil society, HEIs and networks in common efforts to co-create knowledge, mobilize it to inform practice and policy, and enhance the social, economic and environmental conditions of people, communities, nations and the world.

1. Introduction

Sustainable human and social development has emerged as a central concern in the face of global ‘wicked problems’ (Rittel and Webber, 1973) – such as global warming, the degradation of vital natural resources and the loss of biodiversity – which are innately complex, uncertain and resistant to any linear formulation of scientific analysis. The challenges posed by socio-ecological and political uncertainties in sustainable development bring new knowledge horizons into consideration and require concerted efforts to explore alternative approaches to progress and to human wellbeing (UNESCO, 2015). Whether we are speaking of ending poverty, reducing inequality, achieving gender justice or dealing with climate change, we require new knowledge creation strategies to achieve these ambitious ends.

Knowledge generation and dissemination in universities and university action is indeed needed to tackle global challenges, as outlined in the Sustainable Development Goals put forth by the United Nations (2015). In this sense, **global and local networks are providing important spaces that encourage collaboration, trust, knowledge sharing, capacity building, and innovation between HEIs and several different kinds of agents – including civil society, government, municipalities and the private sector.** Community-university engagement networks and research partnerships may be particularly useful for

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sustainable social and ecological development as they can mobilize the knowledge, skills and assets of both universities and communities (Spilker et al., 2016). Such institutional arrangements can use rigorous research, community leadership and university expertise to democratically find solutions to contemporary challenges (Popp et al., 2013). The evidence provided by two recent global studies on co-creation of knowledge and community-university engagement (Hall et al., 2015; Tandon et al., forthcoming) show that **democratic knowledge partnerships, where community action is united with academic knowledge,**

have the potential for social transformation in ways that the narrow application of university scientific knowledge solutions cannot achieve.

One of the main challenges associated with networks and partnerships, however, is the lack of strong evidence about how these solutions might be built into a number of policy actions. Claims about the effectiveness of networks and partnerships in dealing with sustainability problems tend to be theoretical and/or conceptual rather than empirical. As a consequence, there is a considerable discrepancy between the acclamation and attention networks receive in the literature, and the lack of empirical knowledge and understanding of the processes and dynamics of partnerships and networks’ overall functioning (e.g. the process by which certain network conditions lead to various network-level out-

comes). In this chapter, we present a series of principles for stakeholder engagement and partnership at HEIs, showcase key global networks committed to strengthening the civic roles and responsibility of HEIs, and propose recommendations to help policymakers and practitioners use networks and partnerships as a practical tool to engage with global and local pressing problems.

2. Principles for networks for global-local engagement of HEIs

Building on the work of Andeweg and van Latesteijn (2011) and van Latesteijn and Rabbinge (2012), we propose five principles that help understand how the construction of network-based governance systems and community-university engagement contribute to the achievement of the UN 2030 agenda for sustainable development through system innovation.¹ Meeting the 17 Sustainable Development Goals and 169 targets will require a concerted effort of strengthened global solidarity and collaboration, focused in particular on the needs of the poorest and most vulnerable and with the participation of all countries, all stakeholders and all people. The principles that we are proposing here are flexible and simple enough to be readily translated into effective network strategies and practices in geographically, politically and culturally diverse contexts.

1) Sustainable development requires system innovation

In order to achieve sustainable development, all the involved actors need to develop new modes of production and new institutional and organizational arrangements to allow these new modes of production to flourish (Bouma et al., 2011). **Knowledge creation for system innovation is increasingly becoming a process of engagement between researchers and other actors who have traditionally been outside of the knowledge production system.** As explained in further detail below, Multi-Stakeholder Engagement (MSE) is critical in this regard to bring process legitimacy to the co-created knowledge (Peterson, 2013).

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2) System innovation is a non-linear, social learning process

Social learning is a circular and cross-boundary process that allows stakeholders on various levels and settings (i.e. public sector, academia, civil society, etc.) to integrate new scientific knowledge with local ecological knowledge. It collectively develops new knowledge by making use of the diversity of perspectives and understandings at hand (Sandstrom, 2010; Segrave et al., 2012). **Tolerance of uncertainty, ambiguity and diversity of knowledge and values is important to harness and integrate social, environmental and economic considerations at the local and regional level** (Everingham, 2012).

3) System innovation needs Multi-Stakeholder Engagement (MSE)

MSE is a process based on mutual understanding and co-creation of solutions that can lead to shared responsibility, system innovation and social learning; making sustainability challenges more manageable (Peterson, 2013). Stakeholder engagement is key to providing results that would never have been developed by either of the involved parties individually. MSE is therefore critical for partnerships

¹ System innovation refers to an executable and replicable way of setting up new and improved configurations with the surrounding physical and social environment in situations where sustainability and/or sustainable development does not allow for traditional ways of executing a more standard project approach (Andeweg et al., 2011; Bouma et al., 2011)

and networks to be effective in promoting and stimulating co-creation of knowledge among HEIs and other social actors. It allows the integration of various value sets and orientations, and creates the conditions for developing a participatory environment, shared responsibility, collective learning and commitment. Such engagement encourages governance arrangements – such as networks – that are different from a purely instrumental managerial logic and a traditional approach to research and knowledge creation (Schmitt, 2010; Andeweg and van Latesteijn, 2011; Pieters et al., 2012; Peterson, 2013; Bos et al., 2013)

Engagement vis-à-vis Higher Education

In thinking about higher education more specifically, engagement means a mutual exchange of knowledge between universities and communities in an attempt to produce outcomes that are of benefit to the larger society (UNESCO Chair CBR-SR, 2015). Such **engagement is possible through the teaching and research function of the university, as much as it is through its service function.** It is worth noting, however, that **community-university engagement at HEIs deviates from the normal outreach/extension functions to an approach that is participative, mutually beneficial and committed to the creation and sharing of knowledge.**

4) Multi-stakeholder engagement requires trans-disciplinary collaboration and co-creation of knowledge

Trans-disciplinary cooperation among HEIs, entrepreneurs, civil society organizations and government – each with different interests, goals, and value judgments – is critical to develop new modes of production and effective responses to socio-ecological problems in the field of sustainable development. In this type of knowledge production, multiple engaged stakeholders bring together a great variety of skills and capabilities in order to create or construct knowledge, transgressing boundaries between disciplines and fields of expertise. **Global, national and local actors need to be involved early in the process as co-developers of ideas and institutional structures that help knowledge-driven innovations to flourish.** Promoting the creation, acquisition, validation and use of knowledge as a collective societal endeavour allows such knowledge to be used for developing basic language and communication skills, solving problems, and developing higher-order skills such as logical thinking, analysing, synthesizing, inferring, deducting, inducting, and thinking hypothetically (UNESCO, 2015).

“Global, national and local actors need to be involved early in the process as co-developers of ideas and institutional structures that help knowledge-driven innovations to flourish.”

5) Networks are catalysts for trans-disciplinary collaboration and co-creation of knowledge

There is growing consensus that the role of universities is changing. Universities are no longer ivory towers, but innovation engines and learning environments in contemporary societies (Carayannis and Campbell, 2006; Youtie and Shapira, 2008). As the international community focuses on defining the strategies to achieve sustainable development at the global and local levels, there is an opportunity

to consider the role of higher education in advancing these shared development aims. In this context, **networks for global-local engagement of HEIs can be seen as local catalysts that give visibility to and strengthen local action, support funding opportunities and research partnerships, and aim to better connect academic work to community needs.** Empirical evidence shows that the required interaction and communication between involved actors to make social learning possible can be organized through the **institutionalization of stakeholder engagement in collaborative processes and the creation of partnerships** between stakeholders, policymakers, researchers and scientists (Sandstrom, 2010). It also shows that **building long-term trust among partners facilitates systemic practice, integrative ways of working and learning across and within diverse social groups** (Allan, 2012; Everingham, 2012).

“Networks for global-local engagement of HEIs can be seen as local catalysts that give visibility to and strengthen local action, support funding opportunities and research partnerships, and aim to better connect academic work to community needs.”

3. Practical examples of key global networks

Worldwide we see a momentum to rethink the way we acquire, produce and utilize academic knowledge (Kieboom, 2016). We are witnessing initiatives from both inside and outside academia that are transforming the academic system to be more responsive, permeable and responsible, such as new institutional structures and funding architectures to support community-university research partnerships (Hall et al., 2015), increased open access to knowledge (Willinsky, 2006), greater recognition and value for engaged scholarship within the university and the role of students as ‘change agents’ in higher education (McRae, 2012).

Currently there is a wave of research and knowledge mobilization initiatives that build on the early work of the European Science Shops and the Participatory Research practitioners from the 1970s (i.e. Paulo Freire, Orlando Fals Borda) and many others. This work is promoted and supported by a growing number of networks and institutional arrangements, such as those showcased in Table 1, which play important regional roles while connecting to and advancing this global movement.

The ‘Big Tent’ Global Communiqué

One platform where several of these global networks are convening and taking action in response to global and local issues is the ‘Big Tent’. This is an initiative of the UNESCO Chair in Community Based Research and Social Responsibility in Higher Education (CBR-SR) in partnership with sixteen national, regional and global networks that share a focus and co-produce action statements on CUE and the social responsibility of HEIs. The most recent 6th Big Tent communiqué, released in October 2015, positions universities as central to addressing huge global challenges: environmental sustainability, peace, economic instability, exploding inequality, poverty, youth unemployment and lost identity, health and mental illness, ageing and the massive movement of peoples. “This can be done through collaborating with civil society to create powerful knowledge that seeks to make sense of these complex processes, and through their role to support education – through their graduates, and through a wider role in supporting community learning”.

In this section we feature seven global networks all sharing a common aim to deepen, consolidate and advance the research, practice and policy for civic engagement as a core element of higher education's role in society. The following table summarizes the role, services, operation and geographical scope of seven networks we have identified as 'good practices' and examples of community-university networks: the UNESCO Chair in CBR-SR, the Global University Network for Innovation (GUNI), the Talloires Network, the Living Knowledge Network (LKN), the Society for Participatory Research in India (PRIA), the Asia-Pacific University-Community Engagement Network (APUCEN) and the Committee of Public Entities in the Struggle against Hunger and for Life (COEP). We include the Community-Campus Partnerships for Health (CCPH) as a further example that demonstrates the strong innovation value specific to policy development around health-related issues in the United States.

Table 1. Practical examples of networks for global and local engagement of HEIs

Network	Role	Services	Mode of Functioning
<p>UNESCO Chair in CBR-SR Secretariat: New Delhi, India and Victoria, Canada Website: http://unesco-chair-cbrsr.org/ Members/Geographical scope: UNESCO Chair in CBR-SR is an open space, present on a virtual platform</p>	<p>Promotes knowledge democracy by sensitizing academia and global civil society towards community engagement and social responsibility in higher education.</p>	<ul style="list-style-type: none"> » Knowledge production and mobilization; » Policy advocacy; and » Training and capacity enhancement. 	<p>Strives to reach out to more networks and expand the linkages between academia and civil society. It vigorously engages in advocacy at the personal and the institutional level, in an attempt to influence academia, global civil society and funding agencies alike, towards the importance of this area of work, and thereby to engage in it.</p>
<p>GUNI Secretariat: Barcelona Website: http://www.guninetwork.org/ Members/Geographical scope: Currently composed of 208 members from 78 countries; Regional offices in Asia and the Pacific, Latin America and the Caribbean, Sub-Saharan Africa, the Arab States, and Europe and North America (USA and Canada).</p>	<p>Encourages HEIs to redefine their role, embrace the process of transformation and strengthen their critical stance within society.</p>	<ul style="list-style-type: none"> » Encourages the dynamic involvement of a wide range of actors in higher education in its activities. » Fosters cooperation, promotes debate and the creation and exchange of knowledge on higher education worldwide through both onsite and online activities. » Promotes exchange of resources, innovative ideas and experiences in emerging higher education issues, while allowing for collective reflection and co-production of knowledge. 	<p>Focuses its research and activity on one specific topic related to the contemporary challenges higher education is facing, such as financing, accreditation, human and social development, sustainability and engagement. Its website, monthly newsletters, international conferences, world report on higher education, academic seminars and research programmes are the various means for achieving its objectives.</p>
<p>Talloires Network Secretariat: Tufts University, Medford, Massachusetts, USA Website: http://talloires-network.tufts.edu/ Members/Geographical scope: 350 universities and institutions spread across Africa, East Asia and Pacific, Europe and Central Asia, Latin America and Caribbean, Middle East and North Africa, North America and South Asia</p>	<p>An international association of institutions committed to strengthening the civic roles and social responsibilities of higher education.</p>	<ul style="list-style-type: none"> » Provides visibility for members' civic engagement activities by featuring them in its publications. » Assists member institutions by bolstering the civic engagement network by building capacities through training, exchange meetings, conferences etc; » Promotes an engagement agenda at the 'glocal' level, via excellent communication, bridging institutions and providing opportunities for networking and learning. 	<p>Implements and supports a variety of programmes, such as MacJannet Prize; Youth Economic Participation Initiative; University Volunteer Program; Faculty and Staff Professional Development Program; Action Research Program, and Global Conferences.</p>

<p>LKN Secretariat: Bonn, Germany Website: http://www.livingknowledge.org/livingknowledge/ Members/Geographical scope: Representatives of organizations working with missions that generally fit the definition of a science shop; Individuals or representatives of organizations that want to start science shop-like activities.</p>	<p>Contributing to research excellence and innovation outcomes that meet the wishes and demands of civil society.</p>	<ul style="list-style-type: none"> » Promotes community-focused co-operation between civil society and higher education. » Provides citizens with public relations tools for advanced access to and use of science and technology, such as journal of community-based research, newsletter, etc. » Educates funders, governments, media, and universities about community-based research/science shop activities; played an important role in shaping European funding programmes, such as 'Science with and for society', etc. 	<p>Activities range from strategic networking, to providing skills-based training, in addition to mentoring practitioners in public engagement in research. Most of these are done via projects initiated by Science Shops and supported by the European Union. Some examples include, Enhancing Responsible Research and Innovation through Curricula in Higher Education (EnRRICH) and Public Engagement with Research And Research Engagement with Society (PERARES).</p>
<p>PRIA Head Office: New Delhi, India Website: www.pria.org Partners: A number of higher educational institutions, civil society organizations and governmental representatives across India and beyond</p>	<p>Promotes the realm of participatory research and works towards empowerment of the excluded through capacity building, knowledge building and policy advocacy.</p>	<ul style="list-style-type: none"> » Builds capacities of voluntary organizations, and community-based development professionals through multi-sector training programmes. » Pursues advocacy role through association with agencies like ASPBAE, ICAE, CIVICUS etc. » Spearheads research studies on the challenges of civil society in the new millennium, the non-profit sector in India, and civil society and governance. 	<p>Plays an instrumental role in bridging the gap between institutions, especially academia and civil society, and also the government, in certain instances. This has been done in a number of ways such as joint research studies, provision of learning opportunities to students in the form of internships, knowledge sharing on topics related to 'participatory research', joint-conduction of practitioner-based courses, etc.</p>
<p>APUCEN Secretariat: Malaysia Website: http://apucen.usm.my/index.php/en/ Members/Geographical scope: Approx. 73 members across 18 countries, viz., Australia, Bangladesh, Brunei, Cambodia, Fiji, Germany, Hong Kong, Japan, Laos PDR, Indonesia, India, Malaysia, Nepal, Pakistan, Philippines, Taiwan, Thailand and United States of America</p>	<p>Promotes the culture of CUE in a proactive, holistic, inclusive and participatory way.</p>	<ul style="list-style-type: none"> » Creates capacity building opportunities for community-university partnerships. » Disseminates information, knowledge, resources and good practices in community engagement. » Collaboratively develops resources to support regional CUE projects. 	<p>Mobilized and shared expertise and resources to implement impactful CUE projects (carried out by network members) at national and international levels. For example, the Saraphi Health Model Project aimed at community education carried out in Thailand. It is also the leading network promoting service and volunteerism in the Asia Pacific region. Some of initiatives have been 'Rebuild Nepal', 'Coaching4Fun Against Quakes' etc.</p>
<p>COEP Secretariat: Brazil Website: http://www.coepbrasil.org.br/portal/publico/home.aspx/ Members/Geographical scope: More than 800 organizations, 38,000-plus individuals, and nearly 100 communities</p>	<p>Strives to eradicate hunger and poverty; strengthen human rights, social participation and active citizenship; and, support communities which are vulnerable to climate change.</p>	<ul style="list-style-type: none"> » Mobilizes organizations and people, promotes partnerships, encourages the practice of innovative projects and builds capacity for social action. » Supports hundreds of development projects, consolidating links between COEP members, communities and their organizations. » Helped its members to become more socially active and responsible. 	<p>Bridges individuals and institutions across Brazil and beyond, thereby mobilizing both human and financial resources. Encourages public institutions to collaborate with their counterparts and to use their resources to support community development initiatives. It has also developed a range of capacity-building activities for its networks, such as seminars, lectures, courses and workshops, etc.</p>

Source: Author's own creation

Community-Campus Partnerships for Health

Secretariat: Seattle, WA

Website: <https://ccph.memberclicks.net/>

Members/Geographical scope: More than 1,800 CSOs, universities, colleges and individuals.

CCPH promotes health and social justice through partnerships between communities and HEIs. It leverages knowledge, wisdom and experience in communities and in academic institutions to solve pressing health, social, environmental and economic challenges. It builds the capacities of communities and academic institutions to engage in partnerships that balance power and share resources. CCPH's international conference brings together stakeholders from around the world to enhance learning and highlight partnerships and research collaborations. It disseminates promising practices and lessons learned through papers and reports, monthly newsletters, etc.

CCPH stands out from other networks because of the broad range of interventions it undertakes and the influence it has on internal institutional policies. It mobilizes knowledge, provides training and technical assistance, conducts research, builds coalitions and advocates for supportive policies in each of these areas such as Community Based Participatory Research, Community Engaged Scholarships, Community-Institutional Partnerships, Service Learning, Research Ethics and Anchor Institutions. Furthermore, CCPH responds to US federal government requests for comments on research peer-review, research resources, funding priorities, ethics policies and has also submitted testimony to the NIH Council of Public Representatives. CCPH has also developed and shared policy positions on community engagement in the CTSA programme with the National Institutes of Health and the Institute of Medicine.

4. Discussion

The rise and development of network governance and partnerships as solutions to problems in the field of sustainable development have neither been easy nor uncontroversial. The literature shows a strong bias that tends to conceive partnerships and networks as naturally better, or even ideal, and certainly more promising forms of governance, without paying attention to the complex reality where such solutions have to be embedded and the dialectical development of partnerships. In fact, a variety of obstacles can hamper the effectiveness of engaged institutions and networks, for instance: rivalry and competition among global, national, regional networks, coalitions or alliances all claiming status in particular policy areas; different temporal objectives that can be impossible to reach under limited financial, physical and human resources; insufficient funding opportunities; fundamental spatial and political disparities; and 'partnership fatigue' and lack of interconnectivity that lead to confusion, inaction and/or networks where information is not fully shared and common interests are hard to agree.

Another related problem is that engagement and trans-disciplinary collaboration among stakeholders are, per se, difficult processes. In part, this is explained by the lack of additional value indicators for 'horizontal' participatory research as compared with the classical 'vertical' approach, and the indiscriminate application of value criteria for basic research to horizontal approaches.

Finally, it has to be also noted that in recent years a higher number of non-state actors have been involved in education, at both national and global levels. According to UNESCO (2015), this diversification of partnerships is blurring the boundaries between civil society, state and market, posing serious practical challenges for the democratic governance of education and HEIs. From this perspective, therefore, "the governance of education cannot be separated from the governance of knowledge" (UNESCO 2015: 80). However, evidence of duplication, overlap, and areas of unaddressed needs has grown in recent years, creating confusion, wasted effort, and missed opportunities in this field.

The work of the UNESCO Chair in CBR-SR indicates a large aggregate trend to unite civil society, HEIs and networks in common efforts to co-create knowledge, mobilize it to inform practice and policy, and enhance the social, economic and environmental conditions of people, communities, nations and the world. However, these efforts are fragmented and face many unnecessary barriers.

5. Strategies and recommendations for researchers, policymakers, and practitioners

We propose the following recommendations and considerations for stakeholders involved in achieving sustainable development through networking and CUE:

1. **Support networks that promote and enhance your values and commitment to local and global sustainable development** by becoming 'active members', which provides an opportunity to participate in international conferences (Talloires); visibility by contributing to their newsletters/journals (GUNi); skills-based training and mentoring practitioners (LKN), capacity building of communities/institutions (CCPH), and resource mobilization (COEP);
2. **Liaise with and across network members** to accrue true benefits of collaboration and partnerships in order to achieve shared objectives;
3. **Change the perception of civic engagement as a philanthropic activity to one of reciprocity** by recognizing the value and diversity of knowledge both in the university and community;
4. **Create core senior positions and facilitative structures, practices and policies** (e.g. Vice-President of Engagement) linked to local civil society organizations, and conduct collaborative research and engaged learning that responds to local needs;
5. **Create locally relevant and context-driven assistance** by developing partnerships between regional networks and funders – thereby curating a local culture of philanthropy. Funding

models for networks tend to be hybrids receiving funding from a variety of sources that require constant renewal;

6. **Jointly pursue a strong advocacy role to influence funders and policymakers** on areas such as community engagement and the social responsibility of HEIs. Successful examples are LKN and CCPH, which have demonstrated strong advocacy abilities in educating/influencing funders and policymakers;
7. **Share good practices by supporting a community of practice (CoP):** a CoP is group of people who regularly interact with one another to share and learn based on their common interests;
8. **Promote collective action to address larger-scale challenges** (e.g. the UN Sustainable Development Goals), rather than university-specific efforts, and serve as an action platform for advocacy and policy;
9. **Demonstrate and articulate the high value of multi-stakeholder collaboration** and community university partnerships to university administration via rich cross-institutional learning; research on community impacts that support investments in these partnerships; access to funders; and national recognition via CUE accomplishments; and
10. **Devise and advocate for legislation that encourages universities to partner with regional/global networks** to address local/global problems.

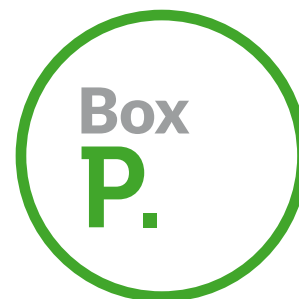
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The Iberian-American Service-Learning Network

María Nieves Tapia, Candelaria Ferrara



Founded in 2005, the Iberian-American Service-Learning Network (RIBAS, Red Iberoamericana de aprendizaje-servicio) is an international association of more than 90 universities, civil society organizations, government and international agencies in Latin America and the Caribbean, the United States and Spain. All member institutions work together to build a movement promoting educational innovation and social change, through the pedagogy of service-learning.

In Latin America, service-learning is defined as a solidarity-based service aiming to deal with real and felt needs, with the community and not only for it; it promotes a leading role and empowerment for students from planning to evaluation; and social intervention is intentionally articulated with learning, involving curriculum contents, reflection on practice, the development of skills for citizenship and work, and research.

The Network was originally planned by NYLC (the National Youth Leadership Council, USA) and CLAYSS (Latin American Centre for Service Learning) as a bridge between the established US service-learning community and the growing Latin American service-learning movement. In October 2005, a group of 18 organizations gathered in Buenos Aires, including the recently founded Centre for Service-learning in Catalonia. It was agreed that the Network would in-

clude not only the Americas, but also Spain, and so the 'Iberian-American Network' was born.

Unlike other networks formed only of universities, RIBAS also includes NGOs and policymakers, representatives of K-12 schools and international organizations involved in promoting educational innovation and social change. Diversity in both membership and approaches to service-learning allows a broader vision and the possibility to generate stronger synergies.

The Network formally gathers twice a year, usually in April in the USA, during the NYLC Conference, and in August in Buenos Aires, along with the International Service-learning Conference organized by CLAYSS. Members who are not able to attend personally have the option to participate virtually. Plans, activities and conversation continue throughout the year through multilateral and bilateral exchanges.

Created as an informal 'learning community' to exchange knowledge and collaborate in the promotion of the service-learning pedagogy, for the last decade the Network has been growing as a lively organization with a strong identity, and has developed as a 'network of networks', bringing together national service-learning networks in the region, and also networking with other networks, both at the global level and with other regions of the world.

Some of the Network's most visible outcomes in its first decade are:

- » Communications: the Network facilitates the exchange of ideas and valuable information, such as funding and research opportunities, new publications, etc. It also allows the exchange of good service-learning practices and programmes, offers a place of mutual trust and support to debate the most pressing issues, and allows members to be updated on the latest developments in the field. A featured section in the CLAYSS newsletter, a lively Facebook closed group, a members-only web platform and a mailing group are the tools that keep the conversation going. In any given week, members may be asking their Chilean counterparts about the importance of the recently established curriculum reform re-introducing Civic Education, posting photos and comments on good practices in universities and schools, or receiving news about the next Talloires Conference and how to vote to renew IARSLCE authorities.
- » Synergies and networking with other networks: RIBAS encourages and facilitates its members' participation in opportunities for service-learning programmes offered by other organizations, it assists member institutions with capacity building by partnering with other existing institutions around the world, and works to establish new networks. In the last decade, RIBAS has facilitated networking with global networks such as Talloires Network, IARSLCE (the International Association of Research on Service-learning and Community Engagement), Scholas and others, and encouraged members' participation in events like the Global Youth Service Day. Focusing on South-to-South collaboration, RIBAS has helped build bridges between the Latin American members and African and South-East Asian networks, like the SAHECEF (South African Higher Education Community Engagement Forum) and AsiaEngage.
- » Research: before the Network was founded, there were few or no opportunities to present and publish service-learning research in Spanish. Now RIBAS has sponsored two Service-Learning Research Conferences organized with the participation of its members, and accepts presentations in Spanish, Portuguese and English. The proceedings of the conferences have been published online (http://www.clayss.org/publicaciones-clayss_academicas.html), and active collaboration with IARSLCE is taking place, allowing Latin American and Spanish scholars to take active part in the International Association of Researchers.
- » Publications: the Network has collaborated to widen the possibilities for members to publish in their own language. In 2010, a first collaborative endeavour was the publishing of a special issue of 'Tzhoecoen', the scientific journal of University Señor de Sipán (Chiclayo, Peru). With editorial collaboration from the journal staff and several Network members, especially the OEI (Iberian-American Organization for Education and Culture) and CLAYSS, members of the Network published a state-of-the-art review of service-learning in Latin America and Spain (http://www.clayss.org.ar/04_publicaciones/TZHOECOEN-5.pdf). In 2015, the Network launched the first peer-reviewed journal published in Spanish. RIDAS (Revista Iberoamericana de Aprendizaje-servicio) is a collaborative effort between the Latin American members of the Network and the Spanish Higher Education Network (Red uni-

versitaria española de aprendizaje-servicio, ApS-U). The journal is co-directed by Barcelona University and CLAYSS, and hosted online by University of Barcelona.

- » Collaboration to establish national service-learning policies and programmes: synergies created within RIBAS have helped to introduce, promote and strengthen service-learning policies in many countries in the region, such as Chile, Ecuador and Uruguay.

After more than a decade of working together, its members usually define the Network as a 'community of friends with a common cause'. Strong personal communications and opportunities to work together have helped universities to be part of a broader field of work, and to create a hub for service-learning leaders in the region to join efforts to effectively promote educational innovation and social change through service-learning programmes and policies.

7.2. University and Social Networks: from Theory to Action. GUNi and ACUP Practice at Global and Local Scale

Josep M. Vilalta, Alicia Betts and Nadja Gmelch

Abstract

Institutions that create and disseminate knowledge, particularly universities, are called upon to play a key role in the new society emerging in the early 21st century. On the one hand, the increasing social and economic complexity of recent decades and the appearance of new technologies are transforming contemporary societies in terms of social and family organization, the organization of work, and a globalised economy. On the other hand, information and knowledge are increasingly becoming strategic factors for any society striving for social progress and economic competitiveness. In this economically, socially and culturally shifting context, human capital, science and innovation and the institutions associated with them are becoming key pieces.

The complexity, dynamism and global nature of our current context requires a huge amount of knowledge and, at the same time, social dialogue. It is no longer possible for an institution or organization (whether a government, university, company or any other) to act with full autonomy and resolve questions that are in themselves complex and interdependent. There is a growing need to create knowledge networks, networks of institutions and organizations that share joint challenges (and therefore projects).

In Catalonia, over the past fifteen years, efforts have focused on building a university system that is open to Europe and the world, but also rooted in the specific problems and challenges of Catalan society. This article gives an overview of how the Catalan Association of Public Universities (ACUP) and the Global University Network for Innovation (GUNi) are dealing with the global and the local scales through their mission and activities.

Introduction

Institutions that create and disseminate knowledge, particularly **universities, are called upon to play a key role in the new society emerging in the early 21st century**. On the one hand, the increasing social and economic complexity of recent decades and the appearance of new technologies are transforming contemporary societies in terms of social and family organization, the organization of work, and a globalised economy. On the other hand, information and knowledge are increasingly becoming strategic factors for any society striving for social progress and economic competitiveness. Human capital, science and innovation are critical elements and the institutions associated with them (universities, research and innovation centres, cultural and academic institutions, think tanks, etc.) are becoming

key pieces in a complex and shifting economic, social and cultural jigsaw puzzle. Authors like Daniel Innerarity (2011) and Juan Carlos Tedesco (2003) have offered interesting insights in this field.

Another feature of this newly emerging society is an acknowledgement, for the first time in human history, of the dangers facing the planet and **a need to think of the world as an interconnected, interdependent whole**. Collectively, we are becoming aware of the global challenges and risks confronting the planet and humankind: poverty, climate change, access to natural and energy resources, and sustainable economic growth and models. We are cognizant of the need to take public initiatives of a global nature that engage the various institutional, corporate and social stakeholders. Against this backdrop, the UN General Assembly passed the 2030 Agenda for Sustainable Development a few months ago. The Agenda, which is an ambitious action plan to tackle broad objectives for the sustainable development of all humanity as one, sets seventeen overarching goals and 169 integrated targets covering economic, social and environmental aspects. These are the targets that will govern world development programmes until 2030 and must be applied by all countries and supranational institutions around the world.

As noted above, the institutions that generate, manage and transfer knowledge, particularly **institutions of higher education, play a critical role both in the local sphere** (the country or state that creates, finances and assesses them) **and in the international/global sphere**. Institutions of higher education should act as special places where the complexity of the planet's challenges is analysed. Indeed, they can be forums for dialogue between different stakeholders in the search for local, transnational and global solutions and they can give crucial help toward creating a more educated, freer, more committed and more professionally competent society focused on the achievement of social and economic development worldwide.

However, the **complexity, dynamism and global nature of what we have just described requires a huge amount of knowledge and, at the same time, social dialogue**. It is no longer possible for an institution or organization (whether a government, university, company or any other) to act with full autonomy and resolve questions that are in themselves complex and interdependent. There is a growing need to create knowledge networks, networks of institutions and organizations that share joint challenges (and therefore projects). For example, the phenomenon of youth unemployment, which is alarmingly widespread in some countries (such as those of Southern Europe) calls for multidisciplinary, multi-agent and partly global responses. Education policies, production and labour structures, family and sociological structures, global markets, the digital revolution, robotics and mechanisation, business promotion policies, and various overlapping legislation are only some of the interrelated areas affecting youth unemployment. Given such complex, changing and global challenges, we often require multi-institutional and interdisciplinary approaches to fit each context. Universities, which typically work on complex global projects (scientific challenges), can be places for cooperative work with other institutions and agents in the territory and, at the same time, on a global scale.

“The world needs to be viewed as an interconnected and interdependent whole.

1. The case of Catalonia: from the local university network to local territorial and global institutional partnerships

Given the described context, efforts in Catalonia over the past fifteen years have focused on building a university system that is open to Europe and the world, but also rooted in the specific problems and challenges of Catalan society. This is a system of universities that act decisively to promote spaces for cooperation at three levels: between the Catalan public universities themselves, reinforced by a shared vision and projects; between the Catalan universities collectively and the country's institutional, social and economic stakeholders (the Catalan network); and between the Catalan public universities collectively and global society through collaboration with UNESCO, the United Nations University and a network of more than 200 universities and academic centres around the world.

On a local scale, following a few initial years of primarily residual activity, the mission of the *Associació Catalana d'Universitats Públiques* (Catalan Association of Public Universities – ACUP) is to represent the country's public universities as a whole and generate spaces for cooperation and combined efforts among its members and with other agents in the territory. ACUP is made up of the country's eight public universities: the University of Barcelona (UB), the Autonomous University of Barcelona (UAB), the Polytechnic University of Catalonia (UPC), Pompeu Fabra University (UPF), the University of Girona (UdG), the University of Lleida (UdL), the Rovira i Virgili University (URV) and the Open University of Catalonia (UOC). As mentioned earlier, ACUP works in all those arenas in which inter-university cooperation is possible and necessary, beyond any institutional rivalry that should be maintained for the healthy competitiveness of the system on both a local and global scale. ACUP represents the public university system to Catalan society and its institutions, acting as an institution to promote advocacy for the public university system.

“The complexity and variability of the social and economic problems of the modern world often require multidisciplinary and multi-agent approaches.

Cooperative work between universities is no easy task, given that the country's university and science policies have encouraged competition between the universities and to a large extent, rightly so. The tension between competition and cooperation forms part of the DNA of Catalonia's university system. Its management is complex, and involves the intervention not just of the university institutions themselves but also the country's parliament and government, other funding institutions and other institutions and organizations that require academic services and partnerships. We could say that Catalonia, at present, has a highly compact university system, which has gone about building meaningful spaces for collaboration and cooperation, leading in turn to more relevant and more powerful international scope and reach.

In this context, ACUP works in five main areas:

- » Institutional and representational area (advocacy)
- » Study and reporting area (think tank)
- » University management area
- » Society-university collaboration area
- » International relations area

The latter two areas (society-university collaboration and international relations) are the focus of this article. In this regard, we should stress that ACUP:

- a) has a strategic commitment to Catalan society and its territory, seeking to foster the 'Quadruple Helix' for the good of the social, economic, cultural and technological progress of Catalonia; and
- b) seeks, at the same time, to become a prominent player in global commitment from the university and academic perspective. In this respect, it plays a decisive role through partnerships with other international and academic institutions in the promotion of the Global University Network for Innovation (GUNI).

In a highly summarized form (for reasons of limited space), we shall now outline the main areas and initiatives in which ACUP takes action as part of this shared project with social, economic, cultural and technological stakeholders. Then, we shall describe the global collaboration project involving partnerships with UNESCO, UNU and the Global University Network for Innovation (GUNI).

1.1 Commitment to local sustainable development

This commitment mainly concerns three commonly interrelated areas: economic development and innovation, social and human development, and scientific and cultural development.

Economic development and innovation

The Plataforma Coneixement, Territori i Innovació (Knowledge, Territory and Innovation (CTI) Platform)¹ is a strategic project designed to enhance the economic and social development of Catalonia. It reflects the strategic importance of a shared agenda to work on the country's key interdisciplinary and inter-institutional projects and it seeks to strengthen the links between stakeholders in the economic and innovation ecosystem and put global challenges at the heart of debates and projects. In

this regard, universities are called upon to play a central role in guaranteeing the recruitment and nurturing of talent and having an impact on the local environment in an interdisciplinary and inter-institutional manner (the Quadruple Helix – Business, Research, Public Administration, Civil Society/Users).

“It is strategic to encourage inter-university collaboration and the sustenance of an ecosystem of complementary universities in a given territory or country.

The CTI Platform engages in nationally focused strategic reflection to confront global and local challenges and construct a consensus-based discourse and vision for cultural change among the universities and stakeholders engaged in innovation in the territory. The CTI Platform is promoted by ACUP members, Foment del Treball Nacional (the Confederation of Catalan businesses) and Petita i Mitjana Empresa de Catalunya

¹ <http://plataformacti.cat/ca/que-es-la-pcti>

(Small and Medium Enterprises of Catalonia – PIMEC), and it receives support from La Caixa Foundation. It also collaborates with the Government of Catalonia (the Generalitat de Catalunya) and with a number of companies based in Catalonia: Agbar, FESTO, Matholding, Sigma, the University of Vic, the Barcelona Regional Council (Diputació de Barcelona), the Barcelona City Council and the General Council of Chambers of Commerce of Catalonia.

Very briefly, its main activities are:

- » **Catalunya Futura workshops (Triple Helix):**² These are held every year to advance the knowledge society in Catalonia and offer a forum for debate and reflection among the members of the CTI Platform. They are attended by renowned experts from Catalonia and the rest of the world and they debate important issues such as the social progress and competitiveness of the country;
- » **International Seminar:**³ This is an annual event open to the public and it is the natural continuation of the Catalunya Futura workshops, bringing together representatives from the public universities, senior management in prominent Catalan companies, and world experts on the knowledge society and innovation. Participants share experiences and initiatives. The work and debates draw on the support of leading experts and feature the heads of Catalan, Spanish and European public institutions.
- » **Agenda per a la innovació i la competitivitat Catalunya 2015-2020 (Agenda for the Innovation and Competitiveness of Catalonia 2015-2020):**⁴ The Agenda represents a practical instrument to address specific goals and challenges and it serves as a permanent observatory on the state of innovation in Catalonia. Taking the view that innovation must be seen as a priority in order to transform the country's society and economy, it proposes action along four tracks: reviewing the design of the innovation and competitiveness system; improving governance and stakeholder engagement in the Agenda's design, monitoring and assessment; incorporating social, occupational and educational dimensions, and fostering a set of specific actions.
- » **Preparation of studies and reports** to give value to universities and to the Quadruple Helix as agents of social transformation and generators of original and impactful knowledge (social and economic impact studies, reports on indicators of research and innovation, Universities and RIS3: the Case of Catalonia and the RIS3CAT Communities, reports from benchmark countries, etc.).
- » **Design and development of specific projects:** for example, fostering dual university education, encouraging entrepreneurship among young people, promoting technology transfer, pushing forward the industrial doctorate plan, etc.

Social and human development

ACUP makes an ongoing effort to consider and coordinate the social commitment of member universities, seeking to put social commitment at the core of their strategic agendas. Accordingly, the Comissió de Responsabilitat Social Universitària (University Social Responsibility Committee – RSU)

² <http://www.acup.cat/agenda/jornades-catalunya-futura>

³ <http://plataformacti.cat/ca/activitats-i-projectes/seminari-internacional>

⁴ <http://www.acup.cat/sites/default/files/agenda-la-innovacio-i-la-competitivitat-de-catalunya-2015-2020.pdf><http://www.acup.cat/sites/default/files/agenda-la-innovacio-i-la-competitivitat-de-catalunya-2015-2020.pdf>

was set up in 2015 (with different sub-committees) as an umbrella organization to ensure consistency across the various programmes and actions relating to the social commitment of universities. The RSU Committee's work areas correspond to the main purposes of institutions of higher education: education, research and transfer.

- » **Education:** In the area of education, the Committee focuses on producing studies and reports and organizing seminars on the current situation of transformative education in Catalonia and in the world. Currently, this work serves as a basis for drafting a joint declaration on the role of higher education with respect to the Sustainable Development Goals and the commitment of ACUP member universities.
- » **Research:** In the area of research, Catalonia is promoting the concept of Responsible Research and Innovation (RRI) through the RSU Committee. The ACUP Secretariat takes part in European projects, at present one specifically focusing on the development of teaching materials useful for the training of future researchers with a critical spirit.
- » **Transfer:** Finally, in the area of transfer, the RSU Committee is overseeing a deliberative process for the creation of a strategic proposal on the role of institutions of higher education in development. For example, it worked for several years on a support programme that helped to reinforce and create robust universities in different developing countries. In this regard, the ACUP has organized comprehensive training courses in university management with universities in Africa and Haiti. The RSU Committee also helps to raise awareness of university involvement in issues that have a social impact. For instance, a recently published development cooperation map shows the presence of ACUP member universities in institutional support projects around the world.

Another area supported by the RSU Committee is advocacy, whereby it helps to host and integrate refugees at Catalan universities through participation in government commissions, a joint awareness campaign called #universitatsrefugi, the coordination of hosting activities among ACUP member universities and the fostering of collaboration with international networks.

Scientific and cultural development

In this area, we highlight three long-term projects:

- » **Fostering of research in the social sciences and humanities:** (RecerCaixa programme)⁵Through collaboration with "la Caixa" Foundation, the biggest private foundation in Catalonia and in Spain, ACUP promotes the RecerCaixa programme, which runs from 2010 to 2019 and involves a total investment of €18 million. The RecerCaixa programme supports and funds research projects in four major areas: humanities and culture, education, public and social policy, and social inclusion. The lines of research aim to achieve research results that can improve people's wellbeing and quality of life and increase social cohesion. The goal is to foster research of excellence in Catalonia and help to develop a knowledge-based economy, as well as

5 <https://obrasociallacaixa.org/ca/investigacion-y-salud/investigacion-ciencias-sociales-humanidades/convocatorias>

to raise people's awareness of the process of creating scientific knowledge and increase their involvement, making them part of scientific advancement and its societal impact. To date, the Programme has funded a total of 139 research projects (from more than 2,100 applications). These are high-impact research projects that provide a response to the problems and challenges of modern society, such as youth unemployment, immigration, disability, academic failure, active ageing and gender equality.

- » **Fostering of science, technology and culture among primary school pupils:** (Investiga amb Recercaixa)⁶ Thousands of primary school pupils at more than 50 schools around Catalonia have conducted research into current issues with the help of leading investigators. The idea is to raise awareness of the importance and usefulness of doing research, and of the benefits that it can contribute to society; to encourage scientific vocations and the research spirit among primary school pupils; and to offer tools and materials that schools can use to develop interdisciplinary research projects.
- » **Dissemination of Catalonia's research, innovation and higher education system:** The annual Informe d'indicadors de recerca i innovació (Research and Innovation Indicators of Catalan Public Universities Report)⁷ and Informe d'indicadors de formació i docència (Education and Teaching Indicators of Catalan Public Universities Report)⁸ provide the system's main data as an exercise in transparency and accountability to society. The Report on Research and Innovation has been published every year since 2012, while the Report on Education and Teaching was first published in 2016.

1.2 Global commitment

The Global University Network for Innovation (GUNi) is an international network created in 1999 by UNESCO, the United Nations University (UNU) and the Universitat Politècnica de Catalunya–Barcelona Tech (UPC). GUNi was founded after the 1998 World Conference on Higher Education in order to take forward its main decisions and facilitate their implementation. Since 2014, the Catalan Association of Public Universities (ACUP) has hosted the GUNi secretariat and presidency. Currently, GUNi brings together 208 members from 78 countries amongst the UNESCO Chairs in Higher Education, institutions of higher education, research centres, networks related to higher education, and other UNESCO Chairs and UNITWIN networks established as part of the UNESCO/UNITWIN Programme, a programme for innovation and the social commitment of higher education.

GUNi's mission is to strengthen higher education's role in society, contributing to the renewal of visions, missions and policies on the main issues facing higher education worldwide and promoting public service, relevance and social responsibility. GUNi encourages institutions of higher education to redefine their role, embrace this process of transformation and strengthen their critical stance within society. As a network, GUNi has an opportunity to influence the international agenda as well as national stakeholders and policymakers.

6 <http://www.acup.cat/noticia/investiga-amb-recercaixa-0>

7 <http://www.indicadorsuniversitats.cat/recerca/index.php?lang=en>

8 <http://www.indicadorsuniversitats.cat/docencia/index.php?lang=en>

GUNi's goals are:

- » encouraging institutions of higher education to reshape their roles, broadening their value and contribution to society and strengthening their critical stance within society;
- » helping bridge the gap between developed and developing countries in the field of higher education, fostering capacity-building and international cooperation; and
- » promoting the exchange of resources, innovative ideas and experiences in the emerging issues of higher education, while allowing for collective reflection and joint production of knowledge on innovation, relevance and social responsibility.

In this context, GUNi principally pursues the activities listed below:

- » **Higher Education in the World Report:** The Report is a collective work published as part of the GUNi series on the social commitment of universities.⁹ It is the result of a global and regional analysis of higher education in the world, with a specific subject chosen for each edition. The Report reflects on the key issues and challenges facing higher education and its institutions in the 21st century.
- » **Seminars, conferences and workshops:** GUNi promotes international events on higher education that address innovative proposals and ideas. They have a global reach and they focus on a variety of issues, such as the social commitment of universities and education's commitment to sustainability.
- » **Networking projects:** GUNi reinforces and expands its network by encouraging dynamic involvement in its activities from a wide range of actors in higher education. It fosters cooperation between them and promotes debate and the creation and exchange of knowledge on higher education worldwide through on-site and online activities. GUNi's website and newsletter are cornerstones of the network's accomplishment of this objective, along with its participation in various European projects funded as part of Horizon 2020.

2. Conclusions: Lessons learned and recommendations

The different strategies that we have outlined in the case of Catalonia and its public universities illustrate the decisive factors involved in the development of university and social networks in the early 21st century. As a conclusion, they are set out below in summary form:

- » **The complexity and variability of the social and economic problems of the modern world often require multidisciplinary and multi-agent approaches.** In this regard, there is a need, on both a local and global scale, for close and continued collaboration between the institutions of the Quadruple Helix: public institutions, universities, companies and the tertiary sector. In the case of Catalonia, strategic cooperation has been fostered both with local organizations (for

⁹ <http://www.guninetwork.org/guni-reports>

example, via the CTI Platform with economic, social and institutional agents or in partnership with the Obra Social “la Caixa”) and with international organizations like GUNi.

- » Beyond the efforts and results of individual institutions of higher education on a local and a global scale (e.g., as reflected internationally in various university rankings), we believe **that it is strategic to encourage inter-university collaboration and the sustenance of an ecosystem of complementary universities in a given territory or country.** In the case of Catalonia, we note the willingness among the public university members in ACUP to pursue frank, solid and profound cooperative projects in collaboration with the country’s government, in order for Catalonia to become the leading university and research region of Southern Europe. In this regard, we believe in the need to create public policies that develop the right balance between inter-university competition and collaboration. This is the responsibility of the universities themselves and the legislative and executive powers that create and fund them. In this respect, we recommend the establishment of systems and measures to assess the system as a whole, in addition to holding the individual university institutions to account.
- » Universities and academic and scientific institutions in general are becoming key pieces in the knowledge society and economy: this includes the creation of knowledge, its transfer and its dissemination, as well as innovation in the broadest sense. That is why there is a **need for university, science and innovation policies to be strong and stable over time, with sufficient basic public funding to be competitive on an international scale.** However, it is also true that universities and academic centres in general have lost their monopoly on knowledge, which is now more accessible and widespread than ever due to communication technologies and the plethora of information platforms and instruments.
- » Regarding the management of complex inter-institutional networks (e.g., the CTI Platform or GUNi), we believe that it is more efficient to try out specific forms of collaboration and projects and seek to make headway than to formulate grand plans that often become outdated in a changing and complex context such as the one we face today. Along these lines, one critical factor of collaboration networks is the building of trust among institutions and among people. Without individual and group efforts to build mutual trust, it is not possible to build solid, stable projects of an inter-institutional nature.
- » The old adage of “think globally, act locally” is still completely relevant for collaboration networks between universities and among the different agents of the Quadruple Helix. Never before has it been so necessary to have a shared “local-global” outlook, and this applies to the university and social arenas too.
- » Collaboration networks such as those that we have described in this chapter, and others that might spring to mind, often suffer from a handicap that very much needs to be kept in mind: the fact that they act at a distance from reality and can take refuge in a theoretical-conceptual space or in self-complacency, achieving limited impact. From this perspective, we believe that **collaborative networks (such as ACUP on a local scale and GUNi on a global one) should always be agile, flexible organizations that are resolutely focused on creating value for their member institutions and**

“Think globally, act locally.

by extension for society as a whole. Explicit accountability and the regular renewal of goals and projects are recommendations in order to achieve the desired added value and proximity to the social, economic, cultural and technological reality that they face.

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8

Impacts, Multi-faceted Accountabili- ties and Measurements

8.1. Impacts, Multi-faceted Accountabilities and Measurements. Making a Difference at Local and Global Levels

Stevie Upton

Abstract

The recent move towards measurement of higher education impact through mechanisms such as the UK's Research Excellence Framework serves a dual purpose: mechanisms aim both to evaluate the quality of impacts, largely for the purpose of resource allocation, and to incentivize academics to generate further impact. However, the extent to which existing approaches are successful in either goal is moot. The very fact that a single approach has been adopted to address these quite different ends is itself problematic. But this is compounded by a series of other challenges. From tensions between expectations placed on universities in their local and global contexts, to narrow definitions of 'impact', and competing demands that push academics towards other priorities, impact assessment – and the end toward which it should direct us, greater societal engagement – is fraught with complications.

Yet promising developments in the assessment of impact and engagement have begun to emerge. This chapter profiles the 'collective impact' approach to complex problem solving, and

describes three further models that have been developed in a higher education context: the related SIAMPI and ERiC approaches, which have recently emerged from the Netherlands; the US Kellogg Foundation logic model, originally designed for self-assessment by non-profit organizations, and recently translated for use by policy-engaged researchers in the arts and humanities; and the scorecard approach for assessing collaborative education and training initiatives. Each shares a focus on the process, as distinct from the outcomes, of engagement, and adopts a developmental rather than judgmental approach to evaluation.

The evidence points to outcomes-based mechanisms, rather than evaluation per se, as the source of tension between local and global goals, and between objectives of accountability and incentivization. The chapter therefore recommends actions for governments, researchers and transnational higher education networks, towards development of process-based evaluations.

1. Challenges of impact measurement

1.1 Why are we measuring?

From international rankings to national impact assessment mechanisms and local performance development reviews, academics are increasingly subject to evaluation of the wider benefits of their work. Despite their implementation on a variety of spatial scales, it is striking that the various mechanisms currently in operation are united by an aspatiality. *Where engagement occurs, there is generally little concern in the judgement of its effectiveness.* Yet this is not to say that the design of these mechanisms plays no role – intentionally or otherwise – in the incentivization of activities on one scale or another. In our concern for both the local and global dimensions of university research and engagement, we must therefore give due consideration to the mechanisms in place for assessing it.

The prospect of measuring HEIs' impact on society is a challenging one for many reasons. The first of these arises before a measurement approach can begin to be designed, relating as it does to the intended purpose of the measurement system. Not only do purposes differ, but a system designed to achieve one will not necessarily achieve – might even conflict with – another (Upton et al., 2014). Understanding the true motivation(s) for impact measurement is therefore a crucial first step. Do we, for example, measure the existing form and scale of societal impact in order to better incentivize and direct it in the future? Or does assessment serve as a means of evaluating past activity? If so, with what motivation? And do we concern ourselves merely with the existence of such activity, or with assessing its quality?

Depending on our answers to these questions, the form that assessment will take is likely to be quite different. Townley (1997) notes a distinction in the literature on performance appraisal between 'judgemental' and 'developmental' approaches. In the former, concern lies with central coordination and control – of both the appraisal process and of those subject to the appraisal. This form is often tied to resource allocation. By contrast, in the latter case appraisal is designed to identify current strengths and weaknesses, with a view to facilitating future improvements. Here the individual or unit being assessed is likely to have far greater input into the appraisal process than under a more 'judgemental' regime.

1.2 What are we measuring?

As described below, the latter approach shows particular potential for development in a higher education context. **For effective impact to be achieved it is, argues Jeff Edmondson, a matter of ‘moving from proving to improving’.**¹ Yet the status quo in impact assessment presents undoubted barriers to that shift. The historical development of research-based impact activities in many higher education systems has, drawing originally on models of technology transfer, focused on techno-scientific advances and associated economic outcomes. Even as the range of disciplines deemed central to achieving societal impact has expanded, evaluation mechanisms have failed to adapt. The applied measures in the Excellence in Research for Australia assessment, for instance, relate principally to protection of intellectual property and receipt of commercialization income (Australian Research Council, 2014).

“Moving from proving to improving.”

The difficulty here is twofold. Firstly, a dominant narrative that places higher education at the heart of competitiveness agendas (Ozga and Jones, 2006) has turned scrutiny towards return on the investment made in higher education (for evidence of which connection see HEFCE et al., 2014). This not only increases the likelihood of a more ‘judgemental’ form of evaluation being adopted, but also serves to privilege certain forms of value over others. Ozga and Jones (2006: 5) see evidence that ‘what matters is what works for the economy’, since this is the route to national competitive advantage. By contrast, the use of knowledge to mediate any negative effects of this policy at the ‘local’ level is deemed relatively less important.

The question of whether local and global concerns need necessarily be viewed as distinct, even contradictory, in the context of evaluation is further discussed below. Suffice to note here that an effective approach to measuring higher education’s contribution to national competitiveness cannot necessarily be expected also to effectively measure diverse societal benefits.

Secondly, competition between higher education institutions – and, increasingly, between national higher education systems – has led to (and been reinforced by) the rise of national and international rankings (Hazelkorn, 2011). Within this context, impact beyond the academy is now coming to be recognized as a further dimension on which excellence can be assessed. Such competition requires claims of impact to be evidenced, in turn affecting the form and focus of the evaluative approach.

To enable ranking to take place, the need is for a measurement system that allows comparability between cases. In its crudest form, this would mean assessing performance against a range of readily measurable metrics. And compounding past tendencies to focus on economic outcomes, among the most straightforward to capture and compare are metrics on economic impacts. Problematically for the inclusion of broader societal impacts in this type of system, meaningful social impact metrics are less easily identified. Attempts to assign economic value to social impacts, meanwhile, have been only partially successful and remain controversial (Kelly and McNicoll, 2011).

¹ Jeff Edmondson is Managing Director of StriveTogether. Initially launched in Cincinnati and Northern Kentucky, StriveTogether is now a US-wide network of community partnerships that seeks collective impact in provision of ‘cradle-to-career’ education support. www.strivetgether.org

2. Distinguishing between individual actions and institutional policy

Evidently, a broad range of activities with direct societal benefit still takes place in universities. Nevertheless, a distinction should be made between individual academics' engagement activities and institutional direction of travel (Boyer, 1996). Where assessment of excellence is directly tied to funding allocations – as in the UK – the power of the system to shape activity is further cemented.

There are also interesting questions still to be answered about persistent distinctions between 'impact' on the one hand, and 'service' or 'engagement' functions on the other. Whereas 'impact' in the sense understood by the UK's Research Excellence Framework refers to beneficial outcomes of research-based knowledge exchange, the connotations of 'service' can extend also to teaching-based and community outreach activities – in what Boyer (1996) has termed an interconnected 'scholarship of engagement'.

In the USA, 'service' has long been a pillar of faculty activity – not least in the land-grant universities, where 'service to community and nation' forms an explicit part of the institutional mission (Kellogg Commission, 2001: 13). Inevitably, such activity occupies a spectrum, and in one particularly nuanced description, Franz (2011) has distinguished between low-engagement, low-scholarship 'service' activities, 'engagement' (high levels of engagement, but low scholarship) and 'engaged scholarship' (high engagement *and* high scholarship). But this blending of scholarship and community engagement is by no means commonplace. Despite an acknowledged place for service activities, even in the USA service/engagement and research impact/knowledge exchange form two largely separate fields of evaluation.

3. Measuring complexity

Might it, though, be possible to develop an evaluation system that incorporates both aspects and, in doing so, encourages an approach to scholarship that answers 'big picture' questions through research at the same time as meeting localized needs?

Heifetz et al. (2004) distinguish between 'technical' and 'adaptive' problems, a distinction that can help us to understand the complex nature of impact assessment. 'Technical' problems are those to which solutions are relatively straightforward, provided that sufficient expertise and resources can be marshalled. By contrast, 'adaptive' problems

are not so well defined, the answers are not known in advance, and many different stakeholders are involved, each with their own perspectives. Adaptive problems require innovation and learning among the interested parties and, even when a solution is discovered, no single entity has the authority to impose it on the others (Heifetz et al., 2004: 25).

Many of the global issues that universities are being asked to help solve – from climate change to an ageing population – surely fall into this second camp.

4. Collective impact

The process of solving these issues has been characterized as ‘a long-term, messy, and unpredictable process of complex problem solving’ (Preskill et al., 2014a: 7). One emerging approach to dealing with the messiness is ‘collective impact’. As an approach, collective impact recognizes that no single organization can solve a complex problem, but moves beyond traditional collaborative arrangements. Instead, organizations make long-term commitments to a common agenda, supported by a centralized support staff, a shared programme of mutually reinforcing activities, and a single assessment system (Kania and Kramer, 2011).

Given our interest in the local and global aspects of university engagement, **the concept of collective impact is particularly interesting. It takes problems that can be universal in reach, and addresses them through partnerships at a local level.** And it proposes an evaluation method that enables continuous learning. While summative evaluation promotes understanding of ‘how and to what extent’ goals have been achieved, formative evaluations enable partners to adapt activities in pursuit of those goals throughout the initiative’s lifespan (Preskill et al., n.d.[b]: 6). This approach is exemplified by Cincinnati’s StriveTogether partnership, which has pioneered collective impact methods.

“The concept of collective impact is particularly interesting. It takes problems that can be universal in reach, and addresses them through partnerships at a local level.

Box 1

Collective impact: performance measurement and evaluation

The collective impact approach distinguishes between **performance measurement**, designed to establish ‘what progress an initiative is making’, and **evaluation**, which aims to understand ‘how and why the initiative is making progress’ (Preskill et al., 2014b: 5).

For evaluation purposes, initiatives are divided into three stages: i) early years (where the focus is on understanding the initiative’s context, and on initiative design and implementation); ii) middle years (understanding what has changed, how and why); iii) later years (using performance measures from the initiative’s full duration to assess the extent to which desired outcomes have been achieved, and the contribution made to these by the initiative).

The goals of each stage being different, each requires different performance measurement and evaluation tools and metrics. What these will be is expected to emerge from three sets of ‘strategic’ questions.

In stage one, questions could focus on understanding the systems that the initiative is intended to change, and the probable impact of contextual factors on the initiative. One likely outcome of this stage would be development of a shared agenda for action. Associated indicators would be designed to relate to the outcomes, and might include evidence that all relevant constituencies have been heard, or that benchmark data have been gathered and used to inform selection of actions.

Sources:

www.fsg.org/publications/guide-evaluating-collective-impact

www.fsg.org/tools-and-resources/guide-evaluating-collective-impact-supplement

5. Approaches to assessment: outcomes- or process-based?

A key feature of the collective impact approach to measurement and evaluation is its focus on process. In the higher education context, this is of particular interest for two reasons.

Firstly, the impacts of academic knowledge exchange, and mechanisms for achieving them, have been shown to be discipline-dependent. Consequently, **'any monitoring and reward system based on outcomes is liable to be complex and unlikely to be comprehensive'** (Upton et al., 2014: 359). Secondly, studies of the innovation process highlight the value of not only the 'precise exchange of information', but also 'open-ended, unpredictable conversation' (Lester and Piore, 2004: 54). An evaluation system focused solely on outcomes will fail to directly register such conversations, and will only indirectly register them where the conversation leads to an identifiable impact.

Given consistency in academics' motivations for pursuing impact and engagement, and to avoid incentivizing the pursuit of reportable, rather than necessarily valuable, outcomes, evaluation focused on the knowledge exchange process would therefore seem desirable (Upton et al., 2014).

Box 2

The UK Research Excellence Framework

Beginning with its 2014 assessment exercise, the UK has incorporated assessment of research impact into its mechanism for evaluating research quality. This evaluation directly affects the size of block grant awarded to universities for future research activity. For each university unit assessed under REF2014, evidence of research impact accounted for 20% of the overall assessment.

The REF takes an outcomes-based approach: units are required to demonstrate the 'distinct and material contribution' made by their research in bringing about 'an effect [...], change or benefit [...] beyond academia', and to provide evidence on the nature and extent of that impact (HEFCE et al., 2011: 16, 26).

In its call for implementation of an impact assessment mechanism in Australia, the 2015 Watt Review of Research Policy and Funding Arrangements places a similar emphasis on outcomes-based performance measures.

Sources: www.ref.ac.uk/
www.education.gov.au/review-research-policy-and-funding-arrangements

6. Process-based models for (self-)assessment of engagement

Several evaluation models have been proposed in recent years that shift attention towards assessment of engagement processes over impact outcomes. These models have more in common with self-evaluation processes in the collective impact mould than with an outcomes-based system like the UK's REF. **Elements of the engagement process are seen as important ends in their own right, and**

as significant indicators of likely impact. Arising from the study of social science disciplines as much as the sciences, they also give greater recognition to the complexity of assessing what Moulaert (2014), referring to processes of social innovation, has termed 'dramatically slow science'.²

“Elements of the engagement process are seen as important ends in their own right, and as significant indicators of likely impact.”

6.1 SIAMPI and ERiC

Two related evaluation tools which have recently emerged from the Netherlands are SIAMPI (Social Impact Assessment Methods for research and funding instruments through the study of Productive Interactions) and ERiC (Evaluating Research in Context).

Key lessons from the research conducted for the two approaches include:

- » Indicators are context-dependent and thus liable to differ between disciplines, and even research groups.
- » **Precise attribution of the origin of an impact is always problematic**, both because research is only one possible cause of social impact and because of the 'multi-faceted, multidisciplinary and multi-national' aspects of research (Spaapen, Van Drooge, et al., 2011a: 4).
- » Social impacts can as readily involve incremental shifts in stakeholder behaviour as significant changes.
- » Whereas indicators vary by context, 'productive interactions' are assumed to be 'a necessary condition for any social impact to occur' (Spaapen, Van Drooge, et al., 2011a: 7).

The focus on 'productive interactions' – interactions between researchers and stakeholders that lead to stakeholder efforts to apply research results (Spaapen and Van Drooge, 2011) – shifts the focus of evaluation from the problematic activity of impact attribution to identification of the types of process understood to generate impact.

Both SIAMPI and ERiC adopt a four-step approach to social impact evaluation (Spaapen et al., n.d.; ERiC, 2010). This combines description – of research results, of dissemination activities, of stakeholder interest in the findings, and of the effects that the research has had – with indicator-based evidence. Relevant indicators are anticipated to focus on the spread of research results, the degree of stakeholder interest in them, and the uses to which they are put. Peer review of the descriptive and indicator-based evidence produces a decision on the degree of societal relevance.

SIAMPI additionally proposes the potential benefits of employing interviews with stakeholders (to identify how stakeholders have sought to apply the research – that is, to demonstrate the 'productive'

² The social innovation approach described by Moulaert (see also Moulaert et al., 2013) would seem to meet the criteria for Ozga and Jones' (2006) 'embedded policy', countering rather than furthering the effects of international competitiveness agendas.

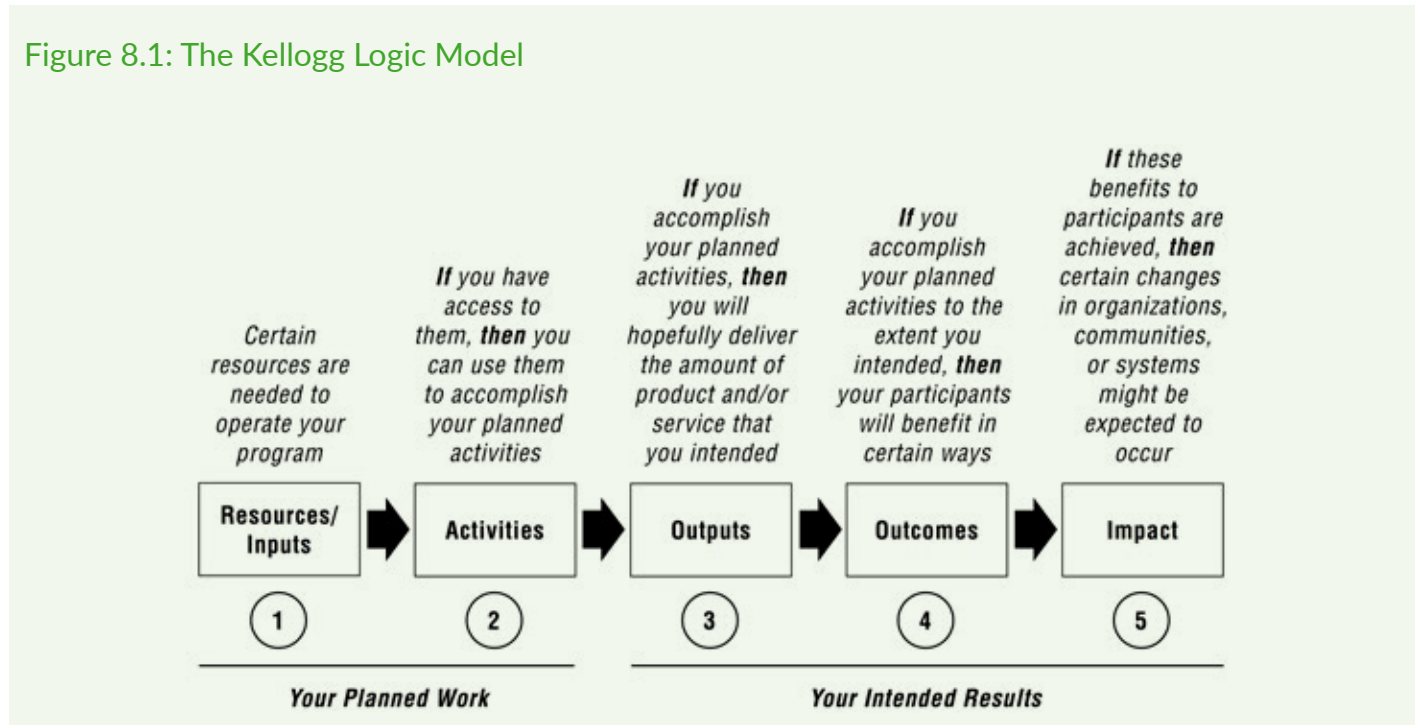
element of the interaction), together with bibliometrics to trace downloads of online publications (as an indicator of interest in research beyond immediate stakeholder communities).

6.2 The W.K. Kellogg Foundation logic model

Similarly focused on the process of engagement, rather than on its beneficial outcomes per se, is the logic model approach to evaluation. Emerging from the need to effectively evaluate community initiatives in which it is involved, the US-based Kellogg Foundation has developed a framework for mapping anticipated and actual progress through five stages of an initiative.

This approach recognizes the importance of firm foundations – from appropriate resources and effective activities, to targeted outputs – to the achievement of desired impacts. It serves both as an evaluative tool *and* as a framework for planning and implementation. As such, it not only assesses achievement of positive impacts, but also helps to increase the likelihood of their achievement.

Figure 8.1: The Kellogg Logic Model



Source: W.K. Kellogg Foundation (2004: 3)

As the related Arts and Humanities Research Council (AHRC) policy engagement framework shows, this process-based logic model approach demonstrates significant potential for application in a higher education context. In the AHRC case, academics are encouraged to think about:

- 1) increasing the **degree** of engagement – reaching a larger audience or increasing the frequency of contact with an existing audience;

- 2) making the **type** of engagement more active – tailoring outputs to specific potential beneficiaries.

The framework explicitly acknowledges that impact on policymakers is effectively impossible to prove, and hence recommends that academics instead be asked to demonstrate that they have engaged with ‘policymakers, practitioners or the public in a systematic and active way’ (AHRC, 2013: 2). By combining evidence from indicators associated with each stage of the logic model, researchers can build a picture of systematic engagement that, all things being equal, might be expected to result in a positive impact. The guidance document referenced in Box 3 provides examples of potential indicators.

An added benefit of **the logic model approach** is that it **provides a structure for planning unanticipated beneficiaries into the ongoing engagement process as and when they emerge**. This has clear advantages where, for example, a locally-designed initiative is found to have more global relevance, or vice versa.

Box 3

The AHRC policy engagement framework

Guidance developed for the UK’s Arts and Humanities Research Council, which draws directly on the Kellogg logic model, is designed to aid academics in the planning and demonstration of engagement with policy communities.

Sources: www.ahrc.ac.uk/documents/guides/guidance-on-planning-and-demonstrating-effective-policy-engagement/

6.3 Scorecard approach

A third evaluation model that draws on a process-based method is the balanced scorecard, which has recently been adapted for use in a higher education context (Healy et al., 2014). While Healy et al.’s work for the European Commission focuses on evaluation of education-based collaborative activity, the model also shows potential for broader application.

The four quadrants of the scorecard align closely with phases one (inputs), two (activities) and four/five (outcomes/impacts) of the logic model. As in the other models, the scorecard is intended to include indicators from across the phases of an initiative, incorporating both ‘lagging’ and ‘leading’ measures – those that emerge as benefits of the initiative (such as financial outcomes) *and* those whose occurrence is understood generally to lead to positive outcomes.

Figure 8.2: The Evaluation Scorecard



Source: Healy et al. (2014: 44)

A key strength of the scorecard's design would seem to be its layout, which emphasizes the direct connection between inputs, activities and benefits. This is of particular benefit in a project's planning and execution phases, since it should serve to focus attention on desired benefits as decisions on appropriate resources and activities are being made.

One principal purpose for development of this approach is to allow funders to conduct ex ante assessment of proposed education-based collaborations between universities and businesses. In post hoc evaluative mode, it is also proposed that the scorecard can serve as a template for identification of appropriate leading and lagging indicators, focusing attention (as in the logic model) on ensuring that each phase of an engagement is evidenced.

The approach brings one further beneficial dimension to the evaluation process: it proposes development of tailored scorecards not only for each collaboration but, as a precursor to this, for individual stakeholders within a collaboration. While the collaboration-specific scorecard is intended to serve all partners throughout the project, the stakeholder-specific scorecards foreground each stakeholder's priorities – and the inputs and activities necessary to achieve them. At the planning stage, this could well help to ensure that complex projects serving multiple goals – globally and locally – are designed to maximum effect.

Box 4

South Moravia's JIC: A high-trust approach to performance measurement

One emergent approach to performance measurement in the Czech Republic's South Moravia region demonstrates an interesting alternative to a metrics-driven mindset.

Despite being in existence since 2003, JIC, the region's innovation agency, has only recently established metrics for assessing universities' contribution to the regional innovation strategy. Definition of suitable indicators has been in partnership with the affected universities.

To allow for disciplinary variations, such as those in publishing norms, there is no formula for what constitutes a relevant indicator. Equally, not anything goes. Measures must be ambitious, rigorous and demonstrable.

Indicators have been developed only as trust between the agency and regional universities, along with understanding of universities' part in the innovation system, has grown. This high-trust local environment allows for significant flexibility and openness to an evolving measurement system.

From an accountability perspective, where relational assets are lacking – as in a nationwide or international assessment context – it is hard to envisage a similarly collaborative approach being adopted. But might it be conceivable if a more developmental approach to assessment were taken? Could a national system emerge as the sum of local, trust-based systems?

Sources: www.businesswales.gov.wales/expertisewales/sites/expertisewales/files/options_for_developing_a_nib_for_wales.pdf

7. Concluding remarks and recommendations

Given the known complexities of attempting to balance local and global engagement agendas, it is clear that *assessing* them in parallel is liable also to be a complex task.

Writing about the position of South African vice chancellors, Soudien (2014: 5) has noted 'ambivalence...about how to deal with the concerns of the external and the internal, the global and the local'. Yet, as he goes on to demonstrate, **it is not tension between global and local goals so much as the outcomes-based focus of evaluative mechanisms** – and the skew that this often engenders towards global goals, at the expense of locally-beneficial activity – **which is proving problematic.**

“It is not tension between global and local goals so much as the outcomes-based focus of evaluative mechanisms.

The issue would therefore seem to be that the purpose of the evaluation, rather than evaluation per se, generates a tension between goals. Under a 'judgemental' evaluative regime, if local and global impact goals align it should be possible to assess both simultaneously. However, as in Soudien's example, where goals do not align the potential exists for pursuit of one to take precedence over the other.

Under such a regime, moreover, objectives of accountability and incentivization appear incompatible within a single evaluation framework. Research indicates that an outcomes-based evaluation – of the type employed by the UK's REF to hold recipients accountable for public funds received – is imperfectly suited to incentivizing broad-based impact and engagement activities. But can more developmental approaches, focused on ongoing evaluation and reliant on trust, be scaled up to operate on a national or international basis? Empirical evidence drawn from beyond the higher education field could usefully be sought to address this question.

Policymakers should also carefully consider how the spectrum of scholarship and engagement activities undertaken within higher education might be treated in a more holistic manner. Distinctions between (local) community engagement and (global) research impact, and between research, teaching and knowledge exchange, do nothing to lessen 'divided faculty loyalties' (Hearn and Holdsworth, 2002) and facilitate societal benefit. Treating pursuit of societal engagement as part of the process of teaching and research, not as an independently measurable outcome, is a more promising route to embedding impact at different scales.

Box 5

UL Practicum – combining research, learning and engagement

The UL Practicum programme has been established by the University of Limerick, Ireland to combine academic expertise, community expertise and accredited student learning in fulfilment of 'collaborative community-oriented projects' (Adshead and Quillinan, 2016, p.15). Still in its infancy, the programme nevertheless points to the viability of a highly integrated approach to research, teaching and engagement.

<http://www.ul.ie/engage/node/53>

If accountability is understood to relate to academics' engagement with external partners in *pursuit* of beneficial impacts – rather than to the impacts themselves, which may be impossible to measure, or may even lie outside an academic's control – then the models presented above hold promise. Nevertheless, these approaches remain, at least in a higher education context, largely untested.

In view of these observations, a set of actions is apparent that would usefully advance our approach to impact assessment:

- » As more countries begin to foreground ‘impact’ in their universities’ mission, there is a pressing need for further empirical research to test developmental and process-based evaluative mechanisms, such as those described here, in the higher education environment.
- » In recognition of this range of possible mechanisms, **as governments implement their own systems for assessing research impact they should look beyond existing outcomes-based models.**
- » Prior to any system-wide rollout, national trials should include developmental, and not only judgemental, forms of assessment.
- » In such circumstances, policymakers and practitioners will need to show openness to new approaches. But given systems’ significant interconnectedness, the potential cost for a national higher education system of instituting unilateral change is high. **Transnational higher education networks should therefore take the lead in generating debate and shaping the agenda on impact assessment.**

“As governments implement their own systems for assessing research impact they should look beyond existing outcomes-based models.

“Transnational higher education networks should take the lead in generating debate and shaping the agenda on impact assessment.

Ultimately, governments must be encouraged to consider whether the competitive drive to evidence impact serves to privilege certain ends of research to the detriment of other, equally important, ones. We must, however, be under no illusion: the logics that drive such competition are those that govern nations’ market economic outlooks. To change them would be no mean achievement.

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8.2. Connecting with Communities vs. Racing for Rankings. Why Community Engagement is a Better Strategy than Seeking Higher Rankings

Andrew Petter

Abstract

University administrators are often feverishly preoccupied with domestic and international university rankings. Yet these ratings serve as poor instruments for the vast majority of universities to distinguish themselves or to build their reputations. Ranking agencies tend to measure attributes and indicators that inevitably favour a few, long-dominant universities; where one stands depends upon the performance of others (and thus beyond an individual university's locus of control); and, except for those in the top few spots, the differentiation is ambiguous at best. This paper offers a brief overview of the issue and argues that, for most institutions, an ambitious campaign of community engagement is likely to produce much greater reputational dividends than the quixotic quest for an advance in the rankings.

Introduction

Rare is the university president who does not feel pressured by the annual round of domestic and international rankings. Wherever one's institution stands on the Times Higher Education, the QS or the Shanghai Jiao Tong Academic Ranking of World Universities, it is tempting to celebrate when that placing improves; and it is almost impossible not to fret when it slips even the tiniest amount. But **for all but the most prominent universities, a singular focus on pursuing a higher ranking may be a misguided effort and a distraction from tasks that could both improve the institution and distinguish it more effectively from its competition.**

This is not a criticism of the lists themselves or a dismissal of their usefulness in assessing certain qualities. In Canada, *Maclean's*, the country's most prominent news magazine, maintains separate national lists for Medical Doctoral universities and for Comprehensive universities – the latter being a category in which Simon Fraser University (SFU) has ranked first for seven of the last eight years. SFU has been unashamed about leveraging that status wherever possible and appropriate. The arm's-length assessment of certain attributes and indicators can also be helpful, sometimes revealing weaknesses that require attention or opportunities for improvement.

But for most universities, most of the time, a preoccupation with rankings can be a diversion from the real goal, which is illuminated in a two-part question:

1. What is the best way to engender and promote true quality in education and research; and
2. What is the best mechanism for differentiating a university's offerings to improve its reputation and increase institutional support?

In the vast majority of cases, international rankings fail on both of these criteria, raising two further questions: Where, specifically, do the rankings fail? And, if the goal is excellence and clear differentiation, what mechanisms might work better?

The problem with rankings

No one has ever criticized a hammer for being a hammer; it is an invaluable tool when that is what you need. But it is useless or destructive if used for the wrong purpose, and university rankings can be the same. **There are three main problems that make international ratings a poor mechanism for assessing, improving or differentiating any but the top few dozen universities in the world. First, the ratings are based on a basket of indicators that privilege the biggest and wealthiest universities and those of the longest standing.** For example, the lists commonly assess research productivity based on the number of peer-reviewed publications, which is entirely legitimate, but extremely difficult to change substantively from year to year, especially when the major players already boast an all but insurmountable advantage. Likewise, the presence of Nobel laureates or other major prize winners; there is little argument that these thought-leaders can act as engines for innovation and creativity and magnets for talent, but it is not practical for institutions out of the top 50 to try to attract and retain a bevy of such intellectual leaders. The dominant universities have resources and momentum, on the basis of which they are almost impossible to dislodge.

“There are three main problems that make international ratings a poor mechanism for assessing, improving or differentiating.

The second problem is one of relativity. In any particular year, a university's standing on the list depends not just on what it achieves, but also on the performance of every other university in its class. That means that many (if not most) of the variables are beyond the control of any one institution in the race. The act of competition can sometimes be inspiring and success in competition can be enormously gratifying, but there is much to lose – and little to gain – by competing blindly, especially when it is impossible to know whether ‘success’ is attributable to high performance in one institution or failure and misfortune in another.

The third ranking weakness becomes more extreme as you go down the list. It is, unquestionably, the sweetest pleasure to be celebrated as number one (and excruciating to be dislodged from that

position, even temporarily). It is fabulous and relevant to be in the top 10, maybe even in the top 50. But what are students, the faculty, the alumni and the would-be donors to conclude when an institution falls, say, from number 223 to number 232? How many more highly talented candidates will rush to a university that has recently moved from number 299 to 291? **As an objective measure of relative strength or of relevance in a local market, these rankings are simply not helpful.**

“As an objective measure of relative strength or of relevance in a local market, these rankings are simply not helpful.

Be the best in the world

Consider, now, a completely different approach, and one that is available to any institution, wherever it sits in the international post-secondary panoply. The goal is not to be judged good or to be found, in any particular year, to be better. The goal is to be great – to identify and promote that at which the institution can be the best in the world.

This is a notion popularized by organizational theorist Jim Collins, initially for businesses in *Good to Great* (Collins, 2001) and subsequently modified and applied to universities and other social sectors organizations in *Good to Great and the Social Sectors* (Collins, 2005). Collins promotes what he calls the Hedgehog Concept, in which he urges university leaders to ask themselves three questions: ‘What you are deeply passionate about?’; ‘What you can be the best in the world at?’; and ‘What best drives your resource engine?’

Excusing Collins’ weakness for the dangling participle, he gets to an essential point: **the way to greatness lies in finding the single differentiator on which an organization can rise above its competitors.**

“The way to greatness lies in finding the single differentiator on which an organization can rise above its competitors.

And, in the advanced education world, that differentiator is less likely to lie in the rankings than in the physical communities, or communities of interest, in which the university has formed extraordinary connections, made exceptional contributions, or demonstrated unique expertise.

Engage, engage, engage

This then is the best argument for engagement – for an institution to reach out courageously and embrace both the resources and challenges of a community that only it can know best. It is not a new notion. Writers and critics have long since dismissed the ivory-tower model, in which academics attempt to hold themselves above the cares and concerns of the outside world. Universities fare best when they understand current issues, when they dedicate their resources to answering societal needs.

This spirit of engagement arises, in part, from a positive desire to serve. The Talloires Network (of which SFU is a member) is an international association of institutions committed to strengthening the civic roles and social responsibilities of higher education. The Talloires vision reads as follows:

We believe that higher education institutions do not exist in isolation from society, nor from the communities in which they are located. The Talloires Network envisions universities around the world as a vibrant and dynamic force in their societies, incorporating civic engagement and community service into their research and teaching mission (Talloires Network, 2016).

But true engagement is not a one-way relationship, in which universities deign to bestow favours on their communities. Engagement is defined by the process of sharing, through which a university gains as much as it contributes. It increases its own relevance and it becomes more successful at reflecting the character of its community. It also becomes more effective at drawing inspiration from civic sources and at responding more quickly to meet direct and pressing challenges.

“True engagement is not a one-way relationship.

“Engagement is defined by the process of sharing, through which a university gains as much as it contributes.

The opportunities are wide open for universities to gain recognition for some aspect of community engagement at which they are the best in the world or best in their country. Or if that is too large a canvas on which to compete, there are plenty of reputational benefits for universities to accrue simply by demonstrating their singular strengths in some aspect of engaging the communities they serve. For example, **if you cannot establish yourself as the best university in the world at supporting community-based Indigenous research, the opportunity remains for you to establish yourself as the best university within your geographic area at doing so. That kind of expertise – that best-in-class quality, cast globally or locally – is always distinctive and often transferable. That way lies excellence.**

There is also a gathering amount of scholarship to attest to the effectiveness of this open, cross-pollinating orientation. For example, a US group has recently completed the second of two surveys of some of the most innovative institutions in that country, attempting to identify the critical components for success. In a new book, *Innovation U 2.0: Re-inventing University Roles in a Knowledge Economy* the authors and researchers, Drs. Louis Tornatzky and Elaine Rideout (2014), conclude with a set of recommendations for success, the very first of which is to engage, albeit in a business context. The terminology they chose was, ‘Encourage an External, Private Sector Orientation,’ but the overall direction is clear:

“It (success) lies in the enthusiastic embracing of one’s own community in the search for educational relevance, research innovation and community engagement that can allow each university to find its métier – that unique quality that distinguishes it as legitimately pre-eminent and worthy of attention in its own community and in the wider world.

Being innovative and inculcating that mindset in faculty, students and staff can be tough sledding, and one needs to be more attuned to the world outside the university. That might mean many things: in entrepreneurship education, focus more energies on real-world simulations and experiential coursework, as well as co-curricular experiences; in developing centres and institutes, make sure that a large fraction of the stakeholders and participants are from the private sector; encourage faculty research that has links to both conceptual questions and problems out in the world, and reward and encourage faculty and students accordingly; conduct more use-inspired research, and support entrepreneurial problem-solving initiatives to address them (Tornatzky and Rideout, 2014: 253).

In other words, and in every way: engage.

The SFU experience

For its part, SFU has taken the goal of engagement as its principal opportunity to differentiate, and has done so comprehensively. The university's strategic vision calls on the institution 'to be the leading engaged university defined by its dynamic integration of innovative education, cutting-edge research and far-reaching community engagement.' The vision sets goals for engaging students through some of the most ambitious experiential education programmes in Canada. It calls on faculty and researchers to engage – to connect directly and for mutual benefit with all of the communities SFU serves, both for inspiration and for the resulting advantages in mobilizing research discoveries and innovations. And perhaps most distinctively, the vision articulates SFU's ambition to engage physically and programmatically.

Physically, the university has built two new campuses in the last 25 years, establishing both in neighbourhoods that were at risk and, in both locations, catalysing community development. The university has also built a model sustainable community adjacent to SFU's original campus – once an isolated, mountain-top retreat very much in the ivory-tower tradition. The new community is now earning international acclaim for its environmental practices and standards.

Programmatically, the strategic vision challenges SFU to 'be British Columbia's public square for enlightenment and dialogue on key public issues, and (to) be known as the institution to which the community looks for education, discussion and solutions.' To this end, the university has developed programmes to encourage and support those across the university to make their expertise – and our unique and valuable spaces – available for public dialogue. And once a year, SFU convenes a week-long summit on an issue of importance to the community. This year, for example, SFU Public Square hosted a series of public seminars, dialogues, workshops and events around the theme 'We The City' – an exploration of issues and ideas focused on the role of citizens in city building.

While pursuing this vision of engagement, SFU has maintained its pre-eminent standing in the *Maclean's* ranking of Canadian comprehensive universities. Yet, as gratifying as this rating success may be, I believe that the university has gained far more reputational benefit domestically, and more notice worldwide, for our mission to be Canada's 'engaged university,' and for the initiatives we have pursued in support of its realization.

Conclusion

There is no question that domestic and international university rankings are interesting and useful. The lists identify exemplars that deserve admiration and, to the extent possible, emulation, and they sometimes reveal weaknesses or opportunities in need of attention. But the rankings hold no special magic. Students can find best-in-the-world educational experiences in many institutions that reside far from the bright lights of the top 10 or 20. And researchers who are inspired, well-networked among their international academic colleagues and well-connected in their immediate community have myriad opportunities to achieve best-in-the-world results, often in the most out-of-the-way places.

Thus if the goal is excellence – greatness on a global scale – the path to success for most universities does not lie in a struggle for incremental improvements in esoteric and opaque rating systems. Rather, it lies in the enthusiastic embracing of one’s own community in the search for educational relevance, research innovation and community engagement that can allow each university to find its métier – that unique quality that distinguishes it as legitimately pre-eminent and worthy of attention in its own community and in the wider world.

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8.3. Quality Assurance in African Higher Education: Resolving the Blurry Lines between Local and Global Relevance

Peter Okebukola

Abstract

The twin goals of this paper are to (a) describe how recent developments in quality assurance are impacting the blend between local and global relevance in the teaching, research and community-engagement functions of African universities; and (b) suggest how, in the coming years, African universities can better offer service to their local and national contexts to solve the myriad of emerging human security challenges in the continent without losing sight of their roles in a globalized world. The discussion is set within two frameworks: the African Union Vision 2063 which seeks “an integrated, prosperous and peaceful Africa, driven by its own citizens and representing a dynamic force in the global arena” and the UN Sustainable Development Goals (SDGs). Case studies of successful practices exemplify the potential of African universities to keep on track with resolving the blurry lines between local and global relevance. The paper explores the potential conflict in addressing both the local demands of society based on the race for global competitiveness and the global demands for achieving the Sustainable Development Goals stated in the 2030 UN Agenda. Seven recommendations are offered for making African universities more socially responsible locally and globally in the march to attain Africa’s Vision 2063 and the SDGs.

Introduction

Everywhere you turn on the African continent, and even in many countries outside the region, the recurring refrain among students, teachers, managers, proprietors and other higher education stakeholders is how well universities are ranked in global league tables. The quality of teaching and research, as well as the choice of a university by potential students, are some of the indicators in the ranking schemes which weigh more on global rather than local performance. For instance, in the research output indicator, which is a common thread running through all major ranking tables, high-impact journals are apt to find publication space for studies which seek to solve global, rather than local, problems. On the measure of public perception made popular by the Times Higher Education (THE) ranking, the slant is towards perception by scholars preponderantly outside the region where the university is located. The views of the locals who have deeper understanding of the status of the university is dimmed in the aggregated data for the perception index. Herein lies the aetiology of the deep-seated craving by African universities to look far afield outside their national contexts to slide the scale of quality more towards the global competitive end than towards being more locally relevant.

The importance of African universities blending local with global relevance is not in doubt. This is increasingly more so as the globalization train gathers momentum. In an interconnected world, **solving Africa's problems relating to climate change, food security, national security, health security and other strands of human security challenges will limp towards failure if not addressed within a global framework.** However, if African universities are the bastion for finding solutions to such problems within the African setting, then the starting point should be the African context, followed by a scale up to global.

Over the last two decades, the mechanism of quality assurance has been deployed in African universities to ensure a fit for purpose of teaching, research and community engagement. There are institutional and national quality assurance structures for achieving this goal. By 2015, not less than a third of universities in sub-Saharan Africa had quality assurance units to stimulate internal quality culture (AAU, 2007; Mohadep, 2012; Materu, 2007; Okebukola and Shabani, 2007; Okebukola, 2012; Okebukola and Fonteyne, 2015). Also at the close of 2015, as reported by Okebukola and Fonteyne in a continent-wide survey, over 90% of countries in Africa had some form of national quality assurance mechanisms, including 27 countries with standalone quality assurance agencies. This has been a stimulus for the African Union to initiate the development of a Pan-African Quality Assurance and Accreditation Framework (PAQAF). The rest of the paper will summarize recent developments in quality assurance and the attainment of a blend between local and global relevance and how African universities can meet the demands of the African Union's Vision 2063 and UN's 2030 SDGs; identify conflicts between local and global demands and how these can be resolved; present case studies of exemplary practices; and recommend how quality assurance can be a tool for ensuring a good blend between local and global relevance especially in the pursuit of national, regional and global goals.

Quality assurance as tool for blurring the lines between local and global

There are at least eight major developments in quality assurance in higher education in Africa whose thrusts impact directly or indirectly on balancing local with global public good responsibilities. These are (a) implementation of the Arusha Convention; (b) introduction of the African Credit Transfer System; (c) articulation of the African Quality Rating Mechanism; (d) creation of regional centres of excellence; (e) the establishment of the African Higher Education and Research Space (AHERS); (f) establishment of the Pan African University; (g) LMD reforms in francophone countries; and (h) the establishment of the Africa Regional Qualification Framework. **These efforts are propelled by two drivers: the need to promote qualitative higher education in Africa and to foster African unity.** Attention will turn to three of these initiatives with direct relevance to the local-global theme.

“These efforts are propelled by two drivers: the need to promote qualitative higher education in Africa and to foster African unity.

The local-global conflict

The mission statements of many African universities set two boundaries: local and global. They aspire to address local challenges, seeking solutions to national socioeconomic problems. They also scale up the trajectory of their research and development to tar-

get global issues. **Straddling these two worlds, the African university is pulled by local forces, including politicians and civil society, to solve emerging national problems** such as food insecurity, illiteracy, disease, unemployment and environmental degradation. **It is pulled in another direction by the same politicians to lead global ranking tables which pitch many of the indicators on global rather than local excellence.** The ranking race demands the presence of the research efforts of African scholars in international journals whose choice of articles mostly targets those which solve global, rather than local, problems. It demands that the colour of universality rather than locality shines through student and staff composition. For instance, the vision of Addis Ababa University (AAU) is “to be ranked among the top ten pre-eminent African graduate and research universities in 2023”. To make this happen, AAU needs to slant its research and development themes towards solving locally-relevant and globally-scoped problems.

To free African universities from this local-global trap, three quality assurance models have emerged in the last ten years. The first, which is increasingly being adopted by the 25 national quality assurance agencies, is to set minimum academic standards to reflect local and global needs. Minimum curriculum standards which must be met or surpassed for accreditation to be conferred on a typical African uni-

“Regardless of discipline, the curricula are not narrowed to local issues but broadened to fortify graduates to offer service as national and global citizens. Also, the minimum standards are increasingly slanted to foster local and international collaboration.

versity has local and global content. **Regardless of discipline, the curricula are not narrowed to local issues but broadened to fortify graduates to offer service as national and global citizens. Also, the minimum standards are increasingly slanted to foster local and international collaboration.**

The second model of quality assurance aimed at blurring the line between local and global is the African Quality Rating Mechanism (AQRM). AQRM was instituted by the African Union to ensure that the performance of African higher education institutions can be compared against a set of criteria that takes into account the unique context and challenges of higher education delivery on the continent (Woldentesae, 2014; 2015). AQRM is also envisioned to facilitate improvement in the quality of delivery in institutions across the continent, and allow for an objective self-assessment of performance.

One of the key purposes of the mechanism is to present an alternative to the existing global ranking/rating systems that do not take into consideration African specificities. It specifically addresses the African Union (AU) priorities (as outlined in the Plan of Action for the Second Decade of Education) regarding the improvement of quality in African Higher Education. The standards on which AQRM is built which have local and global components are:

1. Institutional governance and management
2. Infrastructure

3. Finance
4. Teaching and learning
5. Research, publications and innovations
6. Community/societal engagement
7. Programme planning and management
8. Curriculum development
9. Teaching and learning (in relation to curriculum)
10. Assessment
11. Programme results

The third model of fostering local-global harmony within the diverse African higher education system is the **establishment of a regional quality assurance framework**. The development of a continental Quality Assurance and Accreditation Framework has been underway with the EU financing a study on a Pan-African Quality Assurance and Accreditation Framework (PAQAF) which was finalized after a thorough consultation process and validated at a continental workshop in Accra, Ghana in July 2015. This initiative aims to support institutional cultures of quality, the development of compatible accreditation mechanisms, build capacity among quality assurance and accreditation bodies and establish renewed degree programmes, common teaching and learning methods, credits and assessment tools, and joint agreements between universities. **Inherent in the entire process is the encouragement of African universities to balance local with regional and global elements in curriculum delivery mechanisms.** A consortium has been established to support the development of a harmonized quality assurance and accreditation system at institutional, national, regional and Pan-African continental level.

“Inherent in the entire process is the encouragement of African universities to balance local with regional and global elements in the curriculum delivery mechanisms.

Case studies of exemplary practices

Two case studies are presented to showcase how the African higher education system is balancing the local with the global:

Combating violent extremism in the pursuit of local and global peace: Africa has a sizeable share of global violent extremism and radicalization. From the northern and southern ends and the eastern and western wings, the region is battered by the actions of violent extremists.

Loss of human lives and property, huge dents to the economy and disruption to social harmony and peace are some of the negative impacts. A number of universities are rising stoutly to address the challenge in rather innovative and creative ways with records of positive impact. In West Africa, al

Qaeda-linked insurgents have battered Mali. Boko Haram has unleashed mayhem in the north-eastern corner of Nigeria. In Mali, the University of Bamako has been active in implementing de-radicalization programmes and in salvaging damage to cultural treasures in Timbuktu. The apparent decline in the volume of radicalized persons in Mali can be ascribed, at least in part, to the de-radicalization programmes of the University of Bamako working alongside non-governmental organizations. Restoration and digitization of cultural heritage damaged by insurgents have been potent in preserving such treasures.

In Nigeria, two universities have played significant roles in the fight against the Boko Haram insurgency. Over the last two years, the University of Maiduguri in the epicentre of the insurgency has remained a beacon of peace-building and de-radicalization (Njodi, 2016). Its Faculty of Education and Faculty of Social Sciences have been at the vanguard of countering hate messages flaunted over the airwaves and in religious places. Next is the American University of Nigeria (AUN) based in Yola, tucked into the north-eastern corner of Nigeria, but with its wings crossing the entire country. AUN has emerged as one of the leading universities in Africa with huge strength in community engagement. Its strength in localization is demonstrated by numerous programmes and projects that are aimed at tackling the challenges arising, among others, from the fallout of the insurgency in the North-east of Nigeria. The university is implementing programmes that are touching lives in the surrounding communities, especially in the camps for internally-displaced persons (IDPs). AUN will reach 20,000 vulnerable children in the coming year. Computer science students have written apps for teaching Hausa and Fulfulde to community members who want to learn in their mother tongue. The university also has a programme called Student Empowerment through Language, Literacy and Arithmetic (STELLA) where students teach vulnerable people how to read.

In eastern Africa, the University of Nairobi is adding fillip to the efforts of the Kenyan government to tackle violent extremism through its community outreach programmes on countering hate messages. The university has one of the most penetrating campus safety advocacy programmes, which in turn ricochets to the wider Kenyan community. The result is a university community that intelligently responds to safety threats and whose practice is spreading to the distant reaches of Kenya. Outside Mali, Kenya and Nigeria, university students across Africa, as reported by the All-Africa Students Association (Awaah, 2015), are drawing on the power of social media to counter the propaganda of extremists on such media. Taken together, these efforts add to the global action of degrading extremists and diminishing radicalism.

Promotion of good governance, environmental sustainability, democratic values and financial probity: Universities all over Africa have been the hotbed of positive radicalism for stimulating good governance and global environmental sustainability. This is an important social responsibility with proximal and distal impact on socioeconomic development at the local, national and regional levels. If we took African universities out of the equation of enthronement and sustenance of democracy as well as responsive leadership, the region would still be wallowing in the throes of dictatorship and oppressive governance.

“Promote staff and student exchange across nations and regions with greater vigour.

In southern Africa, the University of Namibia, University of Pretoria and University of Zambia have continued to play visible roles in fostering accountability and good governance. In West Africa, especially in Cameroon, Ghana and Nigeria, under the aegis of staff and student unions, universities have been strident in calling politicians to order especially when democratic ideals are breached and brazen acts of corruption are committed. In Nigeria, the Academic Staff Union of Universities (ASUU) in Nigeria and the National Association of Nigerian Students (NANS) are in the vanguard of such efforts which have translated to noteworthy gains. These local efforts have had regional impact in keeping the flame of democratic governance aglow.

Meeting the demands of the AU's Vision 2063 and the UN's 2030 SDGs

The new vision of the African Union is that “by 2063, African countries will be among the best performers in global quality of life. This is to be attained through inclusive growth, job creation, increasing agricultural production; investments in science, technology, research and innovation; gender equality, youth empowerment and the provision of basic services including health, nutrition, education, shelter, water and sanitation.” Within the framework of this vision, African universities are expected to formulate their new social responsibility thrusts by being part of the attainment of the following goals:

1. A prosperous Africa based on inclusive growth and sustainable development.
2. An integrated continent, politically united and based on the ideals of pan-Africanism and the vision of Africa's Renaissance.
3. An Africa of good governance, democracy, respect for human rights, justice and the rule of law.
4. A peaceful and secure Africa.
5. An Africa with a strong cultural identity, common heritage, values and ethics.
6. An Africa where development is people-driven, unleashing the potential of its women and youth.
7. Africa as a strong, united and influential global player and partner.

What is the outlook for African universities attaining these goals of demonstrating their social relevance at the regional level? What about their role in attaining the Sustainable Development Goals (SDGs) at the national and regional levels? If performance on previous regional and global goals is a measure, the outlook can be summarized as ‘not too encouraging’. A constellation of variables often conspires to inhibit success. Weak research capacity, staffing inadequacies, inefficiencies in management and governance and constraints of facilities and funding are some of these variables (Mohamedbhai, 2012; Okebukola and Fonteyne, 2015). With the economies of many African countries not proceeding on envisaged high growth rates, full attainment of the targets is doubtful, at least for those set for the next five years.

Recommendations

Based on the foregoing situation analysis, the following recommendations are pertinent:

1. The minimum standards to be set by the AU Pan African Quality Assurance and Accreditation Framework should emphasize the balance of local with global in the public good responsibilities of African higher education institutions especially in curriculum content; research themes and collaboration; and curriculum delivery.
2. The Association of African Universities alongside its partners should strengthen its regime of capacity building for managers, teachers and researchers in the African higher education system to ensure that greater attention is paid to the social responsibility roles of the institutions and within these, underline the service to local as well as global referents.
3. National quality assurance agencies and ministries of higher education should **promote staff and student exchange across nations and regions with greater vigour**. This will expand the vista and horizon of teaching and research beyond local demands.
4. Increase support for university-industry linkages.
5. Universities and national/regional funding bodies should **preferentially fund research that targets solutions to global problems within the local context**. Within this research framework, cross-national membership of research teams should be encouraged.
6. The annual International Conference on Quality Assurance in Higher Education in Africa (ICQA-HEA) should include **exhibitions on best practices in blending local with global activities in teaching, research and community engagement**. Prizes should be awarded to top-winning entries.
7. African nations should establish/strengthen **legal frameworks to foster internationalization** in governance, teaching, learning and research in higher education systems in the region.

“Preferentially fund research that targets solutions to global problems within the local context.

Conclusion

This paper has described how recent developments in quality assurance are impacting the blend between local and global relevance in the teaching, research and community-engagement functions of African universities; and suggested how, in the coming years, African universities can better offer service to the local and national contexts to solve the myriad of emerging human security challenges in

the continent without losing sight of their roles in a globalized world. Three quality assurance models which emerged in the last ten years to free African universities from the local-global trap have been discussed. Seven recommendations aimed at closing the gap are offered.

In closing, it needs to be stressed that African higher education institutions have huge potential to deliver on their promise to be locally relevant and respond creatively to the demands of a globalized world. Several hindering factors inhibit the full realization of this potential. Mustering the political will of the heads of state and government of the African Union to pursue Vision 2063 and the SDGs, with funding support from friends of Africa, notably the European Union, and with the commitment of members of the higher education community in the region, the lines between local and global will be increasingly blurred.

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9

Resourcing Change Process, Making a Difference

9.1. The Emerging University Integration of Local and Global Engagement: the Canadian Experience at Home and Abroad

Chad Gaffield

Abstract

How can we enable and facilitate university research that may directly and indirectly help confront the urgent societal challenges of the early twenty-first century? In recent decades, government funding agencies around the world have been focusing on this question in their efforts to embrace a new research paradigm that connects campuses to nearby and distant communities for both intellectual and societal benefit. Their answers thus far have revealed the significant extent to which many well-established research policies and practices on campuses and in funding agencies do not match key features of this new paradigm. Moreover, new global ranking systems have been encouraging institutions to focus on assessment criteria developed for twentieth-century scientific and scholarly traditions rather than the emerging paradigm. Fortunately, impressive steps forward have been taken in recent years to reconcile these competing forces. One example of both recent challenges and steps forward is offered by the initiatives of the Social Sciences and Humanities Research Council of Canada (SSHRC) including those based on co-creation, interdisciplinarity, cross-sectoral partnerships, cross-cultural collaboration and global research networks. Based

on this discussion, the chapter highlights recent successes in order to conclude with six recommendations for higher education policy and practice.

Introduction

How can we enable and facilitate university research that may directly and indirectly help confront the urgent societal challenges of the early twenty-first century? In recent decades, government funding agencies around the world have been focusing on this question in their efforts to embrace a new research paradigm that connects campuses to nearby and distant communities for both intellectual and societal benefit. Their answers thus far have revealed the significant extent to which many well-established research policies and practices on campuses and in funding agencies do not match key features of this new paradigm.

At the same time, the re-imagining of higher education has been paralleled by the increasing use of international university rankings that characteristically use criteria reflecting traditional twenti-

“The increasing recognition of urgent global problems has been paralleled by new rankings that do not adequately capture academic contributions to solving these problems. However inadequate, these rankings have attracted considerable public attention.

eth-century indicators such as learned journal publication rather than updated indicators of engaged scholarship that combine intellectual and societal criteria in outcome and impact measures (Lacroix and Maheu, 2015). In other words, **the increasing recognition of urgent global problems has been paralleled by new rankings that do not adequately capture academic contributions to solving these problems. However inadequate, these rankings have attracted considerable public attention** and have become familiar in the publicity material of institutions seeking to attract students as well as

“They have implicitly fuelled the ambition of universities to be seen as ‘globally competitive’ or ‘world-class’ in ways that do not encourage global problem-solving.

research funding and government support. While the specific criteria used in the various ranking systems vary somewhat and have continued to evolve in response to considerable criticism, **they have implicitly fuelled the ambition of universities to be seen as ‘globally competitive’ or ‘world-class’ in ways that do not encourage global problem-solving.**

In this context, contradictory pressures have pitted campus engagement in the larger society against institutional competition with peers around the world. Rhetorically, of course, research universities emphasize their contributions to making a better future locally and globally while also articulating their ambitions to be ranked as world-class. In fact, however, scholars have found that the rankings’ preoccupation ‘precludes the development of a unique strategy consistent with the particular com-

petencies, geography, history, and traditions of an individual institution.’ In other words, universities have to choose in practice between ‘national relevancy’ to domestic communities and the pursuit of global rankings (Thorp and Goldstein, 2010: 134-5; Douglass, 2016). Since the common choice (despite the rhetoric) of research-intensive universities has been the rankings, research progress in community engagement to help solve urgent global problems by engaging with local communities has been less than required. Although there are certainly impressive exceptions, the university role in making a critical and positive difference in the larger society has characteristically been seen as secondary to, for example, increasing the number of high-prestige research journal publications and citations in order to move up in the rankings.

Fortunately, there are good reasons for optimism about the ability of research universities to reconcile the pursuit of world-class intellectual recognition with community-engaged research on urgent global challenges. The following discussion draws on recent studies of higher education transformation in light of the author’s experience as the president and CEO of the Social Sciences and Humanities Research Council of Canada (SSHRC). With a mandate to support research on human thought and behaviour, this federal funding agency supports well over half of the total funding in Canada for higher-education-based research in the social sciences and humanities. While funding is focused domestically, SSHRC stays in close touch with other national funding agencies and increasingly partners with them to enhance international collaborative research. In pursuing its mandate, SSHRC is clearly focused on promoting ‘excellence’ including the use of standardized criteria both in the merit review and evaluation of results. Since the highly competitive awarding of research support is increasingly seen as a prime indicator of relative quality both within institutions and in global rankings, SSHRC’s policies and operations matter a great deal to both researchers and institutions. At the same time, SSHRC must meet taxpayer expectations that all federal government agencies contribute appropriately to enhancing quality of life. In other words, SSHRC must integrate ambitions of societal relevance and world-class scientific excellence. Moreover, such relevance must be defined holistically to include all aspects of life, locally and globally, in ways that reflect current research on topics such as sustainability, inequality and inclusion. Towards these ambitions and in addition to established programmes, SSHRC has systematically developed in recent years explicit ways to support discipline-based interdisciplinary research that is community-connected where appropriate and that is consistently recognized as globally academically excellent. While this pursuit of integrated local-global ambitions remains a work in progress, the early results are indeed promising both on campus and in the larger society.

The point of departure for the following discussion is a rejection of the rankings-relevancy debate as, in fact, false. Rather, SSHRC has interpreted the new mandate for higher education in terms of the reciprocal value of robust local and global engagement. From this perspective, **new thinking about teaching, research and the larger society sees cross-campus and local connections not only as helping solve urgent global problems but also as leading to global recognition, international mobility and cross-border collaboration and impact.** In other

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words, the path to global ‘excellence’ runs through ‘national relevance’ to local communities that are experiencing global problems. From this perspective, and based on my years at SSHRC (2006-2014) as well as on my own experience as a historian, this chapter highlights both the complex changes now facing universities as well as promising practices of local-global engagement in higher education. After describing the rapidly changing scholarly and societal context for universities, detailed attention is paid to new research concepts and approaches that cross formal and informal boundaries including co-creation, discipline-based interdisciplinarity, cross-sectoral partnerships and global research engagement. Along the way, the chapter discusses recent successes in order to identify six promising recommendations for policy and practice.

The changing scholarly and societal context for higher education

The common emphasis in higher education policy debate and public discussion has been on external forces of financial and technological disruption that are characteristically seen as undermining the ability of universities to pursue either higher global ranking or local and global impact. This discussion often overlooks the deeper conceptual changes that have been slowly but steadily redefining the mandate of colleges and universities, especially in Europe and North America, during the past half-century (Cole, 2009; Kronman, 2007). Beginning with the post-World War II decades, **a new higher education ideal began emerging that directly connected campuses to the larger society while also promoting the intertwining of teaching and research for societal benefit.** One result by the 1980s was the rejection of claims on campus about ‘ivory towers’ especially in North America but increasingly around the world (Gibbons et al, 1994). Until recent decades, the implications of this changed mandate were characteristically debated in terms of expansion but, since the mid-1990s, a convergence of forces has been reshaping the higher education landscape and, as a result, producing controversy about new budget models and digitally-enabled infrastructure (Fallis, 2007).

The new thinking about higher education includes innovative responses to the three enduring questions of campus ambition: how to offer undergraduate and graduate education, how to advance knowledge and understanding of the past and present, and how to help make a better future. These innovative responses characteristically run counter to well-established assumptions within higher education. Not surprisingly, therefore, conferences, reports and research initiatives have consistently highlighted conflicts, contradictions and crises at the tertiary level. Nonetheless, the trajectory of change seems clear at least partly as a result of evidence that the results can be positive intellectually and societally.

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To begin with, the most surprising development since the 1970s has been the redefinition of teaching as learning-through-research and experiential learning. The research findings that demonstrated the limited impact on student learning of one-way transmission-of-knowledge instruction help explain

increased training for professors as well as new approaches to helping students acquire enduring competencies. Prospective and active professors are now expected to attend workshops and formal courses in order to build teaching dossiers that demonstrate how their planned courses help students achieve clearly stated learning objectives through active engagement.

As a complement to the new pedagogical approaches, the redefinition of teaching has underpinned diverse curricular reforms including co-op placements, in-service learning, and undergraduate research initiatives. In such examples, the discovery and construction of knowledge approach combines, in a dialectical way, a back-and-forth, active and passive engagement by students. This integrated approach has been helping reorient the campus to the larger society beginning with nearby communities and extending to global engagement. **While higher education has never really been an ivory tower, there is no doubt that new thinking about teaching has been strengthening campus-communities connections.**

In similar ways, efforts to advance knowledge and build understanding are also being transformed. Rather than imagining that we will advance research primarily through specialization within specific academic units, we are now moving to a deeper appreciation of the need to contextualize and connect research questions to those posed in other disciplines, institutions and societal contexts. The emerging consensus is that research initiatives call for both specialization (the discipline of the discipline) and contextualization (discipline-based interdisciplinarity). One indication of this deep change is the extent to which scholars no longer see their research as exclusively disciplinary; a 2008 comprehensive survey of full-time professors in the social sciences and humanities in Canada found that almost all (95%) described their work as ‘somewhat interdisciplinary’, ‘quite interdisciplinary’ or ‘extremely interdisciplinary’ with only 5% choosing ‘exclusively disciplinary’. This pattern has become quite similar across all fields of the social sciences and humanities, and appears to be consistent with changing perspectives elsewhere on campus.

The increasing discipline-based interdisciplinarity has been complementing unprecedented efforts to connect campuses and communities within major research initiatives. Inspired by early initiatives such as the ‘Science Shops’ launched in the Netherlands, SSHRC began promoting community-based research in the later 1990s. The most important initiative was the Community-University Research Alliance (CURA) programme to support research through ‘a process of ongoing collaboration and mutual learning’ involving campus-based researchers and those in the larger society. This approach rejected the established approach of ‘knowledge transfer’ from academically credentialed ‘experts’ to receiving ‘users’ in favour of ‘knowledge mobilization’ based on insight and understanding across the private, public and non-profit sectors (Hall et al., 2011).

“The increasing discipline-based interdisciplinarity has been complementing unprecedented efforts to connect campuses and communities within major research initiatives.

The conceptual obstacle in implementing this approach is, as John Sutton Lutz and Barbara Neis have emphasized, that “We do not know how to effectively move knowledge in a way that interconnects communities, governments, business, universities and individuals” (Lutz and Neis, 2008). Their own

work has exposed “the challenges of connecting the ‘ways of knowing’ practices in the academy with the different knowledge bases that exist in communities in the form of lay or vernacular knowledge and traditional ecological knowledge in different ethnic, religious and socioeconomic groups.” The most promising approach has been the concept of co-creation. In teaching, this concept assumes that students as well as professors not only acquire but also ‘create’ knowledge in courses. Such co-creation does not see students and professors as undifferentiated partners but rather as distinct participants contributing their own experiences and perspectives that enable engagement with, rather than imbibing of, established perspectives and evidence.

This approach resonates with modern athletic coaching that recognizes the importance of benefitting from individual characteristics and interpretations of received wisdom; rather than insisting on specific sport techniques, high performance coaches now adapt principles to the specificities of individual competitors. In this spirit, professors seek to accommodate different learning styles, interests and motivations within syllabi and instructional materials. Similarly, researchers have been increasingly looking across campus for inspiration from those in research traditions with different concepts and methods. **Indeed, the proliferation of new ‘hybrid’ academic programmes and research initiatives ranging from digital humanities to biotechnology and neuroscience reflects the new consensus that learning and advancing knowledge depend on both disciplinarity and interdisciplinarity as captured by the expression ‘discipline-based interdisciplinarity’.**

Perhaps the most surprising articulation of co-creation has been the redefinition of expertise in terms of multiple kinds of knowledge beyond formal educational structures. This approach flies in the face of the long-established academic programme hierarchy in which students are expected to master current knowledge before attempting their own original contributions. This hierarchy has been a casualty of research that has demonstrated the extent to which new insights and approaches depend far less on the study of established interpretations and accepted evidence than on ‘outside’ influences including both new perspectives and research approaches. **Indeed, the evidence suggests that years and years of thinking and working within dominant frameworks may prepare for incremental more than transformative research contributions.** This revised understanding of teaching and research has further fuelled the emergence and continued growth of collaborations between campus-based researchers and community-based partners including those in the non-profit, private and public sectors.

Recommendations based on the example of the Social Sciences and Humanities Research Council of Canada

The experience of SSHRC since the 1990s suggests a series of recommended promising practices that deserve consideration across the global academic community. The key point of departure for SSHRC’s new initiatives was the conviction that research collaborations should characteristically begin with the collective formulation of research questions, implementation of research activities, and sharing of research results. The first major step was the development of the new Community University Research Alliance (CURA) funding opportunity, which called for the integration of diverse ways of knowing based on previous academic research, practical experience and concerted engagement. While estab-

lished in 1998 in the face of notable opposition to the claim that academics could collaborate with and learn from non-credentialed practitioners and community-based researchers, CURA proved within a decade to be highly successful both in generating new insights, developing talented and engaged students, and informing new policies and practices in the larger society (Flicker et al., 2008).

Recommendation 1: that formal and informal support be given to enable community-university research collaborations based on the collective formulation of research questions, implementation of research activities, and sharing of research results.

The next paradigm-shifting step in the reimagining of how to advance knowledge and build understanding was SSHRC's approval as a pilot project of the Research Creation funding opportunity in 2003. This initiative abandoned the long-established requirement that evidence-based insights be based on conventional data collection and shared in 'world-class' journals and books. Rather, SSHRC recognized the potential to learn about the past and present through artistic expression including fields such as 'architecture, design, creative writing, visual arts (e.g. painting, drawing, sculpture, ceramics, textiles), performing arts (e.g. dance, music, theatre), film, video, performance art, interdisciplinary arts, media and electronic arts, and new artistic practices.' The subsequent formal evaluation of this pilot project reported impressive and multiple results ranging from 'new understandings, research directions, and theoretical frameworks' to substantial student training and new approaches to teaching and unprecedented 'partnerships both within and outside Canada – particularly with artist-researchers from their specific discipline and professional artists practicing outside of academic institutions' (SSHRC, 2007).

Recommendation 2: that formal and informal support be given to research creation as an additional way to gain insight into the human condition both historically and in contemporary societies.

The embracing of different ways of knowing at SSHRC then extended to non-western epistemologies in the launch of the Aboriginal Research pilot programme in 2004. Developed with the full participation of Aboriginal elders, this funding opportunity fully recognized traditional indigenous knowledge by emphasizing 'the importance of Aboriginal perspectives and knowledge systems to increase and expand our knowledge and understanding about human thought and behaviour in the past and present, as well as the future.' In keeping with the commitment to co-creation, SSHRC redefined what had been characteristically seen as 'research on and for' to 'research by and with Aboriginal peoples'. As a precursor to such work, SSHRC required that all participants learn about and respect the distinct ethical dimensions of 'by-and-with' collaborations including the 'protocols that guide and govern how, why and by whom research is conducted and knowledge is accessed and shared.'

Recommendation 3: that formal and informal support be given to including all ways of knowing in research activities as illustrated by the move in western societies from research 'on and for' to 'by and with' indigenous peoples.

The paradigm-shifting new approaches to developing talent, advancing knowledge and connecting to the larger society not only supported the redefining of relationships across campus and between institutions and host communities, but also inspired new efforts to collaborate internationally. While higher education has long been active across geopolitical boundaries especially through 'invisible col-

leges' and specific institutional agreements, the increased cross-campus and community-engaged activities often conflicted with established policies and practices including financial support. In the case of SSHRC, for example, research grants were primarily designed for those at Canadian post-secondary institutions. While exceptions were made for Canadian graduate student applications to universities outside Canada, SSHRC respected the international standard in which national research granting agencies focused on domestic support. The new thinking about the value for students as well as for researchers of engagement beyond the campus encouraged efforts to make this possible not only locally but also globally. In other words, just as the horizons of universities began embracing surrounding communities and regions, they also began stretching around the world following similar new thinking about education, research and societal role.

The pressure to find new ways to support international engagement in higher education increased significantly during the turn of the twentieth into the twenty-first century with growing recognition of urgent societal challenges that transcend national boundaries. During these years, specific countries as well as international associations developed priority lists of global challenges that often overlapped substantially on topics such as climate change and inequality. By 2005, SSHRC had adopted an international policy and strategy emphasizing that international collaboration in research was becoming increasingly important in pursuing three objectives: to access the global pool of knowledge, to develop comparative perspectives on key social, cultural and economic issues, and to bring together knowledge and resources to address complex global issues (SSHRC, 2005).

SSHRC articulated the impact of globalization on the lives of diverse people and communities in terms of 'changing patterns of employment and demands for skills in a knowledge-based economy, poverty and homelessness, an increasingly diverse social fabric, transformations in family life, changing values, young people entering the workforce, new constraints on organizations and public services, both urbanization and depopulation of rural areas, and new rules of business competitiveness.'¹ This perspective explains why SSHRC encouraged institutions to interrelate connections with local communities with their global engagement. In reflecting on how best to support research on global challenges in 2008, SSHRC built on the view that local and global are intertwined; specifically, SSHRC explained that 'many of these challenges are best addressed at the local and regional levels by the local and regional groups that best understand the needs of, and the factors affecting, particular communities.' For this reason, SSHRC promoted international research collaboration built upon campus-community engagement.

Towards this end, a new partnership was created between SSHRC and the International Development Research Centre (IDRC), a Canadian federal granting agency established to fund 'research in developing countries to create lasting change on a large scale.'² This partnership combined SSHRC's domestically-focused purview with IDRC's international mandate to provide dual support for research collaborations involving those in Canada with those in developing countries. Entitled i-CURA, the new funding opportunity reflected SSHRC's success with CURAs in promoting research co-creation in top quality projects that held the potential to make a positive difference in relevant contexts. In this way, i-CURAs illustrated at the international level how new thinking reconciled pressure to support 'world-class' research and to meet societal expectations for enhanced quality of life through new knowledge and understanding. This initiative reflected increasing international attention to the priority of insti-

tutional responses to urgent global issues such as Holden Thorp and Buck Goldstein's observation in 2010 that "...for research universities to achieve their full potential, they must attack the world's biggest problems, and this notion is increasingly being embraced throughout academe" (Thorp and Goldstein, 2010; Wildavsky, 2010; Trilokekar et al., 2009).

Recommendation 4: that formal and informal support be given to enable and facilitate international research collaboration by removing administrative obstacles, especially those linked to geopolitical boundaries for financial support.

Quite unexpectedly, the development of digital technologies especially by the 1990s began enabling, accelerating and then influencing in iterative ways the new thinking on campuses about teaching, research and relationships with the larger society. The combined impact of new thinking and new technologies has not yet become as 'disruptive' as some have predicted, but there is no doubt that, while debate continues, the trajectory of substantial academic change is moving upward rapidly. To begin with, the new media have increasingly connected formally and informally students, professors, research partners and those in the larger society. Such connections facilitate the reimagining of curricula as multifaceted not only within, but also beyond classrooms and campuses. Moreover, the increasing digital access to content expands exponentially the possibilities for students to learn-through-research and to pursue societal engagement, thereby helping them develop enduring competencies as well as to acquire knowledge and experience. While some observers emphasize unwanted 'digital disruption' in education, the proliferation of innovative digitally-enabled undergraduate and graduate programmes demonstrates the significant extent to which academics now recognize that new technologies facilitate beyond all expectations the implementation of new approaches to learning that often complement familiar in-person approaches.

In the same way, digital technologies have increasingly been enabling the cross-campus and campus-community relationships that underpin the changed research paradigm of discipline-based interdisciplinarity and engaged scholarship. One of the most surprising developments has been the emergence of fields like Digital Humanities that reflect cross-campus collaboration as well as cross-sectoral partnerships. SSHRC played a leading role in nurturing this nascent field by creating the Image, Text, Sound and Technology (ITST) funding opportunity, following consultations at the start of the new century. This initiative was based on the perception that "To examine and interpret individuals and their cultures, researchers currently use three fundamental kinds of digital information: images, text and sound. These digital forms of information are, however, very sensitive to changes in the technologies through which they are created, analyzed, published and preserved. In recent decades, innovative technologies have transformed the very definition of text and its relationship to image and sound. To benefit fully from these new technologies, researchers must not only be aware of technological developments, but also be directly involved in them".³

In this way, SSHRC defined scholars in the social sciences and humanities scholars as 'co-creators' of digital technologies rather than simply users. The funding opportunity gave many examples of the possibilities for research: electronic editing and publishing; web programming; immersive and virtual environments in multimedia research; textual analysis; 3D imaging technology; creativity, culture and computing; digital image design; information aesthetics; and computer gaming.

The example of Digital Humanities illustrates some of the multiple ways that digital technologies have been reflecting and influencing all aspects of higher education especially in supporting 'horizontal' linkages and 'de-centred' professors and campuses. The results thus far have contributed to the blurring of well-established categories; indeed, 'research data' are now also 'learning data' as well as 'innovation data'. The implications are profound for institutional structures based on clear divisions between academic activities. Moreover, the new and rapidly changing technologies are fuelling globalization including international collaboration. While physical presence continues to be significant, the ability to establish and manage close virtual connections calls for innovative approaches to institutional structures and policies.

In this context, SSHRC began focusing on ways for national granting agencies to transcend their domestic mandates by developing straightforward mechanisms for international research collaboration. During 2008, SSHRC built on the domestic success of ITST by partnering with their counterparts in the United States and the United Kingdom to create an ingenious way to efficiently support international research collaboration. Launched the following year, the Digging into Data Challenge asked applicants to develop responses to the unprecedented availability for research of millions of books, millions of newspaper pages, millions of photographs of artwork, and other massive repositories of digitized data that simply could not be read conventionally in many lifetimes. The key logistical feature of this funding opportunity was the agreement by different national granting agencies to respect the decisions of a single application and adjudication process by funding their 'own' members of the winning research teams. In this way, the various agencies (initially from the USA and UK as well as Canada) were able to combine their national mandates with recognition of the increasing internationalization of research in the Digital Age. The quality and originality of these teams attracted worldwide media attention and inspired concerted efforts to combine domestic and international support for research collaborations that crossed jurisdictional boundaries.⁴

The one-process approach of the Digging into Data Challenge proved so successful that by 2013 it had inspired the start of construction on a global platform for the funding of research. Led by SSHRC, a consortium of national funding agencies involving ten partners from Europe and eight from the Americas built the TransAtlantic Platform with support from the European Union's Framework Programme for Research and Technological Development. The longer-term ambition is to extend the platform around the world to enable seamless global research teams. Moreover, while currently composed mostly of national funding agencies that focus on the social sciences and humanities, the logic of the new research paradigm calls for full inclusion of all the ways of knowing including those based in the larger society. One encouraging example is the Canadian participation in the first TransAtlantic Platform call for proposals that is supported not only by SSHRC but also by the Natural Sciences and Engineering Research Council and the Canada Foundation for Innovation as well as provincial partners.

Recommendation 5: that formal and informal support be given to embracing the challenge and opportunities of digital technologies through increased research on their intended and unintended roles in both increasing and undermining universities' ability to help solve urgent global problems.

A decade of specific steps forward to embrace local-global engagement – whether viewed in terms of borders on campus, across the larger society or internationally – led SSHRC to a comprehensive

renewal of its overall programme architecture. The result was a reduction from over 30 separately administered programmes to three programmes with a small number of distinct funding opportunities. Given the increasing diversity of research initiatives, the ambition was to welcome both anticipated and unexpected applications to an inclusive adjudication process based on appropriate merit review. Successful experimental initiatives such as the Community University Research Alliance, Research Creation, Aboriginal Research, and the Digging into Data Challenge were fully integrated into the new flagship SSHRC programmes of Talent (support for graduate student research), Insight (support for individual or team research) and Connection (support for knowledge sharing initiatives). Throughout this new programme architecture, special measures were taken in keeping with the changing paradigm of scholarship. For example, various programming events (such as merit review) continued to include elders and other experts in the larger society when appropriate to the application. In addition, SSHRC offered applicants the chance to pursue these programmes in partnerships both on campus and with the larger society. In this way, the new programme architecture supports both well-established and new, disciplinary and interdisciplinary, campus-based and cross-sectoral, as well as highly probable and high-risk forms of research, talent development, partnerships and knowledge mobilization. In other words, the new architecture makes any research approach or combination of approaches eligible for support.

Moreover, the new SSHRC programme architecture requires all applicants to develop a knowledge mobilization plan appropriate to their particular project. The guidelines explain that:

When identifying appropriate research users, applicants should do so in light of the project's theme, research questions, overall goals and expected results. Researchers should address the following questions – even in cases where the audience is strictly academic:

Who stands to benefit from this research?

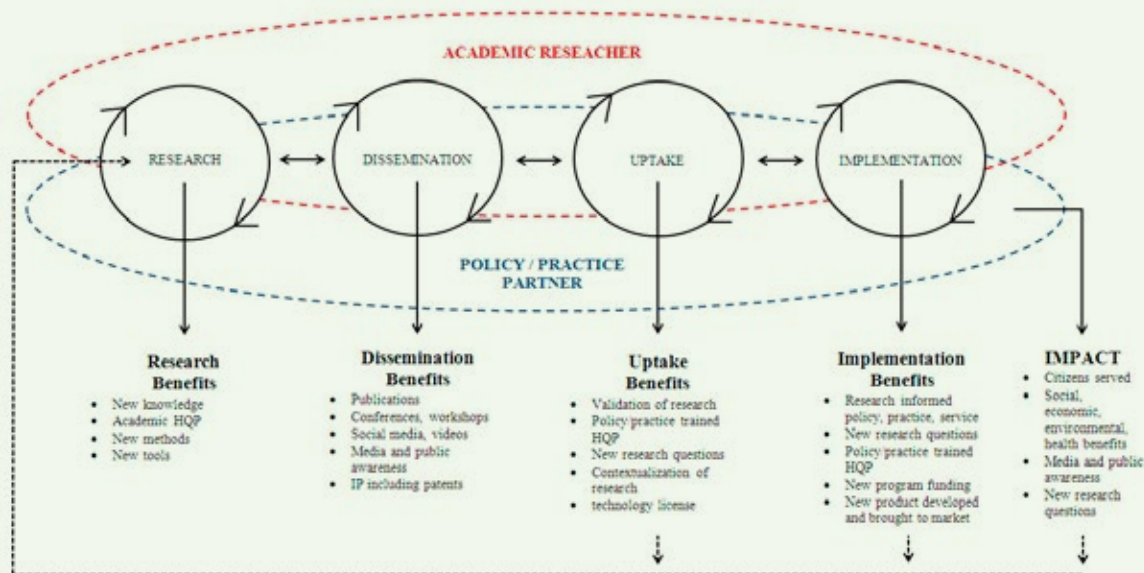
Which audiences will be involved, and how?

How will the audiences benefit from being involved?

What is the best way to communicate with these audiences?⁵

Similarly, SSHRC instituted mandatory reporting requirements that ask researchers to specify after the grant's completion how their research not only led to 'outputs' (scholarly journal articles and books) but also 'outcomes' (consequences of new insights such as revised curriculum, museum exhibits or public policy) and 'impact' (changed thinking and behaviours on campus and beyond). This requirement followed concerted study of various reporting approaches across research fields as well as the launch of initiatives to develop more robust and appropriate indicators for the social sciences and humanities (see also Phipps et al, 2016).⁶ One important message has been to stop measuring how much research money is awarded and to focus on how academic programmes and research activity are enhancing understanding of the past and present and, where appropriate, helping make a better future. As a result, researchers began developing new models to describe knowledge mobilization such as Figure 1.

Figure 1: The Co-Produced Pathway to Impact



Source: Phipps, D.J., Cummings, J. Pepler, D., Craig, W. and Cardinal, S. (2016) The Co-Produced Pathway to Impact describes Knowledge Mobilization Processes. *J. Community Engagement and Scholarship*, 9(1): 31-40.

Recommendation 6: that the criteria for measuring academic excellence embrace twenty-first century concepts of intellectual and societal outcomes and impact within a robust definition of knowledge mobilization across campus and beyond.

Conclusion

Taken together, the concerted efforts in Canada since the 1990s to update policies and practices indicate that integrated local-global engagement holds considerable promise for the transformation of higher education in the early twenty-first century. The Canadian experience emphasizes the value of experimentation and pilot projects along with ongoing work to revise guidelines, eligibility criteria, adjudication processes and reporting requirements. Indeed, SSHRC's evaluations of its own programmes consistently find both encouraging early indications and the need for more revision in the spirit of continuous improvement. In this context, there is no doubt that controversy about higher education will continue for many years as the university model developed during the nineteenth and twentieth centuries gives way to the engaged scholarship that is taking shape on campuses today. **If we judge by the SSHRC experience in cultivating collaborative, campus-wide interdisciplinary, and cross-sectoral initiatives, the first step towards successful implementation is to recognize the combined importance of both mindset and guidelines.**

The desirable future will not follow a contest to determine superiority among cultures and societies in a zero-sum game; rather the new approach to integrated local-global engagement holds the promise

of a win-win effort to enhance higher education as well as quality of life in near and far sustainable, resilient and just communities by drawing on talented citizens with the most compelling insights, evidence, and experience. Clearly, much more work is needed especially in terms of undergraduate and graduate programming to ensure that students acquire the full array of competencies now associated with local-global engagement, particularly the complexity of collaborating across intellectual, institutional and cultural boundaries. But the promising practices that inform the six recommendations resulting from the SSHRC experience do deserve consideration as the results of new initiatives since the 1990s demonstrate the value of integrated local-global engagement in higher education.

Perhaps the most noteworthy trend during the past decade at SSHRC has been the increasing diversity of research applications in keeping with the changing perspectives on the enduring ambitions of higher education. Applicants have been taking advantage of SSHRC's inclusive funding approach and have been embracing the new perspectives on teaching, research and connections with the larger society with a view towards advancing knowledge and understanding about urgent global problems. This trend emphasizes the importance of recognizing that successful institutional change is always based on enduring values and ambitions. As the former president of the University of British Columbia, Stephen Toope, recently argued "While changing dramatically in many ways, universities must hold fast to the mission that has shaped their contributions since medieval times. In a world where 'disruption' is the over-hyped mantra, that is a truly radical idea." In stressing the urgent need for institutional change, Toope emphasized that "universities do not need to become something entirely new, or to find something new to do. They need to do what they have done for generations, but differently and in ways better suited to new relationships in a new social and economic landscape" (Toope, 2012, 2014). The Canadian experience suggests that all components of the higher education landscape including national granting agencies have a role to play in enabling this transformation that is, after all, in keeping with the success of universities in their periodic re-imaginings since medieval times (Neilson and Gaffield, 1986).

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Endnotes

- 1 This rationale was emphasized as the basis for the launch of iCURAs in 2008 ; see http://www.sshrc-crsh.gc.ca/funding-financement/programmes-programmes/cura_idrc-aruc_crdi-eng.aspx
- 2 For an overview of IDRC's mandate, see <https://www.idrc.ca/en/what-we-do>
- 4 TransAtlantic Platform Digging into Data Challenge for 2016 <http://diggingintodata.org>.
- 5 SSHRC, Guidelines for Effective Knowledge Mobilisation, http://www.sshrc-crsh.gc.ca/funding-financement/policies-politiques/knowledge_mobilisation-mobilisation_des_connaissances-eng.aspx; also see, Writing your knowledge mobilization plan for SSHRC Insight Grants: Components, recommendations and resources, <https://www.uvic.ca/research/assets/docs/ORS%20Writing%20KM%20Plans%20for%20SSHRC%20Grants%20.pdf>
- 6 Brian Wixted and Catherine Beaudry, "Capturing the Impacts of Research: A discussion paper on the implications of the SSSHRC 'Capturing Impacts' initiative," http://www.sshrc-crsh.gc.ca/about-au_sujet/publications/Compendium_e.pdf.

How is the University of Eastern Finland (UEF) Developing a Strategy for Mobilizing Resources for Local Engagement?



Jouni Kekäle

When it comes to local engagement, the aim at UEF has been to identify the common strengths through which different key stakeholders and actors can learn from each other and share the resulting mutual benefits. The university aims to achieve high standards of quality and to occupy the position of a respected participant in the world of international research cooperation. Our current standing in the international rankings positions us among the top 300 universities in the world. We also make our research competence available to local engagement projects.

The strategy of the University of Eastern Finland for 2015–2020 has been developed in collaboration with the staff, students and stakeholder groups. The importance of working together has been emphasized at different stages of the strategy's implementation.

According to our strategy 'Interdisciplinary Solutions – Strategy of the University of Eastern Finland for 2015–2020' (see www.uef.fi), the university aims to promote the emergence of innovation clusters and business activities – especially in the region of eastern Finland. However, the strategic topics are also globally important. This is to be achieved by encouraging the transfer of the university's research findings to support knowledge-based growth and decision-making in society. In addition, we support the university's educational mission and the ac-

tive participation of the academic community in the development of civic society.

We feel that what is, perhaps, exceptional in our case is that while the UEF aims at meeting a number of global challenges (such as ageing, climate change, forests and global change, and the bio economy), at the same time, at the local level, the cities in which our campuses are located share the same priorities in their strategies. We have therefore established joint arenas and platforms with these cities for the development of such joint areas of concern.

Our key partners are the cities in which our main campuses are located, state research institutes, Kuopio University Hospital, the health sector, universities of applied sciences, and industry and business organizations. The cities where the university's main campuses are sited (Kuopio and Joensuu) have their own growth strategies, which are implemented in tandem with UEF.

In Kuopio, the city's growth strategy focuses on the health and environmental sectors, leaning heavily on the university's strengths in medicine and natural sciences. Savonia University of Applied Sciences, many sectoral research institutes, Kuopio University Hospital and more than 200 enterprises are located around the Kuopio Campus. The target, set jointly with the city of Kuopio, is to construct a new type of learning, innovation and workplace zone in the area sur-

rounding the campus in Savilahti by 2030. The UEF has developed better treatments for Alzheimer's disease and type II diabetes.

In Joensuu, the main topics for local cooperation and growth are forestry and the bio economy, digitalization in learning and education, and learning environments. The city of Joensuu shares the prioritization of these areas with the university, and defines forestry and the bio economy in particular as recognized strengths of the city. As an example of work in this area, the UEF has contributed to developing cleaner forms of bio energy production. The university, the European Forest Institute, the Natural Resources Institute Finland, the Finnish Environment Institute, and enterprises in the area (for example, Ponsse) have worked cooperatively together to carry out research and development in this field. UEF sees the bio economy as a broad way of thinking which includes sustainability and social factors within its economic priorities.

The following features are common to all local engagement. The university's degree and adult education programmes respond to the needs for expertise in eastern Finland in particular. In the campus cities, the university supports lifelong learning: we offer modern and efficient adult education through the Open University and continuing education, drawing on our strengths in research and education. The Open University also serves as a gateway to degree studies. In addition, we encourage the university's alumni to actively engage in cooperative educational and research programmes. Expertise-driven entrepreneurship and extensive innovation activities are supported. The paths for utilizing research findings are made clear. Both cities have a large science park which also acts as an incubator for spin-off research, while funding for strategic research which supports societal decision-making is made available. Furthermore, the university's profile in society is increased through participation in scientific debate and in scientific events aimed at the general public.

Special Contribution

Towards a Socially Responsible University

Vincent Lomotey

Introduction

This contribution is an edited version of an original paper submitted at the GUNi Editorial Team Academic Seminar held in Barcelona from 23-24 May 2016 on the theme 'Towards a socially responsible university: balancing the global with the local'. The main ideas and contributions were extremely useful and informative. The discussions emphasized the role of the university and, by implication, the social responsibilities of higher education in a changing global terrain. In the face of shifting global trends, the current paradigm of the university system which has engaged the minds of many scholars needs deeper reflections that make for a more socially responsible university.

Many authors have discussed issues arising from the academic revolutions that have taken place over the centuries. Prominent among these are the transition from teaching to research universities and from research universities to entrepreneurial universities advocated by Henry Etzkowitz et al. (2000).

Universities have been classified into three categories, namely, teaching universities, research universities and technical or professional universities. This is with the view to defining their roles and thus fulfilling their mandates. The third mandate of the university, i.e. economic and social development, has great potential to make the university more socially responsible, provided there is a good blend of this with its traditional role of teaching and research. In pursuance of a broader economic transformation, universities are increasingly becoming economic and social institutions. This transformational pathway has led to many universities running like businesses. Universities are assuming an entrepreneurial nature and many are becoming hubs for innovation and 'knowledge factories' with a potential for income generation. Managing and maintaining a balance between teaching, research and service to community would eventually pose a challenge due to the shift towards marketable research.

While seeking to fulfil their national mandates, universities are also mindful of the global challenge and demands. There is clearly the need to define upfront what the university exists for and what its priorities are, both locally and globally. We examine briefly and in general how higher education can address the local and global demands of society, its challenges and possible ways to remain socially relevant.

Socially responsible university

The most prominent questions asked during discussions on the social responsibility of universities are about what universities stand for and whether or not they have been relevant and responsive enough to societal needs. In the context of this discussion we also pose the question 'what is social respon-

sibility and how is higher education addressing this issue both locally and globally?’ These questions are in respect of each of the three missions of the university: teaching, research and service. Ideas floated include making teaching more relevant and experiential, and engaging in responsible research and innovation.

Over time there has been increased pressure from governments, funders and society for universities to play more meaningful roles. The relevance of the university in addressing societal needs has become an issue of public concern leading to a series of adjustments by universities in an effort to address the economic and developmental needs of society.

A socially responsible higher education system must make significant contributions to national development. How much higher education contributes to national development will depend on the extent to which it addresses issues of social concern. The role of knowledge for sustained social development has been emphasized strongly by many authors. Cloete and colleagues summarized the historical and indigenous roles of the developmental university as follows (Cloete et al., 2015):

- » Universities as ideological apparatus which provide values and ‘social legitimation’ arguing that universities were modelled after the European tradition of church-based theology schools. Apart from this there were also non-church based universities that also concentrated on the production of social and ethical values.
- » Universities were set up for the selection of the dominant elite who sought to establish codes of ethics between them in order to distinguish them from the rest of society.
- » Universities existed to provide manpower by training the labour force of society.
- » Universities existed at the time to provide scientific knowledge.

Apart from these roles, universities seek to achieve their developmental role through the transformation of society and production of new knowledge. They are said to play a political role through large-scale training of people as well as engaging in knowledge production for economic influence (Castells, 1994).

Essentially, the general role of knowledge is for sustained progress. In order to sustain any progress within a community there is the need to integrate the underlying principles into the culture of the people or users of knowledge. Apart from their contribution to economic growth, universities bring about cultural renewal and cultural innovation (Castells, 1994). Cultural renewal and innovation have implications for cross-border collaboration where similar cultures exist. Indeed, similar cultures exist all across the globe, creating avenues for international linkages and cross-border collaboration. Even where cultures differ there are basic principles which can be adopted and adapted to make them culturally relevant. The future generation of students needs more than academic training or particular skill sets for the labour market.

The range of objectives outlined for the developmental university include producing values and social legitimation; selecting the elite; training labour force; producing scientific knowledge; providing de-

grees for the labour market; and, the entrepreneurial university should be functionally applicable within the global market. The fact that the global market operates differently in different places is enough reason to broaden teaching and research to make them globally applicable. Pedagogic considerations are very necessary and this must lead to changes in approaches to teaching as well as the content of academic curricula.

The demand for knowledge utilization has led many economies in the world to look to universities to provide holistic solutions to societal challenges ranging from food security to the provision of potable water. The expectation is justifiable because, generally speaking, higher education has what it takes to meet these expectations. Similarly, governments are putting measures and policies in place to maximize the social impact of higher education. Higher education institutions need to account for the use of public funds and this demands efficiencies in the higher education system. Higher education systems must therefore provide the space for raising and debating issues that affect society and also provide avenues for efficient and judicious use of resources.

Faust (2010), in her paper on 'the Role of Universities in a Changing World', argues that "knowledge is replacing other resources as the main driver of economic growth, and education has increasingly become the foundation for individual prosperity and social mobility" (Ibid.). She thus emphasized the ever-vital role of universities and, for that matter, knowledge in society and economies. Her views on the role of universities may be summarized as follows:

- » Broader economic growth
- » Individual success
- » Solving challenges that cross borders
- » Unlocking and harnessing new knowledge
- » Building cultural and political understanding, and
- » Modelling environments that promote dialogue and debate (Ibid.).

It has been argued that universities have evolved as a result of efforts seeking to address specific national/developmental or social problems. Simply put, higher education institutions are a product of the socioeconomic and political dynamics of society. By implication, higher education is seen as being socially responsible for the socioeconomic and political development of nations. The burden of proof is therefore on higher education institutions to justify their existence.

The role of higher education in the African context

The role of higher education in Africa has seen changes from pre-colonial through colonial to the post-colonial era. Many universities in Sub-Saharan Africa have a research history based on a colonial heritage. In Ghana, for instance, due to colonial domination, research was carried out by British scientists basically to address the problems of settlers and to facilitate the smooth running of the colonial

administration; hence, emphasis was put on research into tropical medicine and agriculture. According to Woldegiorgis and Doevenspeck, African universities have been performing various roles but at the same time continue to execute foreign roles, largely a product of European colonial frameworks, which have not been owned by African societies (Woldegiorgis and Doevenspeck, 2013). This situation seems to persist, but there is a gradual shift towards making African higher education systems more culturally relevant and acceptable. Many universities in Africa now have community-based programmes to better the lot of society. Previously, research in some communities was perceived as the exploitation of society by students who only gathered data from communities without giving them any feedback on the positive effect of the research. This situation is changing because community-based research results are being applied in those same communities where the data was obtained.

The call for community-based research and network development and student community engagement would lead to the establishment of the right networks. These networks will further lead to anchoring local solutions in the global context. At the Kwame Nkrumah University of Science and Technology in Kumasi, Ghana, many innovations have resulted from collaboration between communities of need and stakeholders. Among these are community-based research on integrated aquaculture; water filters; cassava harvesters; cook stove testing laboratory with technical services on fuel use, emissions tests for CO, CO₂, etc., indoor air pollution, stove safety evaluation, heat content analysis, etc.; an effective biogas institutional cook stove which cuts down on the level of carbon dioxide emission and reduces the use of wood fuel. These provide local solutions but have implications for global issues such as the greenhouse effect and ozone layer depletion.

Higher education systems exist primarily not only for knowledge creation but to address practical issues of life. Universities should be able to address the challenges that communities face by not merely providing solutions but also building the requisite societal capacity to enable communities to handle future challenges. It should be possible to hold community-based fora, conduct community-based research that involves local people and provide basic training for the locals.

It was hoped that African universities would increase their relevance by contributing to the continent's developmental needs through innovation and strategies. In addition, they must seek to inculcate moral and ethical values, leading to lifestyle and behavioural changes necessary for socioeconomic development and positive societal transformation (Lulat, 2007).

Challenges

A major challenge to the developmental role of African universities is that of funding. Africa has seen a gradual erosion of funding for higher education. In fact, the reduction is such that academic research output in the region is said to be among the world's lowest and many African countries struggle to maintain even low enrolment levels (Bloom et al., 2006).

The cultural settings within which African universities operate have also hindered the performance of its roles. Among the cultural issues that lead to the underperformance of higher education in Africa

are lack of focus and academic leadership resulting in misdirected research that has no direct bearing on the social needs of the community and society in general. The lack of generation of new knowledge applicable to societal needs has also led to the underperformance of the developmental role of African higher education systems. A failure to harness academic capabilities to the advantage of development has therefore been a barrier to the higher education system being more socially responsible. There is a need to occasionally prompt researchers on the need to be nationalistic and concerned about developmental needs and to remind them how their expertise can be used to address those issues.

Conclusion

Several other views have been articulated with the aim of enhancing the role of higher education and thus making it socially responsible. Of the views expressed, most have local as well as global implications. It is a good thing to run universities as businesses, but at the same there is the need for a balance between the traditional roles so that none are sacrificed at the expense of the others. There is so much that can be done differently in order to make higher education more socially responsible both locally and globally.

It must be emphasized that despite global trends that seem to question the value of higher education, there is adequate evidence in support of the significant role being played by higher education. In order to enhance the role of higher education in society the following steps could be taken, in addition to views already expressed earlier in this paper:

- » Advocate for change driven by control and governance through policies, structures, infrastructure and engagement mechanisms;
- » Advocate firmly at all levels (university management, industry and government) for social inclusion in the university-industry-government relationship;
- » Seek high level buy-in for community participation in higher education and vice versa;
- » Widen the participation and cooperation with local enterprises and communities for relevant skills development;
- » Instigate a drive towards focusing the research agenda to include the nature and level of knowledge production on specific social concerns; and
- » Maintain sustained interaction with stakeholders and draw on their knowledge to enrich the curriculum and research agenda.

This list may not be exhaustive in itself but it is hoped that with some other pragmatic measures higher education will play a more meaningful role in society.

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PART III
A REGIONAL
APPROACH

University Social Engagement: Current Trends in Latin America and the Caribbean at Global/Local Universities

Axel Didriksson (coordinator), Adrián Acosta, Eduardo Aponte, Elizabeth Larrea, Denise Leite, Luis Enrique Orozco, Carlos Iván Moreno

Introduction

This chapter addresses changes in the field of quality assurance relating to the relevance and social responsibility of universities, in line with the views of the main stakeholders, with special focus on Latin America and the Caribbean. Criticisms of the accreditation and ranking of institutions, the commodification of educational services, and the growth of institutions that have a clear intention to profit from higher education services without ethical or social responsibility are presented to promote affirmative action that guarantees access to higher education for historically marginalized populations such as indigenous, black, Asian and other disadvantaged groups.

This regional panorama highlights the important and far-reaching national and public policy debate on the reconfiguration of higher education systems through new national laws. This is a debate on redefined terms and concepts, which has inspired massive student and teacher movements, and on the new legislation that is impacting the traditional components of the basic functions of university life within an environment of tension.

There is an emphasis on the emergence of new public universities, which are introducing new organizational structures and governance, new curricula and new ways of connecting teaching with research in a local/global context, and seeking closer links with society while placing social innovation at the centre of their activities. This is in the context of redefining state policies towards higher education, a discussion that involves regional trends from the local/global perspective, with selected policy recommendations to stakeholders at both a global and a local level.

The change in higher education: The new agenda for local/global social responsibility

Over the past three decades, significant changes have occurred in the contemporary university model, moving from its traditional teaching functions, its research and its cultural dissemination, towards a different organizational and institutional form. This new form is based on an international approach, the transfer of knowledge, and student and faculty mobility, as well other elements such as entrepreneurialism and the ability to promote innovation and profit-driven research. At the same time, new

forms of university organizational structures have been driven by the development of new technology that has allowed the expansion of virtual (online) programmes and the emergence of new universities.

In recent decades, regional university systems have undergone significant processes of change in terms of their relationship with the state and the social movements of students and teachers, and market actors, as principal stakeholders. This change in national university systems has been linked to the spread of marketing mechanisms for regulating the academic organization and to the production of knowledge, learning, scientific development and modern technology, and its social and political criticism.

The mechanisms, organisms and instruments for the evaluation, accreditation and control of university systems have become associated with a wide range of scenarios, actors and tasks, resulting in the quality and results of higher education institutions (HEIs) being influenced by a variety of different programmes, people and institutions, both inside and outside the ministries of higher education. Likewise, new frameworks for internationalization, influenced by the Bologna agreements signed in Europe (such as the 'Tuning Programme') have been implemented, although these have had only limited impact. There has also been an expansion and increased influence of online academic programmes by transnational suppliers, and new frameworks of diversified financing schemes.

Institutional changes and academic management have been promoted in order to favour segments and places for the production of knowledge, and the orientation of profitable research labour. This has happened at different speeds among countries who are trying to close the inequality gap, reduce student dropout and abandonment rates, and decrease the marginalization of students from excluded sectors.

Within this framework of change, in a context of structural fractures and inequities, **the traditional idea of a public hegemonic model of a university – with an emphasis on the 'professionalizing' dimension and with a predominantly liberal curriculum – is no longer the dominant model in the region.** Emerging university institutions have begun to take advantage of the opening of venues and sub-venues of the most important universities, and new institutions **considered innovative or social-engagement oriented have been constituted.**

This is happening in a context in which different social actors and stakeholders recognize the immediate need for a significant change in universities, both public and private. Demands have been made by movements in a number of countries, including the Chilean student movement (2011–2016), the Puerto Rican movement (2011–2012), the Colombian movement (2011–2013) and the Mexican movement (2013–2016). These examples demonstrate the way in which demands have been presented from this sector regarding rules and policies or the dominant tendency in the academic world, of the traditional debate over public or private, through demonstrations that have extended beyond the institutional atmosphere to the national arena, with movements that have great social and media impact.

From other perspectives, such as those of Chile, Ecuador, Brazil, Mexico and Venezuela, as well as in Central America and the Caribbean, the discussion about the new plans for the organization of higher education has created a great deal of interest in university communities and beyond, in other sectors of society and national political life. This is the case, for example, in Ecuador, where the Organic Law on Higher Education (2010) was passed following a huge university mobilization. This brought about the redefinition of the cluster of public policies towards higher education in that country. In Brazil, various affirmative-action programmes have been established for minorities and traditionally marginalized groups in order to support their advancement in postgraduate studies (mainly PhD) and scientific research. As a further reference, it is useful to consider the contrasting cases of Chile and Argentina. They represent two significantly different approaches to the treatment of public wellbeing and the responsibility of the state in the face of the public and private interest. Other approaches can be found in Colombia, Bolivia, Peru and Costa Rica.

Among these experiences and reforms as a consequence and in a constant manner, academic innovation, concepts, policies and programmes reflect and demonstrate the new wave of changes in higher education in the region.

University social responsibility

National reports from Latin America and the Caribbean allow the identification of similar processes with significant national differences within a diverse regional picture. Regarding access and enrolment, inequity and inequality, teaching and research, globalization and integration, the regional analysis (based on the ten aforementioned reports), can be summarized into five basic trends:

1. **The patterns of growth in higher education in the region confirm that the transition from the massification to the universalization of its national systems has taken place.** In all cases, it is possible to identify a trend of constant expansion of enrolment in higher education for the first 15 years of the 21st century. This expansion places the region in a transition phase that goes from the massification to the universalization of tertiary education. However, the transition is characterized by rates of growth and coverage that are different in each of the national systems of higher education. For instance, in the countries where enrolment in higher education is high (Brazil and Mexico), there are relatively low rates of schooling among young people of study age (30% Brazil, 34% Mexico). In contrast, Argentina and Chile have the highest schooling rates (80% and 52%, respectively), while in the central region, Peru, Colombia and Puerto Rico have over 40% coverage, though not as high as 50%. This shows that, despite the observed growth, some countries have a significant deficit in their enrolment rate for higher education. This has significant implications for the future educational situation at a national and regional level.
2. **The massification–universalization processes of higher education in the region maintain tension and significant deficits in terms of social equity and quality**

regarding students' access, retention and graduation. Young people from middle and higher social groups are over-represented, while those in lower social groups are under-represented, despite government efforts to broaden access for population sectors that have historically been excluded. The selection policies for access have had a segmenting effect in terms of the institutional quality of the academic programmes.

There are various issues relating to the democratization efforts aimed at improving access to tertiary education, including the diversification of public and private provision through the creation of new public universities (Brazil, Argentina, Ecuador, Bolivia) or new non-university institutions for tertiary education (Puerto Rico, Mexico); the problems of providing quality pre-university education; the number of students from low-income backgrounds in high school (Chile, Mexico, Brazil); efficiency problems in paperwork for obtaining diplomas for undergraduates (Argentina); the creation of national scholarship programmes targeted at low-income sectors (Brazil, Mexico, Colombia, Ecuador); and the implementation of affirmative action to combat ethnic inequity (Mexico, Brazil, Bolivia, Ecuador). The fact that most of the students in the area are from indigenous families (Peru, Puerto Rico, Mexico, Brazil, Ecuador), come from low socio-economical segments (Chile), the confirmation of the increase in female enrolments as one of the expansion 'engines' for demand (in all cases documented), the relative improvement of the terminal efficiency in the basic education levels below the higher ones (Ecuador, Peru), and some programmes, decrees and public rules aimed at facilitating access to higher education (Colombia, Brazil, Argentina, Ecuador), have not yet had a significant systemic impact in terms of the equity and quality of public and private offer.

Higher education in the region continues to be a territory dominated by the middle and higher social groups, distributed in institutional segments that are very heterogeneous and with diverse formative quality.

3. **There has been growth in the university and non-academic private and public institutions in terms of the absorption of social demand.** From the end of the 20th century onwards, it is possible to identify national and institutional policies that favour the expansion of the public sector in the absorption of social demand for tertiary education. The creation of new national and federal public universities (Argentina, Brazil, Ecuador, Bolivia) and of non-university public provision (Mexico, Chile, Puerto Rico, Colombia), and the decentralization of and efforts to innovate existing public universities (Mexico, Colombia, Brazil) have taken place alongside privatization processes in practically all the countries. **Such privatization has moved from the traditional binary trends (public-private) towards the establishment of trinary ones (public-private-international) (Brazil, Puerto Rico, Chile, Mexico).**

4. **In terms of research and teaching, innovation efforts in the region have been focused on the improvement of the academic processes for university undergraduates and a better articulation of research and training at the postgraduate level.** National and institutional efforts have included the creation of national research systems in conjunction with national innovation and the search for a new definition of higher education systems (Puerto Rico, Colombia, Ecuador), the recognition of innovation and the creation of knowledge relationships (Argentina, Ecuador), expansion policies for postgraduate levels (Brazil, Mexico), reforms to curricula of educational programmes (Chile, Puerto Rico, Colombia, Peru, Ecuador), and the concentration of public resources in the development of certain disciplines, training areas and research fields that are considered a priority for development (Brazil, Puerto Rico, Ecuador).

The overwhelming predominance of part-time professors over exclusive or full-time ones is an important restriction in strengthening the aforementioned links. The cases of Argentina, Peru and Mexico illustrate this statement: part-time professors are the norm in the teaching area (in the public universities of countries such as Brazil, the teaching staff are full time, and are qualified to PhD and post-PhD level, whereas by law, in the private university systems 30% of the teaching staff are postgraduates with PhDs, and constitute a solid foundation for research in education), and this makes it difficult to build a solid foundation for technological development and scientific research. Associated strongly with this structural-historical restriction, in some countries there has also been slow development and delayed production of knowledge and scientific research. With the exception of some universities and institutions, such as those in Brazil, Mexico and Argentina, Latin American countries are falling behind in terms of scientific production and its impact on international standards.

5. **The relationship between local and global integration presumes tension between the idea of an institutional commitment to a society and territory and the idea of the internationalization of the systems.** Regarding the processes for integration and globalization, it is possible to identify ambitious projects and initiatives undertaken in every country in recent years. The idea of internationalization marks proportionally the private and public efforts to integrate, both broadly and specifically, the HEI with its territorial environment (Argentina, Mexico, Brazil, Chile, Ecuador). The internationalization efforts in the South–North or South–South (Brazil) favour student mobility, particularly at the postgraduate level (Ecuador, Puerto Rico, Brazil, Mexico). In other cases, low levels of internationalization are observed in relation to the development of research and postgraduate enrolment (Peru, Colombia, Argentina). From a general perspective, it is worth highlighting **the case of Ecuador**. Unlike the other countries, Ecuador has promoted reform – in relation to the variables in this chapter – with a greater level of integration. It is not about references to the partial improvement of access for the excluded

population (Brazil) or postgraduate and research development (Brazil, Argentina, Mexico or Costa Rica), or postgraduate or social innovation (Bolivia, Costa Rica, Peru), but from a case that highlights the integrality of its vision and modernism, among other elements where the creation is stressed (see below) but its regulatory and systemic reform of universities as described as 'emblematic'.

Privatization and Commodification of Higher Education

The trends towards the privatization and commodification of higher education in Latin America and the Caribbean in the first few years of the 21st century are based on patterns of institutional behaviour observed since the end of the last century, with the emergence of new phenomena in the context of globalization and the internationalization of higher education. This mixture is summarized in the following statements:

1. **A clear movement away from the traditional axes towards the relationship between the state and the market.** The changes in the economical, political and social contexts in higher education in the region have had an impact in different ways on the relationship between the market and the state. The unitary public systems that are solely private or solely public, which dominated several countries of the region in the past, have moved to becoming predominantly private (Puerto Rico, Peru, Colombia, Brazil, Chile) or predominantly public systems (Argentina and Mexico). The state/public logic has focused on the creation of new federal or national public universities (Argentina, Brazil), or towards the opening of non-university public institutions (Mexico, Colombia, Chile, Puerto Rico). The logic of the market has concentrated new provision in high-cost and high-enrolment institutions (Brazil, Argentina, Mexico, Colombia), or towards the creation of a number of low-cost and low-enrolment private establishments (Mexico, Chile, Peru).
2. **The increase in tension between political speeches about higher education as a public good and institutional practices that confirm access to tertiary education as a private good.** Despite the fact that in the regional setting the need to strengthen higher education as a public good is frequently recognized, what has been observed over the past 15 years is a diminishing public character in tertiary education in the region. Instead, tertiary education has become a private consumption good. This general statement, however, needs to be qualified for each national case. On the one hand, in some countries the public sector is supported through scholarship systems, hiring professors and researchers, financing technology and scientific research, strengthening the infrastructure and increasing ease of access for the most vulnerable sectors in the population (Brazil, Colombia, Mexico, Argentina). On the other hand, it is apparent that there is a logic

for giving support and public incentives to the growth of private choices (Chile, Brazil, Colombia, Puerto Rico, Peru).

- 3. The intrasystemic reconfiguration of the public/private sectors.** In a way that is consistent with the changing context and the structure of the relationships between the market and the state, there are not only significant differences between the public and private sectors, but also significant variations within each sector. In both cases, the institutional offer has been increased, setting in their cluster of highly heterogeneous and complex systems in terms of articulation, institutional quality, resources for their performance and focus on social purposes from the different sub-sectors and institutional types that are either public and private. The systemic heterogeneity is expressed in the public sector in the expansion of traditional provision through federal or national public universities, as in the case of Brazil and Argentina, or in the creation of non-university institutions (technological institutes, multicultural universities) (Mexico, Colombia, Ecuador, Peru, Brazil), and establishments that concentrate on research and postgraduate levels, such as those in Puerto Rico, Colombia, Mexico and Chile.

In the private sector, different kinds of institutional provision have been created, addressed to different types of educational demand. This process has allowed the identification of at least three broad institutional types: a) elite universities, which are mainly secular; b) institutions addressed to the middle and upper social groups, which frequently have a religious focus and operate in a network (Peru, Mexico, Brazil, Colombia, Chile); and c) establishments addressed to the middle and lower social groups, which operate in an isolated way even though they are part of national or international institutional networks (Mexico, Chile, Puerto Rico).

- 4. The emergence of the private for-profit universities.** The privatization of higher education has meant the creation and in some cases the consolidation of institutions guided by profit ('for-profit'). They operate like companies, under public regulations that are either discreet or ambiguous (Chile, Brazil, Colombia). The authentication of this kind of offer has matched the installation along national territory of huge international clusters of higher education (Mexico, Brazil, Puerto Rico) that articulate establishment networks in different areas. They offer Bachelor's programmes, and in some cases postgraduate ones, mainly of the professional type, but also in research (as in Brazil, where this is regulated through a law to control evaluation). The expansion of this kind of provision is focused on attracting investors from the financial sector into the field of higher education, and is designed to meet the growing social demand of the educated population for low-cost programmes that are highly efficient. This phenomenon can be characterized, from the Brazilian experience, as 'commercialized enrolment massification'.

5. **Changes in ways of managing reform and institutional governance.** New ways of managing the higher education system have been established in the effort centre of government coordination and the private sector since the end of the 20th century. Generally speaking, the incorporation of a managerial vision for public management (which originates in the business sector) has predominated in the various national cases. Evaluation, plans for guaranteeing quality, actions and programmes based on incentives and rewards for change have shaped new rules for higher education. These are sometimes expressed in the formulation of reforms with a judicial-regulatory character (Colombia, Brazil, Puerto Rico, Peru) and/or the creation of new public government offices, as well as private ones, responsible for applying government programmes (Mexico, Brazil, Argentina, Chile). The managerial approach to policies has had an important effect on institutional governance plans and the reformulation of meaning and practices of university autonomy in the region. This has led to an increase in institutional public and private behaviour that is linked to the systematic production of quality signals in the performance of HEIs.

The accreditation processes in Latin American Higher Education Institutions

In Latin America, accreditation is generally understood to be the act by which the state, or an official or acknowledged agency of the government, adopts and makes public the evaluation of an institution and its academic programmes. This evaluation is made by academic peers and relates to an institution's own academic programmes. It reflects the real and verifiable achievement of its mission and projects that can be not mandatory.

Accreditation is a process that consists of self-evaluation, followed by visits from peers, and culminating in a judgement issued by the National Council for Accreditation in each country. This judgement is handed to the Ministry of Education in the country concerned or an official agency and the corresponding administrative act; it will be either a positive or a negative accreditation of the institution or the respective academic programme (Colombia, Chile, Mexico, Costa Rica or Paraguay). The same understanding of accreditation can be found when the same process is followed by an international agency.

Based on this structure, the following are usually noted as the primary aspects and preconditions of the process: the political will of the institutions to assume responsibility for quality; the existence of the appropriate conditions in the institutions for the process; participatory, responsible and transparent self-evaluation; verification of the conditions of quality in the institution and its programmes:

- a) the political will of the institutions to assume responsibility for quality;
- b) the existence of the appropriate conditions in the institutions for the process;

- c) participatory, responsible and transparent self-evaluation;
- d) verification of the conditions of quality in the institution and its programmes;
- e) policy formulation for continuous improvement.

In the absence of any one of these factors, the process would not serve the purpose of increasing quality and developing a culture of accountability as an institutional value; nor would the outcome of the exercise of the autonomous be assumed responsibly. Following work on these particular aspects in the region, with a significant degree of success, systems of quality assurance have been created and implemented. In countries such as Colombia, Mexico and Chile, these efforts have been complemented by the development of a national information system that supports the accreditation process; in other countries (Mexico, Peru, Costa Rica) this aspect has not been developed significantly.

However, in all countries, as demonstrated further on, governments have been overseeing the creation and operation of an accreditation system. Only Mexico has an accreditation system in the private sector (FIMPES, Federación de Instituciones Mexicanas Privadas de Educación Superior); in most countries, it has always been a government initiative.

When observing the overall experience of the accreditation of higher education within the framework of the systems of quality assurance, it can be seen as having been a central part of public policies for education and institutions since 1990. Such accreditation contributes to quality, and makes the quality of tertiary educational choices more transparent, increasing the information available to users about the educational options. However, the development of these systems in the region, which started in the 1990s, is a mixed picture, with a variety of precedents, most of them from the state, as in Peru, Argentina, Chile and Colombia; or in Central America supported by CONARE and BID. Despite starting later, others, such as Mexico, Paraguay, Ecuador and SINAES from Paraguay, have made great efforts to promote such systems through the government or the institutions themselves, under the principle of self-regulation, or as an exercise in responsible autonomy.

Moreover, nowadays the presence of international agencies is well known in the region. Some of these agencies have focused on specific areas that are, strictly speaking, more professional than academic.

For a government that prefers to be distant from higher education without losing control of it, it is better to evaluate than to intervene in the academic world. Moreover, the government can have other aims, such as stimulating competence, using accreditation to participate in obtaining scholarships or special grants, facilitating academic mobility for students and teachers, and improving the level of information for users, as well as reinforcing all actions taken to improve and to increase the quality of undergraduate and postgraduate programmes (see SINAES and CAPES in Brazil).

Looking ahead, there are situations that worry all the stakeholders involved, particularly governments. Among these concerns, the most relevant are the politicization of the national council in charge of taking forward the processes; the risk that the fight for quality, mediated by accreditation,

could work against those from lower-income groups by preventing them from accessing centres of excellence, which choose to target those from higher-income groups in order to maintain their standards; the increasing costs of operating the systems in all countries, and the lack of information systems to guarantee that the given information is accessible to the users of the educational services; the impact on the quality of the current processes; and the inflexibility of the current models in the face of rapidly changing scenarios, new and diverse social demands, changes in knowledge production methods and the impact on higher education systems of the new information and communication technologies (ICTs).

In all cases, experience has demonstrated that accreditation as a quality assurance mechanism, adopted by institutions as part of their culture, can be an instrument for quality improvement in higher education, and represents an ethical dimension of their responsible autonomy. In most countries these processes lack the primary tools for looking at institutions' efficiency in terms of knowing how to make use of an information system with a wide technological platform and based on precise and reliable indicators it allows to use the required information: 'If we can't measure what is valuable, we will end up valuing what is measurable'.

Latin American higher education systems vary in terms of a number of characteristics. These include: a) the extent of expansion of postgraduate studies and research, and of research and collaboration networks; b) the extent of affirmative equity actions; and c) the level of diversity of HEIs' types, as well as the increase in female inclusion.

Postgraduate study systems are mainly responsible for the development of research, which is concentrated in the big public universities in some countries (Argentina, Brazil, Mexico) because of the number of current PhD programmes, as well as fact that they acquire a diverse range of resources. The Network for Science and Technology Indicators (RICYT) demonstrates that the investment in science, technology and innovation (STI), GNP/EAP/workforce relation, increased from \$1.5 million in 2000 to \$2.5 million in 2010 in Latin America and the Caribbean. The cost of STI in the period was \$8,351.21 million in 2000, rising to \$39,151.87 million in 2012. Between 2000 and 2013, STI publications increased from 28,657 to 81,784, with a significant contribution from the countries mentioned below. Research networks that bring together collaborators from different countries are worth mentioning. In 2014, *Nature* magazine highlighted the collaboration networks formed in Brazil, Argentina, Colombia, Peru, Bolivia, Paraguay, Uruguay, Venezuela and Ecuador: 'Brazil has more than 100,000 full-time researchers, single-handedly providing nearly two-thirds of South America's science personnel. But Argentina has the greatest proportion of researchers, with almost 3 scientists for every 1,000 workers. Brazil and Argentina are central to co-authorship networks within South America' (Van Noorden, 2014: 203).

Universities in Argentina, Brazil, Colombia, Costa Rica, Mexico, Paraguay, Peru, Puerto Rico and Uruguay have organized postgraduate study programmes that are primarily intended to evaluate training for professors with Master's and doctoral degrees in diverse areas to train researchers. In countries such as Puerto Rico, Peru and Colombia, efforts have been made to broaden postgraduate programmes, research and professional qualifications. In Colombia, Master's degrees and doctorates increased from

42.1% to 57.2% between 2002 and 2014. In Puerto Rico, there is only one public university for training and research, which has an international presence (Puerto Rico International Programme: 'Campus') in strategic areas of public interest and business services, and in training researchers (I&D) and first-level professionals who are known in the international community. An increasing amount of research activity is sponsored by local and national governments with revenue generated from research projects.

In Peru, the Ministry of Education and the National Science, Technology and Technological Innovation Council (CONCYTEC) signed an agreement to promote scientific and technological research, the scientific production of quality and the creation of knowledge in public universities. It was introduced because only 5.2% of teaching staff, regardless of their employment status and the type of university they work for, have a doctorate. However, three out of four professors have a Master's degree.

The postgraduate programmes with the most students are in Mexico and Brazil. Postgraduate studies in Mexico increased by 130% between 2000 and 2015. Fields such as social sciences, administration, law and education have the highest number of students. There has been a growth in Master's degrees and doctorates, particularly in the support sector, and the upward trend in Bachelor's degrees has continued, increasing non-formal education. Enrolments in Master's programmes increased from around 5,000 to 50,000 students between 2000 and 2015, and in doctoral programmes from 125 to 7,000 students during the same period (ANUIES, 2015).

In Brazil, 4,300 programmes are offered in public and private universities, with the emphasis on fields relating to the country's development. These programmes are regulated by the Capes and CNPq evaluation systems. Capes evaluation accredits and regulates institutions and programmes, and creates rankings of institutions and postgraduate programmes (from 1 to 7; 1 to 5 for national interest programmes and 6 and 7 for international insertion programmes). Postgraduate professors, their publications (documents, books, essays) and the papers to which they contribute are also evaluated on regular basis. Within the analysis period, Brazil has intentionally invested in STI, with improving indicators in science and technology and in the number of PhD students: 94,850 individuals from Brazil and other countries (international mobility) are enrolled in doctoral programmes in diverse fields of knowledge. The new National Science and Technology Institutes (INCTs), established by the Ministry of Science, Technology and Innovation and the Capes and CNPq research bases, contribute to the expansion of science and technology and the growth of international indicators in the area.

The development of research and postgraduate studies is guided by the National Plan for Research and Postgraduate Studies (PNPG, 2013). There are 101 INCTs, multi-centre and multi-disciplinary Brazilian research centres.

There are a number of differences between the postgraduate and research programmes in the region, in a number of areas: some countries make use of technology in the form of public platforms that keep records of professors, programmes, publications and patents: Lattes Platform/CNPq in Brazil, Scientific Electronic Library Online Platform (SciELO) in Brazil, improve the dissemination of results from Capes and other information systems, which allow a better evaluation of research and publications; the constitution of research and collaboration networks among researchers, with priority given

in some countries to the so-called hard sciences; the decentralization of financing between states and provinces; the regularity, consistency/permanency (Mexico/Brazil) of financing for research that is considered innovative for Latin America and the Caribbean; the association/disassociation of financing for research from political parties, and the concurrence for research bases and projects; the international rankings of Latin American universities, with a number of institutions ranked between 500 and 1,000 in the world: Universidad de Buenos Aires, Argentina; UNAM (Universidad Nacional Autónoma de México), USP (Universidade de Sao Paulo), UNICMP (Universidade de Campinas), UFRGS (Universidade Federal de Rio Grande do Sul), among others; the cooperation between enterprises and universities in research; internships and scholarships for students,¹ with mobility in and out (Brazil's Science without Borders programme provides 100,000 scholarships); the creation of INCTs, which promote innovation within the universities and in association with enterprises.

Social responsibility framed by affirmative equity actions

Alongside the significant development of science and postgraduate studies that is taking place in some countries, as well as efforts to improve national and international indicators, there is also social commitment, as higher education in Latin America and the Caribbean reflects a multi-faceted reality of racial, cultural, financial and educational disparities. In the period of analysis, successive democratic governments have taken significant action in the field of public education policies, and these have resulted in positive changes in terms of reducing inequalities. There is high social demand for higher-level training, given the racial multi-ethnic group that integrates our communities. In order to satisfy this demand and promote access, diverse programmes have been created to reduce the disparities that were historically reproduced by education. These programmes allow the admission of new people, 'new members' of universities, such as students from families with no higher education background and students from middle schools with permanent reforms, who required guidance on their path towards university. The 'new public' are those who have benefited from the affirmative action and the quota systems, such as students from indigenous and other minority ethnic communities and those from poorer social groups.

In Argentina's institutional plan, national universities located in the province of Buenos Aires are innovative in developing strategies that guarantee access and permanence for students from popular sectors, many of whom are the first in their families to go to university. Within this context, the Conurbano Bonaerense university network was created to cater for this student profile. In 2014, at the public policy level, they created a national programme called 'the university in the boroughs, the boroughs in the university', the purpose of which is to democratize access to university higher education, strengthening the link between the public university and the local society. With regard to ethnic equity, however, the retention of students from small regions is still not sufficient, according to Fernández Lamarra and others (2015).

¹ Embraer and the Aeronautical Technological Institute (ITA), research and production of aircraft of international quality; Embrapa, agro-business research; Petrobras, oil in deep waters research; Oswaldo Cruz Institute, vaccine, medicine and others research.

In Brazil, the policies with the greatest impact are those relating to the 'new members'. Since the 20th century, students have been admitted on the basis of a selective process through evaluations based on the concept of Vestibular Context with numerous clauses. The policy of affirmative action – a quota system, established by law number 12.711/2012 – created incentives for young people from poor social groups to attend higher education. Actions articulated by the affirmative action have been taken in relation to selection methods for admission (Enem and Sisu), to financing (Prouni, Fies, Reuni) and to special programmes for the retention of students (Pnaes). Enem (Middle Level National Exam) and Sisu (Unified Access System) opened up and democratized admission to the public HEIs, while plans for the restructuring and expansion of the federal universities support programme (Reuni) granted consideration to the public HEIs in order to expand access and retention for new students. Financial resources on grade level have been allocated for the use and improvement of the existing physical structure and human resources from the federal universities. The quota system, as with affirmative action in the public federal universities, reserves up to 50% of the places for candidates from public schools. The student 'quota holders' come from low-income families (1.5 minimum wage/per capita/family). The quotas are allocated according to the ethnic background declared by students themselves. The University for Everyone and Fies programmes sponsor fees in the private network, providing scholarships to students, new members and new quota holders, and tax incentives to private HEIs. These actions have had an immediate impact. Enrolment in the public HEIs has increased by 165%. In 2014, the growth rate of enrolment of new members who describe themselves as 'Black' was measured in public and private HEIs, and this changed the ethnic composition on campuses.

In Colombia, the most remarkable phenomenon has been the increasing demand for higher education, particularly in the poorer sectors of society. This demand has been achieved by the government through oriented and coordinated programmes with the specific purpose of increasing access and retention of students from these social classes in the higher education system. The Ministry of Education sponsors projects intended to promote permanence; promotes technical and technological education; decentralizes educational fields through the regional centres of higher education (CERES); promotes the expansion of virtual education; provides support and attention for all individuals; supports mobility through the strategy 'Fostering a career'; strengthens the labour observatory for higher education; promotes the creation and consolidation of university-enterprise committees; supports the development of human capital on the outside; promotes the improvement of research capacities; and undertakes the modernization of academic, administrative and financial management and provides a credit line with a subsidized interest rate, which can be executed by the Territorial Development Financial Society (FINDETER). As for mechanisms oriented towards meeting the demand, one option is to provide educational credit through the credit and technical studies abroad in its diverse modalities and to provide supporting subsidies for the retention of students in the system.

In Chile, there is a new access paradigm: test scores and university rankings that foster the real concept of better students and gratuity. The role of the UNESCO Chair on Inclusion in Higher Education is highlighted in this initiative. In 2007 the University of Chile created the UNESCO preparation course for students from eight diverse, highly vulnerable communities. Once approved, the students compete for 50 free places. Following successful results, the preparation course was extended to 16 different universities. Other affirmative actions are talent inclusion, the Priority Educational Equity System (SIPEE), the Guidance and Effective Access System (PACE) and the Ranking 850 programme.

Diversification, types of HEIs and increased female enrolment

HEIs have responded to the demands of the public, not only through affirmative action, but also by implementing a number of strategies, such as diversification of types of institutions, regionalization and the creation of satellite campuses. Between 2000 and 2015, higher education systems opted for institutional decentralization; distance learning was expanded to the graduate and postgraduate levels in public and private HEIs; and different types of institutions were diversified and new universities created.

There are different types of institutions in Argentina, such as universities next to university institutes, non-university tertiary institutions, teacher-training institutes, technical professional training institutes, and colleges. In Brazil, traditional universities, both public and private (for-profit, faith-based and community-based), institutions next to university campuses, independent public universities, federal science and technology institutes and federal technological education centres were created during the period of analysis. In Mexico, alongside traditional universities, the new public HEIs that can be found are technological universities, technological institutes, intercultural universities and regular schools. The decentralization of traditional universities in Mexico is remarkable, as is the creation of intercultural universities to address issues of equity and justice, innovative models of training centred in the focus of complexity, and technological HEIs linked to university-enterprise, virtual and distance higher education programmes. Some types of HEIs are different because the Latin American higher education systems are unique. Among these HEIs can be mentioned intercultural universities, public macro-universities, and huge for-profit private institutions.

Although information about transgender enrolment is still not available, it is important to mention that the enrolment rate for self-defined females is over 50% in countries like Argentina (53.5%), Brazil (57.22%), Colombia (53%) and Chile (52%). The increase in the female presence is seen in rates of both enrolment and completion of studies. The proportion of women enrolled in distance learning is greater than that in regular studies.

The fundamental strategy towards a new concept of social responsibility in the region: initiatives from governments

The debate on what is called a **new strategic agenda** (Didriksson, 2012), **from the perspective of the participation of the universities in the local and global context**, of what is happening regarding the character and focus of their governments. Fortunately, in many cases these are emblematic owing to the effort that they demonstrate in terms of transcending the traditional university models from different perspectives. We mention some of the most obvious ones (in alphabetical order):

- » **Argentina:** This appears to be the country with the most focused interest in the creation of public universities with state subsidy, and the one that has defended and legislated the most around the concept of public wellbeing. In the space of a few years, nine national universities have been created, both inside and outside the perimeter of Greater Buenos Aires, in which the expansion of the sub-venues of the emblematic University of Buenos Aires (UBA) must be included. The 12 regional centres in the surrounding area, and others elsewhere in the country,

are worth mentioning as they are part of a decentralization process. This process is a novelty, and is mainly taking place in the provinces of Cordoba, San Luis and Rios, among others.

- » **Brazil:** A new innovation plan with a strong sense of purpose has led to the creation of 18 new federal universities, more than 40 federal institutes offering technological education, with 562 campuses located in 512 counties. The new institutions include the University for Latin America Integration (UNILA) and the Universidade da Integração Internacional da Lusofonia Afro-Brasileira (UNILAB), with academic programme options and a focus on diplomatic strategies for this country that are essential for disrupting the vision of the idea related to the traditional university that transcends its own references. In the rest of the country there are 1,523 HEIs. This is important when it is known that in Brazil there has been the same rate of growth in the private supply as in the public one. Eighteen Brazilian universities are among the 1,000 best in the world (CWUR, Center for World University Rankings). Brazil's evaluation systems stand out.
- » **Colombia:** With the objective of broadening the coverage levels of higher education, in a country where there has been a great deal of private university supply (until recent times, when the public HEIs have reversed this trend), Regional Centres for Higher Education (CERES) have been created through public-private organization and financing, under a hybrid arrangement that mixes virtual education with in-person attendance, located in areas with a low level of coverage by traditional HEIs or large private universities. In 2012 there were 176 centres of this kind, with more than 30,000 students.
- » **Ecuador:** Driven by the enactment of the Organic Law for Higher Education (LOES), structural changes to the higher education system have been promoted by the National Ministry of Higher Education, Science and Technology (SENESCYT). Within this framework, the creation of four new 'emblematic' universities is worthy of note. These are the Universidad Nacional de Educación (UNAE), the Universidad Regional Amazónica (IKIAM), the Universidad de las Artes (UNIARTES) and the Universidad de Investigación de Tecnológica Experimental (YACHAY). All of them are fully functioning public institutions that aim to support a model for change, as stated by the Ministry Dean: 'In Ecuador, from 2008, the government started publically to question Ecuadorian universities critically and provocatively, starting with a process of change in the higher education sector not witnessed since the return of democracy in 1979' (Ramírez, 2010, p. 8).
- » **Mexico:** Despite the fact the Mexican government has not contributed to the creation of new federal universities for decades, a series of 'dual' financing institutions have been constituted at a federal-state level: the National Autonomous University of Mexico City and the Universidad de La Ciénega of Michoacan, as alternative models, have been promoted and hosted by their corresponding state governments. At the level of public policies, the last two Mexican governments have promoted the creation of HEIs at state level, with an intermediary, 'hybrid' type of financing (federal-state-private), named technological universities, technical colleges, state technological institutes and intercultural universities. Moreover, the most important federal and autonomous universities have promoted the creation of alternative venues, also run by the state, such as sub-venues or extensions. Examples include UNAM, UAM, IPN and the UDG. It is worth mentioning that in this multi-colour hub is the Universidad Nacional Abierta y a Distancia (UNAD), which is undergoing a process of restructuring to broaden its coverage

and quality levels. From this perspective it is intended that in 2018, 69 universities of this intermediate type (technical), 30 campuses as extensions of consolidated universities and four federal universities will be created. However, the model and curricula on which the organization of these universities will be based is not yet known.

- » **Paraguay:** Historically, there was only one university in this country. By the end of the last century, there were seven universities located around the country, the objective being to meeting the increasing demand for higher education, which also brought about an increased private supply above average, as has happened in other countries of the area.
- » **Peru:** By the beginning of the present century, 21 public universities had been created around the country, and the growth in the private offer has also been constant. In 2012 there was a moratorium decree to stop the growth of public institutions so that the sector policies and the ruling framework could be redefined for a new phase.
- » **Uruguay:** As in Paraguay, the Dominican Republic and other Caribbean countries in Central America, for decades Uruguay had only one university as the bastion of higher education and for the definition of sectional policies: the emblematic Universidad de la República and its campuses, the Catholic University of Uruguay and the University of Montevideo. In the new century, a new institution was created, namely the Technological University of Uruguay (2013). There are debates on the creation of a new public university, which will mean that there will be a predominance of public over private institutions.
- » **Venezuela:** The Bolivarian Government of Venezuela, in the midst of great controversy over the quality–quantity relationship at the university level, proposed to promote regionalization and the creation of university and non-university campuses. Hence, at the beginning of the present century there were 232 HEI venues and extensions, 59 of them located in the urban area of the city of Caracas. Nevertheless, HEI private enrolment reached 77% of its total coverage. In order to broaden the levels of coverage, University Villages were created. These are public institutions, and include the territorial polytechnic universities as well as new ones (20) around the country. This was part of a strategy that focused on the universalization of the total rate for schooling (TBE). Of the nine universities created, it is worth mentioning the Bolivarian University of Venezuela, the Film University and the Armed Forces University, which together had a total enrolment of half a million students in 2010. Between 2012 and 2013, five state universities were created, and by 2014 there were plans for new territorial universities in other states in the country.

This picture of change is incomplete, as three universities being developed in Bolivia are not included, nor are many other venues of the national universities, nor the integrative articulation projects that are creating new scenarios, such as those promoted by the AUGM (Asociación de Universidades Grupo Montevideo) and the UNASUR (Unión de Naciones Suramericanas), to mention just two impressive multi-national efforts relating to higher education, science and technology. Nevertheless, it shows an area that is entering a new period of institutional construction, as well as social and academic innovation, where the constitution of learning and knowledge platforms is noticeable and the extended use and handling of new technologies for managing innovative processes are emerging contexts. This reflects efforts to pursue a ‘Latin American knowledge society’ or a ‘common knowledge space’ with

an emphasis on social wellbeing and on valuing university research and studies from a local/global perspective.

Clearly, the picture of these changes, achieved by legal means or through the institutions' own initiatives, shows the existence of a process of transition for the education systems of Latin America. These systems are gradually abandoning the traditional styles they have inherited and developing their own conceptual forms, organization and management. Their objective is to take on new forms of knowledge, responsibility for their country's development, the political and ethical development of new generations, and the intention to deal with new, vast and heterogeneous social demands.

Challenges for the universities: public policy

In the context of local/global changes, regional HEIs face three transformation challenges: **i) the effects of globalization on the state in terms of the way in which public services and government subsidies are provided; ii) the emergence of the economy and society and the impact-knowledge with priorities in new financial trends; iii) an increase in rates of participation in higher education, with an increase in study fees and a decrease in the resources for the allocation of subsidies in many countries.**

These challenges will affect HEIs in Latin America and the Caribbean, where the increases in operational costs and investment in research and innovation have been significant, and there has been vertical growth in postgraduate programmes and new specialties in first-level professions (health, social services, infrastructure, science education and technology, among others). This is why – in the 'market context' – the state and HEIs will have to share social engagement strategies that combine the commitment of the HEIs to society, i.e. social responsibility. This challenge implies that financing as well as institutional processes should not only be oriented towards market demands, but also be linked in all dimensions to the social responsibility of **higher education as a public good, and to the creation of social values oriented to the endogenous local/regional development and sustainable democratic societies. This will require:**

1. A regional strategy for the higher education space of Latin America and the Caribbean regarding social responsibility for endogenous development and sustainable democratic societies.
2. The responsible autonomy of self-sufficiency for HEIs of the endogenous human sustainable development in the countries within the region.
3. The orientation of knowledge management for the public good, for human necessities and for the environment; and citizen coexistence with justice and social equity.

4. The commitment of HEIs to the social situation, and to addressing the challenges of endogenous local/regional sustainable development of society in the search for solutions to problems and challenges in the region.
5. Collaboration and complementarity of social services in the public–private sector in the action plans for higher education, for the wellbeing of citizens and future generations.
6. The reduction of asymmetries and disparities between countries and bordering regions in terms of language, ethnicity, and political and economic systems through technology, internationalization, cooperation and complementarity in higher education systems.
7. The integration of the higher local/regional education space of Latin American and Caribbean into local/global matters.
8. The sustainability of strategies to generate scientific, technological and higher education knowledge, institutionalizing them as state policies, which implies new regulations, infrastructure, network organization and financing to avoid developments being short term and anchored to government options.
9. The construction of a social innovation ecosystem through the structuring of interinstitutional platforms led by knowledge institutions and in networks based on cooperation and public–private alliances, for the generation of services and products relating to knowledge that is oriented towards solving society’s problems.
10. The development of university management models based on new academic matrices, knowledge organization, learning and the academy, with processes and strategies to qualify academic personnel, consolidate new epistemological horizons regarding the generation, distribution and application of knowledge, with a clear tendency towards social management of knowledge and the integration of substantive roles. All this within the framework of the new autonomy with social responsibility centred in the self-determination of the thought and construction of social innovation.
11. The implementation of learning models based on the experience of research on the subject and the consolidation of an epistemological, ethical and political place, with development processes of the intellectual, artistic, social and personal mind.
12. Articulation between public policies, the development of a social innovation culture in the education system and the incorporation of productive social environmentalism and cultural citizenship, with a focus on territoriality on the basis of a new organization of knowledge epistemologies, which will develop the future

perspective of societies, contributing to its challenges with oriented proposals for problem-solving, contributing to just, equal and inclusive relations.

13. Continuation of the progress in the postgraduate and research studies of HEIs, promoting the qualitative leap from the study of cases, which in many cases are isolated, to the trends and prospects, so that the results of research can have an impact not only on institutional segments but also on the extent and diversity of development sectors.
14. The strengthening of the model's level of relevance, which requires a number of conditions, such as the reorientation of knowledge and its scientific, professional and investigative learning towards problem-solving, to organize academic choices in line with the social necessities of the diverse territorial levels and university domains, the implementation of open knowledge systems to allow the diffusion of knowledge through the use of big data, the recognition of the interculturality of knowledge and its multiple integration and management alternatives, the organization of workshops for the presentation of research results and the promotion of research projects, social and supportive innovation, as well as the design of pre-professional action research practices, in the service of the community and articulated through real-life scenarios with authentic problems.

Recommendations at a local/global level

1. Because of **inequalities in the current strategies for growth and endogenous development of economic activity in the local region globally**, it is urgent and necessary to orientate incentives and tax subsidy policies towards investment in basic and post-secondary education.
2. Access to higher education must include **subsidies and scholarships** based on merit, levels of family income (quintiles) and **gratuity for sectors** with the least opportunities but with outstanding talent and knowledge.
3. Profound changes are required in **the organization of learning and evaluation processes for progress in academic achievement within the framework of the social responsibility of institutions**. This should be focused on the social groups that experience a path to learning and innovation capacities, access to new ICTs and to the academic team to reach the higher education and university levels.
4. Contributory **tax policies are required in relation to income**, with a new allocation of scholarships and subsidies for low-income students.

5. **Funds should be provided to institutions that demonstrate social commitment** through study programmes and students' work in social responsibility projects.
6. There should be an income exemption for institutions that **reinvest funds for the socially responsible management of impact on society.**
7. **Government funds should be provided for projects that have social impact** on the economic growth of zones that have been left behind. This should be done with much greater urgency, along with the expansion of academic choices in higher education so that individuals in these areas can have greater access to them. This should be carried out through the strengthening of decentralization and DE concentration processes in the public state universities as well as in the federal ones, in order to reach as many regions as possible.

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**PART IV
RESEARCH
ON THE ROLE
OF UNESCO
CHAIRS**

The Role of UNESCO Chairs in Strengthening the Social Responsibility of Higher Education Institutions and their Local and Global Commitment

Francisco Michavila and Jorge M. Martínez

Since its launch in 1992, the UNITWIN/UNESCO Chairs Programme has been a tool for cooperation between education institutions and for the creation of networks to enhance institutional capacities via collaborative work and knowledge exchange.

Through this research and higher education network, institutions from around the world pool their human and material resources to address pressing challenges and contribute to the sustainable development of their societies.

According to these objectives, the natural role of the UNITWIN networks/UNESCO Chairs can only be to act as a bridge between institutions, between institutions and the surrounding environment, and between approaches to issues in education, the natural and social sciences, culture and communication.

This article describes thoughts on this role gathered from a group of 17 UNESCO Chairs, brought together by the Global University Network for Innovation (GUNI) in Barcelona. The opinions of members of this group were collected using two surveys.

In the first survey, UNESCO Chairs reported on local and global approaches in their missions, activities and respective educational institutions. They also described in detail how they collaborate to meet the Sustainable Development Goals through the formulation of good practices.

In the second survey, the UNESCO Chairs analysed their current performance as a bridge between the local and the global, assessed actions that promote a local approach, and evaluated the impact of their actions on the Sustainable Development Goals. They also analysed the potential scope of their actions and the limitations that they face.

Finally, a selection of specific actions that are considered good practices add to the descriptive analysis of UNESCO Chairs' role in developing the social responsibility of higher education institutions (HEI), and their local and global approaches to problems and solutions.

Main activities through which the UNESCO Chairs act as a bridge between the local and the global

The group of UNESCO Chairs were asked what actions they undertake to act as a bridge between local and global approaches to problems. Answers were given from two perspectives: to what extent they currently carry out these activities, and to what extent they would like to carry them out.

The main activities that are being carried out by the Chairs can be grouped into the following categories:

- » The creation of a holistic view of the issues.
- » Being an interface between HEI and society.
- » The diversification of approaches, methods and actions on issues.
- » The development of cooperative actions in research.

All of the categories of activities received a rating above the average. On a scale of 1 to 5, the lowest average rating (3.5) was for 'investigation of the application of both approaches in solving problems'.

There was a gap between the ratings for the level that the UNESCO Chairs would like to reach, and what was actually being achieved.

'The development of cooperative actions in training' was the category of activities that received the highest average rating, together with 'being an interface between HEI and society', followed by 'catalyst of local changes based on global good practices'.

The results can be interpreted as a self-assessment by the Chairs that identifies areas in which their efforts should be focused. The greatest difference between the desired and the actual situation was found in the activities of 'investigation of the application of both approaches in solving problems', 'the development of cooperative actions in training' and 'catalyst of local changes based on global good practices'.

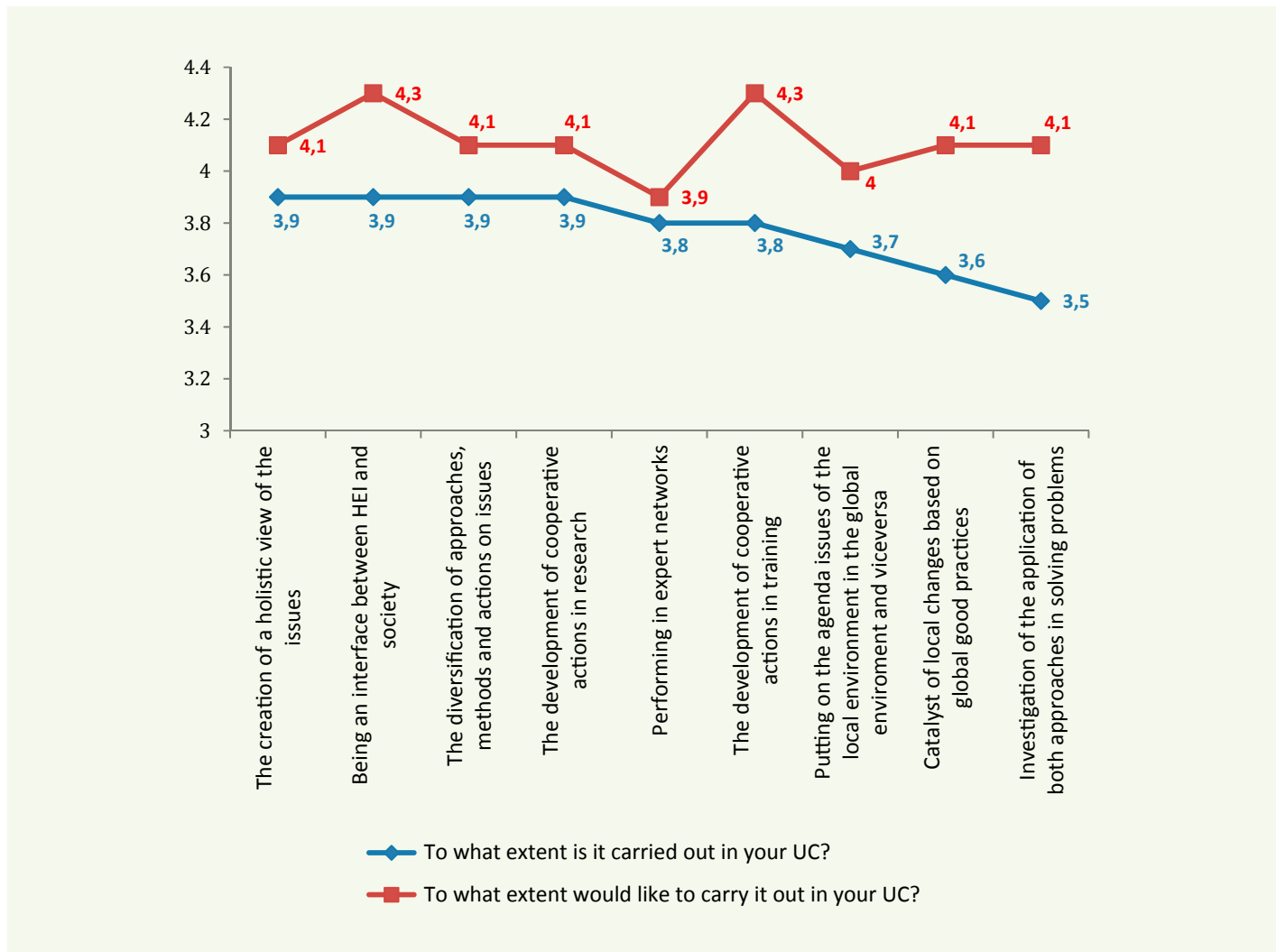


Figure 1: Main activities through which the UNESCO Chairs act as a bridge between the local and the global
 Source: Prepared by the authors based on responses provided by a group of UNESCO Chairs.

The main approach taken in UNESCO Chair activities

We cannot conclude from the answers to this question that one main approach was used by all the UNESCO Chairs that participated in the exercise. The distribution of frequencies shows a wide dispersion range of approaches.

Scale	1 Local	2	3	4	5	6	7	8	9	10 Global
Frequency	0	22%	22%	0	0	11%	11%	22%	11%	0

Table 1. The main approach taken in UNESCO Chair activities
 Source: Prepared by the authors based on responses provided by a group of UNESCO Chairs.

Main UNESCO Chair activities with a local approach

UNESCO Chair activities that were focused on local issues were mainly carried out in the area of 'promotion of collaborative networks'. All of the Chairs confirmed that they carried out this kind of actions. Eight out of every ten Chairs stated that they were involved in the areas of 'development of diagnostics of local issues', 'implementation of scientific activities/projects' and 'introduction of matters on the social and political agenda'. Seven out of every ten Chairs mentioned 'acting as a forum between local stakeholders'.

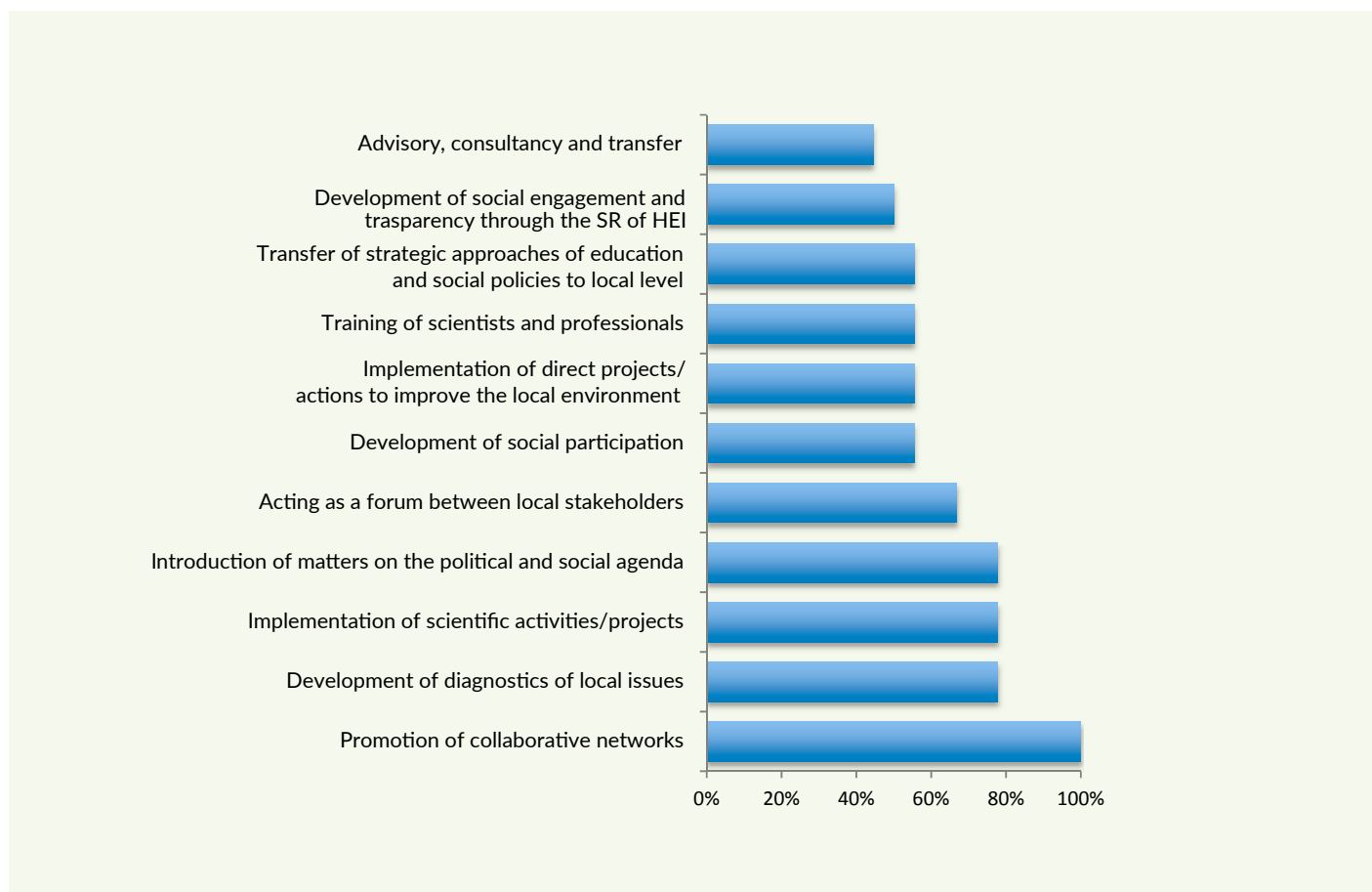


Figure 2. Main UNESCO Chair activities with a local approach

Source: Prepared by the authors based on responses provided by a group of UNESCO Chairs.

At the other extreme are the activities that were undertaken by a low percentage of the Chairs. Less than half of the Chairs were involved in 'advisory, consultancy and transfer' activities. Exactly half stated that they carried out activities designed for the 'development of social engagement and transparency through the SR of HEI'. A total of 56% indicated that they carried out actions related to the 'transfer of strategic approaches of education and social policies to local level'.

Aspects that limit the capacity of UNESCO Chairs to develop the role of facilitator between the local and the global, and how to avoid this dichotomy

The UNESCO Chairs considered that the following limit their capacity to develop the role of facilitator between the local and the global, in order of importance:

- » The limited human, technical, material and financial resources of the UNESCO Chairs.
- » A lack of platforms for sharing knowledge, the results of activities, etc.
- » Inappropriate regulations.
- » The gap between the purposes and aims of public and private institutions.
- » Apathy and resistance to change.
- » A lack of support for Chairs by the regional offices of UNESCO.
- » The perceived low impact of their results on public policies.
- » A lack of vision and long-term planning.
- » The limited scope of action of Chairs in their respective higher education institutions.
- » A lack of knowledge and understanding of local and global realities.

The role of UNESCO Chairs in the development of social responsibility in higher education institutions

The development of social responsibility in educational institutions is one of the functions of UNESCO Chairs to meet the aims for which they were established. The Chairs undertake tasks that strengthen social responsibility in their respective institutions.

Most Chairs contribute to social responsibility through the ‘representation of educational institutions in networks, agencies or social forums’.

In addition, efforts are made in the area of ‘agreements with educational institutions to implement activities proposed as part of the 2030 Agenda and social responsibility’, the ‘exchange of good practices and knowledge’, and the ‘proposal of ways to incorporate social responsibility into the activities of educational institutions’.

Another set of activities that are no less important were carried out by a lower percentage of Chairs: ‘the creation of spaces for dialogue and mediation on sustainable development’, ‘training and advice for university managers on social responsibility and the 2030 Agenda’, ‘coordination of HEI actions in the field of social responsibility’ and the ‘development and proposal of regulations on social responsibility’.

The main impact of UNESCO Chairs on the Sustainable Development Goals

Finally, the Chairs were asked about the impact of their work on the Sustainable Development Goals, and to specify whether this impact was direct or indirect. The results show lower rates of response and distribution of the responses according to the impact of the UNESCO Chairs' activity.

	Response rate	Direct	Indirect
Quality education	41%	100%	0%
Gender equality	41%	89%	11%
Partnerships for the goals	41%	89%	11%
Reduced inequalities	53%	78%	22%
Peace, justice and strong institutions	53%	67%	33%
Decent work and economic growth	41%	50%	50%
Industry, innovation and infrastructure	41%	44%	56%
No poverty	47%	43%	57%
Sustainable cities and communities	53%	33%	67%
Zero hunger	53%	14%	86%
Clean water and sanitation	53%	14%	86%
Good health and wellbeing	47%	0%	100%
Affordable and clean energy	41%	0%	100%
Responsible production and consumption	35%	0%	100%
Climate action	29%	0%	100%
Life below water	53%	0%	100%
Life on land	53%	0%	100%

Table 2. The main impact of UNESCO Chairs on the Sustainable Development Goals

Source: Prepared by the authors based on responses provided by a group of UNESCO Chairs.

UNESCO Chairs' good practices in the development of social responsibility and compliance with the Sustainable Development Goals

The first case is that of the UNESCO Chair in Quality Management of Higher Education and Lifelong Learning, at the Lucian Blaga University of Sibiu. It relates to the way that a UNESCO Chair can act as a bridge between local and global perspectives of social problems:

Lucian Blaga University of Sibiu is a founding member of the 'Academic Impact' initiative, a United Nations-supported global initiative that aligns institutions of higher education committed to and engaged in actively supporting ten universally accepted principles in the areas of education, human rights,

literacy, sustainability and conflict resolution. By promoting and supporting the 10 principles of education, Lucian Blaga University of Sibiu, through its UNESCO Chair, serves as a point of contact for ideas and proposals relevant to the United Nations, fosters direct engagement in all the programmes, projects and initiatives defined by the Millennium Goals and other United Nations objectives and helps the UN build stronger ties with other Romanian Higher Education Institutions along these lines of cooperation.

The activities carried out within the UNESCO Chair in Quality Management of Higher Education and Lifelong Learning represent many openings to current global phenomena supported by inter-governmental bodies such as the United Nations and UNESCO.

The other good practice included in this paper is that of the UNESCO Chair in Higher Education for Sustainable Development. It is an example of how Chairs can help to achieve the Sustainable Development Goals through their respective higher education institutions:

The Leuphana University of Lüneburg's Sustainability Report documents the activities initiated to incorporate the sustainable development principle into the university's daily operations. The report describes the 2005 and 2006 status and points to future fields of action and to the challenges still to be met.

The Sustainability Report investigates ways to improve the sustainability record and outlines the future development of the university. It includes both the operational/business side of the university as well as the core tasks of an institute of higher education – research, teaching and transfer.

Conclusions and recommendations to promote UNESCO Chairs' role in the development of social responsibility and in the application of both local and global approaches to problems relating to the Sustainable Development Goals

The first conclusion drawn from the surveys of UNESCO Chairs is that these entities are fully aware of local and global approaches to social problems, and of how these approaches should be taken into account in their activities and tasks.

According to their responses, all of the Chairs have had experiences and undertaken activities in the global arena that can be transferred to the local environment. It is true that their activities appear to have a greater direct impact on the local environment, particularly with respect to acting as a bridge between education institutions and the social, political and economic sphere. However, the operation of global networks has enabled the Chairs to find out about and explore solutions to local problems, and to contribute their own experiences to other international environments.

The Chairs themselves establish which path to follow to improve their function as a bridge between the local and the global. Firstly, it is important to work on collaborative and cooperative activities in the area of training, in recognition of how intercultural and multicultural environments benefit learning processes and of the advantages of shared knowledge. Secondly, the Chairs' function as a catalyst should be enhanced to bring solutions from the global sphere to local problems and to develop the use

of both approaches to find practical solutions to social problems. This could be interpreted as a need to improve the transformation of ideas into action.

The challenge is to associate local decisions and actions with a global perspective and, likewise, to address the global from a local perspective. Therefore, we must promote the Chairs' function as a bridge, and ensure that their tasks go beyond the local environment.

The UNESCO Chairs are aware of limitations that affect their ability to act as a bridge between the local and the global. Some of these limitations are within the area of influence of the Chairs and their related structures, and can therefore be dealt with directly. Others are outside of their scope and can only be responded to indirectly.

Directly, the UNESCO Chairs, the education institutions to which they are attached, and related regional, national and global structures could have an impact on the following aspects in particular:

- » Increase the human, technical, material and financial resources of the UNESCO Chairs, which undertake an important task, with a broad vision and a wide scope, under difficult conditions.
- » Promote platforms and networks for exchanging knowledge, the results of activities, good practices and other aspects relating to the way that other Chairs work or resolve similar issues.
- » Increase the support offered to UNESCO Chairs by regional UNESCO offices, given the nature of these offices. Above all, enhance the visibility and impact of UNESCO Chairs' activities on public policies.
- » Increase the support of UNESCO Chairs and the prominence of their role in the educational institutions to which they are attached. The HEI should recognize the work of the Chairs and the importance of their function for the institution.

Work on the above points would promote the function of the UNESCO Chairs as a bridge, and help to make progress in the development of the Chairs' social responsibility, and that of the educational institutions to which they are attached.



PART V
EDITORS'
CONCLUSIONS AND
RECOMMENDATIONS

Recommendations for Academia, Academic Leaders and Higher Education and Research Policymakers

Francesc Xavier Grau, John Goddard, Budd Hall, Ellen Hazelkorn and Rajesh Tandon

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In this final chapter of HEIW6, we, the editorial team, jointly reflect on all of the contributions and give our recommendations for academia, academic leaders and higher education and research policymakers. This joint reflection has been very much enriched by the collaboration of Prof. Didriksson, senior researcher at the Institute for University and Educational Research of UNAM (Mexico); Barbara Letthem Ibrahim, founding director of the John D. Gerhart Center for Philanthropy and Civic Engagement at the American University in Cairo (Egypt); Merle Jacob, professor of research policy at Lund University and UNESCO Chair in Research Management and Innovation Systems (Sweden); and Dr. Vincent Lomotey, deputy registrar of the University Relations Office at Kwame Nkrumah University of Science and Technology (Ghana). We are grateful for their enlightening contributions to our discussions.

Introduction

In the final third of the 20th century and at the beginning of the 21st century, we have witnessed the comprehensive globalization of almost all facets of the human occupation of our planet. Taking a longer perspective, we recognize that the university was one of the first global institutions, if not the first, since its inception with Taxila University in 600 BC, Nalanda University in AD 500, the Al Karaouine University in Fez, in AD 859, and Bologna University in AD 1088.

As emphasized at a European Universities Association Conference in Brno 10 years ago, globalization is linked to localization, the renewed importance of place and the emergence of regions as platforms

for global competition. Hence, globalization, localization and universities necessarily have to come together. It is therefore not surprising to find discussions arising around the globe on the critical role of higher education, research and innovation in the strategic positioning of nations, regions and cities in this global competition. At the same time, universities and their role in the creation and dissemination of knowledge are critical in securing ‘the bold and transformative steps which are urgently needed to shift the world onto a sustainable and resilient path’, as stated in the UN Declaration ‘Transforming our world: the 2030 Agenda for Sustainable Development’, the most recent and globally shared expression of the current challenges for humanity.

Indeed, there is a dual perspective on global affairs: on the one side, there is competition between national and regional economic systems in developing their respective societies, and on the other, there is the global sustainability of the sum of all these developments. Higher education institutions (HEIs) can be identified as key players from both perspectives and, thus, have the singular responsibility of helping to provide appropriate and adequate responses to both legitimate needs and interests: i) to address the global challenges of the world, which are very well summarized by the UN Sustainable Development Goals (SDGs), and ii) to contribute to the social, cultural and economic development and international competitiveness of their societies. Universities compete on the global stage for students, faculty and research contracts, but are expected at the same time to contribute to the economic competitiveness of their localities and to sustainable and inclusive global and local development. As Chambers and Gopaul (2008) point out, ‘whether higher education is a public good or is for the public good remains secondary to the general sense that higher education plays a significant role in addressing complex social problems’. From this perspective, it becomes necessary to make explicit the dual engagement of universities: with the immediate needs of our local societies and with the global challenges of the world, of our global society. The study of this duality has been the objective of this 6th Higher Education in the World (HEIW) GUNi Report, ‘Towards a Socially Responsible Higher Education Institution: Balancing the Global with the Local’.

More than 30 experts from around the world have contributed to a dissection of the topic and the identification of good practices that can help academic leaders and policymakers to realize the highest purposes of education and research. The contributions follow the initial decomposition of the report into ten chapters, but each of them is independent and stands on its own, offering a rich panorama of analysis, conclusions and recommendations. The reader is invited to go to these original articles for a deeper analysis of each of the topics. The present, final chapter of the report is based on the contributions and provides a common and coherent set of general conclusions that propose directions of change or action for HEIs and systems, to help them to develop as locally **and** globally engaged.

World Context and Implications for Higher Education Systems and Institutions

Global indicators relating to health, education, life expectancy, gender equality, etc. unquestionably show that over the last 30 years, many people have experienced the greatest positive evolution in history. Despite this fact, increasing social instabilities, including deepening economic inequality, continuing violence against women, continuing exclusion of indigenous persons, increased lack of personal safety, and a growing number of extreme weather events providing evidence of climate change,

have contributed to the development of a general sense of preoccupation and urgency about the sustainability of the present model of development. The SDGs approved by the UN in 2015 summarize the global challenges for humanity. As Hoballah et al. (2017) point out, the SDGs acknowledge the significance of education in addressing global challenges. More specifically, the combination of higher education and research provided by universities is included in one way or another in one third of the SDGs. The UN Secretary General, Ban Ki-moon, states that:

All regions and countries can benefit from progress toward a knowledge-based economy, which does not depend heavily on material resources, places less of a burden on ecosystems and is more sustainable than other economic models. By shifting to a knowledge-based economy, societies can move from the age of scarcity to the age of abundance. Knowledge does not deplete with use but rather increases as it is shared among people. Through technological innovation, we can help usher in a more sustainable future. To generate progress, countries must invest in education, science and technology.

This global state of affairs places universities at the heart of national and global strategies.

From the perspective of global challenges, Mayor Zaragoza (2017) insists on the immediate need for action, since the current state of affairs cannot continue. Regarding social issues, the disparities between the wealthiest and the poorest, and the lack of solidarity of the former towards the latter, have reached limits that can no longer be tolerated. Moreover, in relation to the environment, he states that we live in a crucial moment in the history of humankind in which both population growth and the nature of our activities influence the habitability of the earth. Both authors, Ban Ki-moon and Mayor Zaragoza, identify the **unique role of HEIs and higher education systems as potentially leading the way in this enormous task of 'developing a sustainable and responsible pathway for our common home'.**

Universities can play a vital role in helping to solve problems if they adopt the mission of a 'civic university' (Goddard et al., 2016). Walters and James (2017) point out that at present, universities are often acting contrary to the public good, helping to increase inequalities – for example, by celebrating policies of selectivity and neglecting their local or regional commitments – rather than lessening them. In other words, universities can either be part of the problem or be part of the solution. Despite the fact that some of the SDGs are focused on conflict-mitigating efforts rather than on social and human advancement, they are a good starting point for establishing concrete global objectives for HEIs. In this respect, and among many others, the specific **responsibilities of HEIs would be:**

- » Adopting the mantle of the civic university – pursuing the 'public good' by aligning its interests with those of society, and working collaboratively with other HEIs to maximize their collective impact;
- » Playing a proactive role in ensuring that the SDGs are included in local agendas, proposing changes to education, conducting research and engaging with local and global communities on sustainable development;

- » Educating the SDG Generation needed to make the SDGs a reality, with the necessary knowledge, skills, competencies and partnerships, thereby helping to produce new SDG leaders;
- » Building capacities for SDG policies, planning and management;
- » Conducting transversal reviews and refinements of curricula to ensure the mainstreaming of SDG issues across curricula, and including new values and practices for economic development that enhance social equity while reducing environmental risk;
- » Facilitating an in-depth understanding of reality;
- » Widening and extending access to and successful participation in higher education by serving the needs of an increasingly diverse student cohort (from 18 to 100 years), by adopting new organizational structures and pedagogical approaches, including online, open and flexible learning that can help in forging the new SDG Generation.

1. Changing the Role of Higher Education Institutions in the Light of Globalization; Trends and Challenges

By the nature of their mission, HEIs have had always a core commitment to the cultural, social and economic development of their cities and regions, and will continue to have enormous potential to contribute to future changes. Nevertheless, the role of HEIs in the 21st century is continuing to evolve. Many HEIs are in the early stages of trying to forge an appropriate balance between their contribution to their local/regional community and pursuance of international goals. Following Puukka (2017), *the extent to which an HEI is able to balance and develop these roles effectively depends on:*

- » Broader policy context and policymaking, the degree of institutional autonomy, and the system of funding, incentives, monitoring and evaluation;
- » Local and national context, including the socioeconomic environment, demographic demands for higher education, changes in the labour market and other specific characteristics;
- » Leadership and management capacity and capability at the institutional level, and the quality of decision-making.

HEIs have a role to play in ensuring national prosperity, as well as a broader responsibility to contribute to the creation of dynamic and sustainable global communities (De Wit and Leask, 2017) and, as highlighted by Hoballah et al. (2017), HEIs can influence and guide future decision-makers in all sectors.

In fact, *universities have a huge responsibility since they contribute to the definition of what is 'real' and 'right' through teaching, research and all their other activities, and establish legitimacy of actions and actors* (Klein, 2017). Universities are integral to socioeconomic, cultural and political communities. *What they do matters* (Walters and James, 2017).

Given the reality, and the limited incentives for locally and globally relevant action, HEIs have to explore ways to address global and local challenges through their core missions of teaching and research, under the framework of a strategic planning and a long-term institutional commitment to local and global development. The direct benefits for universities of addressing global and local challenges would be:

- » Stronger future orientation;
- » Review of the core values and the quality of activities;
- » Development of critical world citizens with an understanding of cultures;
- » Development of multi-disciplinary approaches and teams;
- » Greater influence on policies from governments and international agencies.

Social transformations need innovative solutions. Universities can also contribute to building a cognitive framework that enables alternatives that already exist, but that are either ignored or discredited, to be recognized. The role of HEIs in social innovation requires, again, continuous attention on new aspirations that emerge in society.

As Klein (2017) points out, social innovation is primarily based on a collective learning process and, thus, has a strong local engagement character, despite the fact that it can perfectly address global issues. In order to have positive and long-lasting impact, social innovation has to shift its focus away from the resolution of specific local problems and towards a more holistic, comprehensive transformation. The university, as a global institution in a local setting, can contribute to such a shift by producing new knowledge through social experimentation and by disseminating it. The innovation model is being enriched with the growing participation of citizens, not only as users but also as participants in the co-production of knowledge through community engagement. The civic university can play a key role in bringing together business, government and civil society in quadruple helix partnerships.

2. Reframing the Curriculum for the 21st Century

De Wit and Leask (2017) assert that the curriculum is a key place in which to introduce emerging contents and create new pathways for human development and wellbeing; it can be the main instrument for the preparation of global citizens who are able to combine community engagement with scientific excellence. The curriculum should give space, if possible, to local or community needs, to the development of an eventual national agenda and to global/international trends and challenges.

In particular, the internationalization of curricula, which should engage with multiple and global sources of knowledge, is needed to educate responsible global citizens, but also to work and have a positive impact locally.

In addition to internationalization, following the recommendations of François (2017), **curriculum re-framing should:**

- » Include modules to acknowledge issues of power, privilege, exclusion/marginalization, oppression and social justice;
- » Articulate competencies that will enable graduates to be efficient and effective in global and local communities;
- » Engage and integrate global and local stakeholders, both in implementing teaching activities and in the quality assessment processes;
- » Describe and map measurable/documentable learning pathways through which students will be educated for glocal citizenry;
- » Design and model innovative frameworks for employment opportunities that empower graduates to enjoy quality lives while contributing their knowledge and skills to sustainable development.

Local and global challenges introduce many concrete pressures on the specific contents of a curriculum, including entrepreneurship, innovative approaches, creativity, environmental issues, gender issues and cultural diversity. The strategy should not be to design specific modules that will compete with curricular activities for a finite amount of course time. The response to these pressures and needs should be **to treat them, where feasible, within the regular contents of a course**. This surely also **implies changes in pedagogical tools and techniques, leading to more emphasis on experiential learning and on more holistic and complex, but realistic and contextualized, problems**.

3. Global Knowledge and Responsible Research

‘Knowledge is humanity’s greatest asset. It defines our nature, and it will shape our future’ (Breakthrough Prize). Unquestionably, the development of humanity has been, and will continue to be, shaped by the evolution of knowledge. **A global community needs global knowledge, and the research and innovation activity that allows its advancement has to develop in a way that is fully conscious of community needs and expectations, at both local and global levels.**

Debates about the nature of knowledge, the creation and co-creation of knowledge, the ownership of knowledge, the exclusion of knowledge, the colonization or de-colonization of knowledge, the racialization of knowledge and many other dimensions of knowledge have become lively and contentious discussions in recent years (Sousa Santos, 2007; Hall, 2011; Hall, Tandon and Tremblay, 2015; GUNi, 2014). **Among the contributions to the newer thoughts about knowledge is the concept of responsible research and innovation (RRI) initiatives, which are being supported by the European Commission through its Horizon 2020 research programme.**

As stated above, HEIs should play the role of agents of change and, in this sense, as Banda (2017) points out, **the social impact and relevance of the research conducted in HEIs should become an important aspect of the accountability of higher education**, alongside the requirement to reinforce values for a better world. RRI also has local and global impact: it is a key strategy to foster local competitiveness, relevance and social impact, but also affects global demands through its contribution to addressing global challenges.

RRI implies that societal actors (researchers and research students, citizens, policymakers, businesses, third-sector organizations, etc.) work together during the whole research and innovation process in order to better align both the process and its outcomes with the values, needs and expectations of society. As a term used particularly in Europe, RRI shares some of the aspirations of other knowledge discourses such as community-based research, participatory research, engaged scholarship and others. In that respect, the conclusions of the 5th HEIW Report, 'Knowledge, Engagement and Higher Education: Contributing to Social Change', are still current and valid.

- » The practices and structures that allow community-university engagement are rich and evolving: the community-university engagement movement (for example, the Talloires Network), service-learning experiences, community-based research, engaged scholarship, community-university research partnership, co-production of knowledge, knowledge mobilization, knowledge exchange and translation, etc.
- » **Knowledge creation is no longer a monopoly of the academy. Hence, there is a need to recognize the capacities and processes of knowledge creation outside HEIs and research centres, in all fields.** There is already a new movement taking place all around the world, and universities should not only be aware of it but also be directly involved. Some good examples are the Living Knowledge Network of Science Shops and many experiences of community-based research, with special focus on participatory research (Hall, Tandon and Tremblay, 2015).

Universities are the best place for genuine interdisciplinary research, which the resolution of complex problems requires, provided that they learn how to overcome the departmentalization of knowledge that specialization also demands. **RRI can be seen as a process in which joint efforts by all stakeholders can help in extending the impact of new knowledge from the technological innovation to social innovation, evolving to a more fruitful quadruple helix relationship.** The other knowledge discourses previously mentioned argue that a combination of academic knowledge and community/social/local knowledge are the critical elements in a new knowledge regime.

There is still a global challenge that deals with the responsibility of research policies: **to act in such a way that the production and up-take of knowledge tends to balance all over the world.** This is a necessary development that is in the opposite direction of the current trend. Fostering scientific collaboration through agreements between universities is still a powerful tool that can be used in synergy between regional/national development policies and research and innovation policies.

In any case, public research funding policies at any level – regional, national or supranational – are the final mechanism for promoting the inclusion of inclusive and collaborative research principles in the processes of:

- » Setting out and defining the research agenda, including priority-setting;
- » Conceiving new research projects, which should retain curiosity as a main driving force but increase the awareness of academics about the impact of their research;
- » Investing in research in a way that supports research across all disciplines, nurtures talent across the researcher pipeline, promotes mobility and attracts international collaboration;
- » Communicating the results to both the scientific community and society; in this respect, the movement for open access to science should be reinforced, and the public engaged as co-producers and users of research, not just the passive recipients of the results.

In a similar way, the national/supranational priorities for research should be checked against the SDGs, and aligned if possible. Public research funding policies are, again, the appropriate tool.

As Banda stresses, the recent agreement on how to tackle climate change may be a good example of both a collective and an individual commitment that can modify the course of nature for the benefit of society and future generations.

4. Institutional Governance, Organization and Management

The major assets of a university are the brains of its academic staff, the networks of knowledge, access to data and funding, and the support of students and society as the managers of the knowledge processes. Academics operate within the framework of what is universally known as academic freedom. Academic freedom guarantees that ‘Institutions of higher education are conducted for the common good and not to further the interest of either the individual teacher or the institution as a whole. The common good depends upon the free search for truth and its free exposition.’ The quotation is taken from the 1940 Statement of Principles on Academic Freedom and Tenure of the American Association of University Professors. More explicitly, and recently, Magna Charta Universitatum defined academic freedom as ‘the foundation for the independent search for truth and a barrier against undue intervention for both government and interest groups’. Even though academic freedom is a more complex and nuanced practice than can be inferred from historic statements, it is still the common concept that should represent academic practice worldwide, although reality shows that it is not the case in many countries.

Before emphasizing the importance of the institutional governance system for HEIs, one has to recognize firstly, that any system to be enforced has to be based on academic freedom, and secondly, that academic freedom is far from being respected around the world, in a situation that is inherently part of the problem that higher education is facing globally. Universities are not like other entities;

they are not part of the public administration, they are neither private companies, nor purely collegial organizations. They are a unique organization: universities and academic freedom lie at the core of society, worldwide.

This means that the first basic element in the definition of any kind of university engagement is that **the governance system must enable academia to participate in defining the university's mission. The overall commitment of universities should be explicit in their mission and vision, and understood and accepted by academic staff.**

As Goddard and Vallance (2011) point out, **the role of leadership is fundamental if bridges are to be built between university and civil society** (see also Goddard et al. (2016)). Leadership has to be proactive on both sides, and has to be transformative and focused on the public good. However, the intrinsic characteristics of the academic community (its diversity, organizational structures, academic practices, use of jargon, etc.) can create obstacles and challenges to civic leaders and **require universities to set up an internal strategy to promote, measure and recognize the participation of teaching staff in the social role of universities.** Although the engagement of university leaders is a must, it is clearly insufficient if it is not embedded throughout the organization and assumed by academics individually.

The governance system should facilitate and encourage individual members of the academic staff to contribute to the university's social responsibility in a variety of ways, above and beyond their regular teaching and research activities. The overall activity of the faculty should be measurable through an agreed procedure and, thus, acknowledgeable, in such a way that the so-called third mission of the university can be promoted collectively and recognized individually.

As Ellen Hazelkorn (2012) states, '[b]ecause academic norms and values can be a road-block to diversity, **new forms of academic credentialism and assessment that recognize the diversity of research outputs and impacts as part of the "continuum" of scholarship should be adopted**'. She cites as an example a Research and Academic Staff Commitment Agreement in force at the Universitat Rovira i Virgili (Grau, 2006) in which the commitment of the research and academic staff is considered as a whole, but flexibility is key to achieving individual and collective goals. Universities require research and academic staff with different profiles, and their dedication to the three basic university activities should not necessarily be the same at any given moment in time, or at any given point in a particular person's career. Evidently, approaches like this need an internal culture of accountability and a system by which academic activity can be measured and recognized.

From an internal and organizational perspective, **universities may nowadays need new kinds of structures designed functionally to facilitate new partnerships in research and teaching and to establish better connections between the different institutional areas.**

There is not a single or best model of governance, and the diversity around the world is enormous but, as is implicit above, **governance systems should allow for the participation of the stakeholders' voice as a way to facilitate the real social engagement of universities.** In any case, HEIs work within a context: they are supported, encouraged and restricted depending on a specific policy environment.

There is, then, an important role for governments in setting system-level objectives, and holding institutions to account, including in terms of social engagement.

5. Glocal Higher Education Institutions' Engagement and Ethical Implications

Universities do not exist in isolation from society, nor from the communities in which they are located, as stated in the Talloires Declaration on the Civic Roles and Social Responsibilities of Higher Education. Engagement is defined by the process of sharing, through which a university gains as much as it contributes, increases its own relevance and becomes more successful at reflecting the character of its community. It also becomes more effective at drawing inspiration from civic sources and responding more quickly to meet direct and pressing challenges.

Thus, if the goal is excellence – greatness on a global scale – the path to success for most universities does not lie in a struggle for incremental improvements in rating systems, which are never a goal, but simply a tool. Rather, it lies in embracing one's own community in the search for educational relevance, research innovation and community engagement that can allow each university to find its *métier* – that unique quality that distinguishes it as legitimately pre-eminent and worthy of attention in its own community and in the wider world (Petter, 2017).

The key lesson of recent years is the need to celebrate and support institutional diversity, recognizing that HEIs have different missions and roles in society, which collectively have the capacity and capability to make an impact. Following the contribution of Puukka (2017), developing a global and local engagement role for an HEI should focus on defining and strengthening its own mission and profile, and working closely with myriad stakeholders to identify its contribution to society and the economy. In this context, the following steps and actions should be considered by HEIs and their environment:

1. Institutional commitment
2. Needs assessment
3. Institutional capacity assessment
4. Institutional activity audit
5. Gap analysis
6. Target setting and role definition
7. Organizational development
8. Policy development
9. Policy implementation
10. Monitoring, evaluation and improvement

These steps are so logical that, in fact, they emphasize that **developing a global and local engagement role for an HEI requires the same kind of approach and mindset that is needed to undertake any new institutional strategy.**

The International Association of Universities (IAU) and the Magna Charta Observatory (MCO) have done a great job to correct a major deficit across the global higher education system: 'there exists no international code or guidelines on ethical conduct for higher education institutions that articulates how, as institutions, they promote academic and scientific integrity and prevent academic dishonesty and unethical behaviour by actors and stakeholders that form the academic community'. In her contribution to this report, the IAU Executive Secretary, Eva Egron-Polack (2017) explains the IAU-MCO Guidelines for an Institutional Code of Ethics in Higher Education, which constitute the best definition so far of the ethical issues that can arise from the activity of HEIs, and are fully applicable to their responsibility towards the local and global societies.

As the guidelines establish: **"It is necessary but insufficient for higher education institutions to elaborate and adopt an Institutional Code of Ethics. Higher education institutions need to go beyond declaring the values and principles they protect and promote by integrating these fully into their institutional strategies, curriculum, management processes and relations with outside stakeholders including international partner institutions, while continuously updating their Code and monitoring its application to ensure relevance and currency."**

In that respect, and in addition to the above considerations concerning teaching and research activities, **institutions and systems of higher education should also assess the extent to which they:**

- » Are part of the problem, because they are contributing either to widening the privilege gap in society or to reproducing the status quo, through student selection and entry criteria, curricula and/or research;
- » Can help in supporting the decolonization of knowledge and revitalization of indigenous knowledge;
- » Contribute to the privatization of ownership, control, inequality in access and possession of knowledge;
- » Contribute either to the concentration of talent in the Global North through brain-drain processes or to the mobility and circulation of knowledge and talent.

6. Incentivizing Institutions, Faculty and Students

As stated above, the nature of universities is such that their overall commitment should be explicit and understood, shared and accepted by the faculty. As Harkavy et al. (2017) point out, HEIs understand more fully than ever that it is in their enlightened self-interest to be civically engaged, particularly with their local schools and communities. **Local engagement is also becoming a way to achieve eminence as a research university.** Based on the recommendations of Harkavy et al. (2017) to promote this approach

worldwide, HEIs should proactively amend institutional norms by stimulating university-wide conversations on the role of engaged scholarship in realizing the university mission (again, the Research and Academic Staff Commitment Agreement described by Grau (2006) can be an operative example of how to develop it) and put in place policies that foster the outcomes of the university's commitment. 'Ultimately, what is required is the establishment of an overall socialization process that promotes engaged scholarship and sees it as a valuable act of scholarship and one that advances the institutional mission.'

Puukka (2017) also remarks that an engaged HEI encourages, promotes and rewards outreach, engagement and risk-sharing, which implies revisiting human resources policies and developing a stronger recognition and rewards policy for local and global engagement. In addition, the institution will need an enterprise policy that ensures that the staff's entrepreneurial and consulting activities are permitted and balanced with academic responsibilities. HEIs can also create incentives for students or student unions for local and global engagement. These steps will be difficult to take if the national policy framework allows limited or no scope in human resources development or funding policies.

It is also interesting to note the concurrence with previously cited authors in the recommendation to establish university-wide centres that catalyse and coordinate community-university engagement, support faculty in this work and institutionalize engaged scholarship. The University of Pennsylvania's Netter Center could be a good example.

Finally, the key aspect is to provide recognition and support for higher education-civic partnerships and to demonstrate community benefit. Institutional recognition and support might include course development grants, faculty-community partnership awards, thematically based faculty-led seminars, and support for participatory action research projects. Moreover, government, foundation and institutional funding should be awarded to faculty projects that work to solve real-world community problems (not merely describe them), and that do so in collaboration with local partners (again, the idea of quadruple helix collaboration).

As previously stated, recognition and incentives for student engagement should be incorporated in the curriculum design, which requires a credit-recognition system for this kind of activity.

One practical and well-established way to extend the understanding and impact of the international dimension of local civic engagement activities is through cross-border collaboration. Again, public policies should enhance this possibility.

7. Mutual Learning and Empowering Support: the Role of Networks in Achieving Glocal Engagement

The contribution of a single university, even of a single researcher, can constitute a breakthrough in a specific field of science and become a cornerstone for new knowledge development. However, it is likely that this process will be insufficient when dealing with cultural changes, such as those required for the development of dual *glocal* responsibility and engagement. Global partnership is crucial for ensuring the success of a shift towards socially responsible universities at global and local levels.

The motto 'Locally engaged, globally relevant' would be appropriate for many universities, especially those created during the past 50 years of expansion (democratization) of higher education ('To be a great national university, we must be a great local university', Shirley Strum Kenny, President, SUNY Stony Brook). Both objectives need alliances to reach the required/desired impact; in fact, nowadays alliances are necessary for most universities, by design, since **the vast majority of universities cannot fulfil all their missions without developing real collaborative work with others**. There is, then, a functional role developed by alliances and networks that extends the role of single HEIs and permits the fulfilment of the missions of each of its members. In this sense, networks can be characterized by the kind of direct benefits they provide to universities:

- a) Helping them to draw up individual strategies that are consistent, and in some cases synergistic, with global needs, trends and/or standards;
- b) Integrating a broader and stronger higher education structure that helps to preserve academic autonomy in defence of the public interest;
- c) Supporting mutual learning, which fosters individual improvement and increases the ability of single institutions to adapt to changing demands;
- d) Increasing knowledge mass, which means being able to reach the required critical mass in highly specialized fields that a single institution may not be able to achieve;
- e) Providing better education through transnational and or transcultural experiences.

Furthermore, evidence shows that **for many institutions the only practical way to move forward is to take a strategic approach to partnerships and engagement in combining global and local action**. As Puukka (2017) points out, to address the dual challenge of globalization and localization there is a need to coordinate existing and new collaborative projects and to build long-term partnerships. The key to a successful local and global engagement role for higher education institutions lies in the success of combining the local and global engagement as well as the ability to forge mutually beneficial partnerships. In order to take full advantage of these partnerships, universities and other higher education institutions need to become more open and entrepreneurial, socially engaged and civic-minded and strategic by identifying local and global challenges and opportunities and development at trajectories.

Harkavy et al. (2017) emphasize that **collaboration inside and outside the academy is necessary to produce genuine knowledge that solves real-world problems** and results in positive changes in the human condition. In this respect, they highlight the actions of global networks such as Talloires, GUNi, PASCAL International Observatory, the Living Knowledge Network, Asia Pacific University Community Engagement Network and others.

In short, then, **alliances and networks are an important enabler for HEIs, helping them to develop their missions and, in particular, to advance effectively towards a higher education system that is both lo-**

cally and globally engaged. In other words, collaboration is the best way to maximize capability beyond individual capacity (Hazelkorn, 2010: 70). University leaders and higher education and research policymakers should promote the identification of ‘systems of higher education’ as agents of the global system (increasing the systemness of higher education), and incentivize the participation of their own HEI or system in the different kinds of networks described above, which have a specific function within the local and global systems.

8. Impacts, Multi-faceted Accountabilities and Measurements

Today, more than ever, full accountability is an obligation for HEIs. As core institutions of society, and key to accomplishing its development objectives, HEIs have to demonstrate and to convince society of their positive impact and the value and relevance of the resources that society secures for them. Moreover, they should also be an example of a learning institution that has a strong commitment to continuous improvement on the use of resources.

‘You can’t improve what you can’t measure.’ This has become commonplace, but it is intrinsically true. The idea has been stated in many different ways, probably most clearly by H. James Harrington: ‘Measurement is the first step that leads to control and eventually to improvement. If you can’t measure something, you can’t understand it. If you can’t understand it, you can’t control it. If you can’t control it, you can’t improve it.’ Although research impact has been normalized in many scientific areas and dominates the measurement of the outputs of research activity of universities and other knowledge institutions, the impact of teaching is much more elusive, and the impact on society of the overall activity of a university can be even more so. Despite all the difficulties, universities and the knowledge community must make the effort to monitor the evolution of their impact on society and, more importantly, demonstrate and communicate their impact to the public and public authorities in a consistent and regular way. Moreover, following what is called the ‘Hawthorne effect’, the secondary but no less important effect of a culture of regular measurement is that it favours the involvement of the whole university community because of the positive feeling produced by the fact that all activities can be valued and recognized.

However, it is vital that indicators are meaningful, are fit for purpose, and are not simply counting what is easy or available. Simply introducing indicators to capture impact is not necessarily an appropriate answer.¹ In this respect, initiatives such as the European Commission’s European Indicators and Ranking Methodology for University Third Mission (E3M), summarized in the ‘Green Paper. Fostering and Measuring “Third Mission” in Higher Education Institutions’ (2012), should be encouraged because they attempt to conceptualize and systematize a set of indicators that enable third mission activities to be measured, regardless of the system finally adopted and also regardless of the unavoidable side-effects of a limited set of indicators, which end up by directly affecting the behaviour of the system.

In this respect, as Banda (2017) points out, there is a particular need to develop specific indicators to monitor the implementation of RRI. Wilsdon (2015, 134) promotes the concept of ‘responsible metrics as a way of framing appropriate uses of quantitative indicators in the governance, management

¹ See <http://www.hefce.ac.uk/pubs/rereports/Year/2015/metricride/Title,104463,en.html>

and assessment of research'.² Upton (2017) remarks that, given the known complexities of attempting to balance local and global engagement agendas, it is clear that assessing them in parallel is also liable to be a complex task. Evaluative mechanisms have an outcomes-based focus: this engenders a skew towards global goals at the expense of locally beneficial activity, which is problematic.

As was signalled in section 6 above, Upton (2017) emphasizes the importance of treating the spectrum of scholarship and engagement activities undertaken within higher education in a more holistic manner. **Treating the pursuit of societal engagement as part of the process of teaching and research, and not as an independently measurable outcome, is a more promising route to embedding impact at different levels.**

A set of actions is apparent that would usefully advance our approach to impact assessment (see also the recommendations contained in Expert Group (2008)):

- » As more countries begin to foreground 'impact' in their universities' mission, **there is a pressing need for further empirical research to test developmental and process-based evaluative mechanisms**, such as those described by Upton (2017), in the higher education environment.
- » In recognition of this range of possible mechanisms, **as governments implement their own systems for assessing research impact they should look beyond existing outcomes-based models.**
- » Prior to any system-wide rollout, **national trials should include developmental, and not only judgemental, forms of assessment.**
- » In such circumstances, policymakers and practitioners will need to show openness to new approaches. But given systems' significant interconnectedness, the potential cost for a national higher education system of instituting unilateral change is high. **Transnational higher education networks should therefore take the lead in generating debate and shaping the agenda on impact assessment.**

Ultimately, governments must be encouraged to consider whether **the competitive drive to demonstrate impact serves to privilege certain research ends to the detriment of other, equally important ones. Indeed, the fact that rankings measure basic research in traditional scientific fields benefits elite research universities (Hazelkorn, 2009). There is also a global concern about the oversimplification effect of the generalized use of academic rankings, and about the choice of indicators, the methodology and the conceptualization of research (Hazelkorn, 2015).** The potential danger lies not in the intrinsic information they provide – essentially a table that includes less than 5% of the world's HEIs – but in the concentration of public attention on this select group of universities, which can negatively affect the development of the remaining higher education system. **This is strictly a public policy responsibility. Higher education and research officials have to define the dimensions and the diversity of their own system and, in particular, their objectives and the policy for the allocation of public resources.** In that respect, the accountability of HEIs and systems and the measurement of results and impacts become central elements of the strategy of a country, and, by extension, of the global society, if it includes a focus on global challenges.

² See http://www.hefce.ac.uk/media/HEFCE,2014/Content/Pubs/Independentresearch/2015/The,Metric,Tide/2015_metric_tide.pdf

9. Resourcing Change Process, Making a Difference

The 1st GUNi Report, 'Higher Education in the World 2006: The financing of universities' (HEIW 2006) focused on the resources devoted to higher education. In the report's preamble, the GUNi President states:

Higher education as a quality public service with strong social commitment is a necessary condition for inclusive sustainable development of nations. Although history demonstrates this certainty over time and across the nations, higher education is at a crossroads. On the one hand, world development is led by the so-called knowledge society, and nations as well as individuals need to face it with quality higher education. This helps to explain the unprecedented expansion of higher education systems worldwide. But on the other hand, most countries and societies in the world have not been able to match this expansion with sufficient financial resources.

This idea is still valid today.

There is a huge amount of research concerning the funding of universities and, among it, HEIW 2006 provides a worldwide panorama that is still very descriptive and useful. Nevertheless, the situation is somewhat different today. After the global economic and financial crisis, many nations have faced complex financial circumstances that affect all public services and, in particular, higher education and research. Progressively more intense market pressures are threatening even the public character of higher education. As stated from the beginning, higher education and research play a central role in the development of nations and humanity as a whole. They have, and will continue to have, an essentially public interest. However, public funding in many countries of the Global North is not as generous as it once was and in many more countries, in the Global South, has not developed in the way and to the extent required. Hence, there is an increasing pressure on public resources that are always scarce.

The current report does not deal with funding and funding policies, but cannot avoid the fact that resources are at the heart of any strategy to be developed. Moreover, specific resources for institutional change are required so that universities can be supported to face their responsibilities at local and global levels, as described in previous sections.

First, there is a **need to establish a global reference framework for the economic dimensioning of the public effort of higher education and research**, in a similar way that many countries and transnational political entities establish values of reference to define the objectives for investment in research and development (R&D). For instance, OECD countries (which account for one-sixth of the global population) devote, on average, 1.6% of their gross domestic product (GDP) to higher education, including R&D in universities, with 1.1% being public resources and 0.5% private. Accordingly, **monitoring global public and private investment in universities has become a regular activity of global organizations like the UN, UNESCO and the World Bank. Only a well-funded system of higher education and development of knowledge around the world can ensure sustainable development for all.**

Economic resources are no more than a tool; indispensable, but a tool. The real resource required to face local and global challenges is knowledge. In that respect, higher education and research policy-makers should develop programmes to enhance local leadership and, in many countries, to attract and retain talent.

Given the progressive scarcity of public resources, there is a global tendency to the 'elitization' of knowledge: a growing inequity in accessing world-quality HEIs and a concentration of R&D resources in a few highly specialized research centres outside universities. Both trends should be reversed, and this is a responsibility shared between higher education and research policymakers and university leaders. Social cohesion at the local and global levels is more than a utilitarian need to attain sustainable development; it is a key objective in itself. This requires that access to and participation in higher education is based on personal merit and capacity and not on membership of a particular social class. The specialization of knowledge and specific strategies of nations and their productive sectors may eventually drive resources to be targeted in highly specialized research centres. However, if this is the case, this should not be to the detriment of research in universities, as they have responsibility for preserving and strengthening the breadth of knowledge across all disciplines, as well as playing a formative role in ensuring the research pipelines necessary for the development of ongoing generations of scientists. Curiosity continues to be the main progenitor of the production of global knowledge.

To guarantee this unique role of universities, their governance system has to ensure full public accountability, both of public and private resources and of research results. In this respect, it is crucial to develop a standardized system of data collection for each higher education system.

Finally, the main stakeholder of HEIs and higher education systems is the local society that creates, supports and funds them. Consequently, HEIs have a key role in the strategic development of their society. The requirement of efficiency also leads to the need to establish a system of alliances and sharing responsibilities with other social actors, while keeping the core responsibility of higher education in creating and disseminating knowledge under the principle of institutional autonomy.

Final remarks

Throughout this multi-secular history, universities have continuously evolved and adapted to their societies' needs; therefore, the current period does not represent a major turning point. Nevertheless, in the last decade universities have certainly undergone fundamental changes: their overall mission has been redefined and they have been repositioned at the very centre of the social structure in which they are embedded, and held to high expectations by all stakeholders. The phenomenon is complex and multi-faceted, so it can be approached in many different ways, as reflected in the extensive literature that has been produced on the subject in recent years.

A variety of adjectives have been used to define the roles that universities should play and the challenges they face. The 5th GUNi report on higher education (GUNi, 2014), for example, spoke of 'en-

gaged universities', whereas Goddard (2009) and Goddard et al. (2016) developed the idea of 'civic universities'. Other terms that have been proposed in recent years are 'entrepreneurial universities' (Gibb, 2005), 'innovative universities' (Christensen and Eyring, 2011) and 'globally competitive, locally engaged universities' (OECD, 2007). More recently, Douglass (2014) has sought to refresh the concept of 'flagship universities'.

The vast majority of the literature on this subject draws its inspiration from the fact that university activity – training professionals and community leaders, generating advanced knowledge, and transforming knowledge into new products and processes – plays a central role in economic development and the competitiveness of nations and regions. However, the 2014 GUNi report and other organizations, such as the Talloires Network, focus more on social commitment and the universities' response to the major problems of humanity. Both of these approaches have emerged from the same phenomenon and the same need: the challenges posed by globalization to people, societies, nations and the world at large. Goddard et al. (2016) have explained the engagement agenda in terms of three broad perspectives or schools of thought – social justice, economic development and the public good – each of which has different implications for institutional governance, organization and focus.

The importance of local issues is perfectly illustrated by the new European regional policy, which requires applicants to develop a Regional Smart Specialization through Research and Innovation (RIS3) strategy if they want to have access to cohesion funds (structural and social action). The Europe 2020 Strategy highlights the key role that innovation plays in smart, sustainable and inclusive growth. Regions play a crucial role because they provide opportunities and an arena for interaction with companies, public authorities and civil society.

One of the ways in which society can rise to global and local challenges is for universities and other HEIs to develop knowledge that can then be used to create innovative products and provide public and private services. This process can involve specialists, not only in science and technology, but also in the humanities and social sciences. Universities have a range of mechanisms at their disposal to transform knowledge into development and wealth. These include providing counselling and services to small and medium-sized enterprises (SMEs), public administration and non-governmental organizations (NGOs), ensuring employment for graduates, incubating spin-offs in science and technology parks, setting up networks of research and business clusters, connecting research requests with research groups and students through Science Shops, meeting the needs of the qualification market for local/regional work, among others.

Today, the role played by a university in society is measured not only by its impact on higher education and research, but also by the extent to which it carries out what is simplistically referred to as the third mission: that is, the socioeconomic and cultural interaction between the university and the environment, which aims to improve the community. This interaction with society and the economy is as diverse as the diversity of HEIs. In any case, universities are already involved in shaping an environment that is conducive to generating knowledge and transforming it into economic value, productivity and competitiveness. In turn, this creates jobs and wealth and helps to lay the basis of a balanced, advanced, fair and sustainable society.

These different approaches do not always appear to be compatible. This may be the greatest challenge of all: universities – particularly those specializing in research – must at the same time be recognized as civic, entrepreneurial, innovative, flagship and globally competitive, and both locally and globally engaged. Ultimately, the onus is on higher education and research policymakers to design the appropriate environment of policies, public and private resources, data collection and accounting procedures and public information to make this possible.

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GUNi Series on the Social Commitment of Universities

Higher Education in the World 6

Towards a Socially Responsible University: Balancing the Global with the Local

Higher Education in the World is a collective work published as part of the GUNi series on the social commitment of universities. The present document frames the 6th Higher Education in the World Report (HEIW6) through a comprehensive analysis of the global and local engagement of higher education institutions (HEIs).

Towards a Socially Responsible University: Balancing the Global with the Local aims to analyse the dual responsibilities of universities at local and global level, exploring the potential conflicts and intrinsic difficulties in addressing both the local demands of society based on the race for global competitiveness and the local and global demands to contribute to a more equitable and sustainable society (at local and global levels).

There is a dual perspective on global affairs: on one side, competition between national and regional economic systems when developing their respective societies still predominates, and on the other, there is the global sustainability of the sum of all these developments which is gaining momentum. Higher education institutions (HEIs) can be identified as key players from both perspectives and, thus, have the singular responsibility of helping to provide appropriate and adequate responses to both legitimate needs and interests: i) to address the global challenges of the world, which are very well summarized by the UN Sustainable Development Goals (SDGs), and ii) to contribute to the social, cultural and economic development and international development of their societies. The current organization of higher education in the world urges universities to compete on the global stage for students, faculty and research contracts. At the same time, they are expected to contribute to the economic development of their localities and to sustainable and inclusive global and local development.

From this perspective, it becomes necessary to make the dual engagement of universities explicit: with the immediate needs of our local societies and with the global challenges of the world, of our global society. The study of this duality has been the objective of this 6th Higher Education in the World (HEIW) GUNi Report, '**Towards a Socially Responsible University: Balancing the Global with the Local**'.



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