



Education in Times of Climate Change



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NORRAG Special issue (NSI) is an open-source periodical. It seeks to give prominence to authors from different countries and with diverse perspectives. Each issue is dedicated to a special topic of global education policy and international cooperation in education. NSI includes a number of concise articles from diverse perspectives and actors with the aim to bridge the gap between theory and practice as well as advocacy and policy in international education development. The content and perspectives presented in the articles are those of the individual authors and do not represent views of any of these organizations. In addition, note that throughout the issue, the style of English (British, American), may vary to respect the original language of the submitted articles.

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NORRAG Special Issue 07
English Edition, October 2022

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NORRAG is supported by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Federal Department of Foreign Affairs FDFA
Swiss Agency for Development and Cooperation SDC
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ISSN: 2571-8010



9 772571 801003

Education in Times of Climate Change

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Foreword

The long and deep historical engagement with the environment in education has gained increasing attention recently, due to recognition of the contemporary climate emergency and its effects on people and societies, and therefore on education; whether in basic education or further and higher education, formal or informal learning, for children, youth or adults.

Climate and development actors frame education as a key contributor to overcoming what is increasingly framed as a climate crisis; in the Paris Agreement (UNFCCC, 2015), as well as in SDGs 13 and 4 (UNGA, 2015). At the [COP 26](#) UN Climate Change Conference, at least 17 events addressed climate change and education. As recognised in the Berlin Declaration on Education for Sustainable Development (UNESCO, 2021) education is central not only to achieving SDG 4, but also as an anchor of all other SDGs. [SDG 4.7](#) underlines the commitment of educators to contribute to building sustainable and just futures. Most importantly, young people care, and are reclaiming agency in building their own futures; as shown by school strikes, legal challenges to governments, and online and offline climate activism.

And yet, UNESCO-IBE's (2021) review of 100 countries' national curriculum frameworks revealed that nearly half (47 per cent) made no reference to climate change. Moreover, 95 per cent of teachers believe that it is important or very important to teach about climate change (UNESCO and Education International, 2021), but only 55 per cent of teachers had received training. This resulted in less than 40 per cent of teacher respondents feeling confident in teaching the cognitive dimensions of climate change (40 per cent), and only 20 per cent feeling confident in how to teach for positive action (20 per cent). Nevertheless, decades of rigorous research has shown that education "about" environmental and social issues is not enough (Kwauk and Iyengar, 2021).

How then, should education address the global challenge of climate change? How can we best support children, youth and adult learners to address what Michael Mann identified as the [new tactics of climate denial](#): deflection, division, doomism and delay. How are we to address the wider question of transforming the structures and functions of education systems to address these challenges? How are educational institutions responding to climate change in their buildings, meals, gardens, transport and more? How

can education support the building of social and economic systems for sustainable futures, without losing sight of its educational mission and purpose?

Education's role in the climate crisis is to address the immediate [emergency](#), and also extends to long term, holistic views of systems transformation; empowering local communities for adaptive and mitigation action. Rigorous research exists that examines how education can contribute to students' future building; indeed, education is seen as being [key to making that happen](#). Education provides ways to conceptualise futures; to recreate, transgress and transform imperfect presents by engaging learners in defining and meeting the needs of a future that they are reimagining (Dryden-Peterson, 2022).

At the same time, recognition has grown that it is not possible to address environmental challenges without taking social issues into account: the most marginalized are the most vulnerable to changes in climate at the same time as they are least responsible (what Fussler (2010) calls the double injustice of climate change). In addition, a triple injustice is visited on the same marginalised people when purely environmental protection policies cause them additional vulnerabilities (Cook, Smith and Utting, 2012). Education in times of climate change as described in the pages of this NORRAG Special Issue (NSI) does not fall into this trap. Instead, the contributors chart a course for educators (with their learners, institutions and society more broadly) to build towards more sustainable – and just – futures.

In this NORRAG Special Issue, Heila Lotz-Sisitka and Eureka Rosenberg have skilfully curated 28 contributions from 75 authors in 22 countries that showcase what is currently being done to close the gap between the potential of education to contribute to more a sustainable and just world and the experiences of those in education. Part 1 draws lessons across disciplines, issues and contexts. Part 2 addresses ways in which we can expand learning and agency across boundaries from three different continents. Part 3 goes beyond formal schooling to offer lessons in building transformative learning, activism and relations. Part 4 leads the reader past western, rational, techno-scientific ways of knowing to engage diverse knowledges in climate change responses. Parts 5-8 offer a range of perspectives on active engagement with and responsiveness to different learners and demographics for

sustainability and justice. Parts 5 and 6 challenge the reader to listen to and engage with young people and children's views and voices in climate action. Part 7 focuses on higher education responses and Part 8 concludes the NSI by considering other places and spaces relevant to education for sustainable and just futures.

All contributions emphasise the need for the transformation and transgression of current practices, policies and planning; for teaching practices to incorporate more participatory or *ubuntu* methods; for curricula to provide more integrated concepts of society, environment and economics – notions that have never been conceptually or practically separate in many Indigenous knowledge systems. As [Radhika Iyengar said](#), quoting a protest sign, education for climate change without a focus on justice is just gardening.

NORRAG Special Issue was launched in 2018 with the ambition to be an open-source periodical giving prominence to authors from a variety of countries and with diverse perspectives. In line with NORRAG's strategy, and seeking to bridge the gap between theory and practice, each issue focuses on current debates that frame global education policy and international cooperation in education. The [first NSI](#) was on the Right to Education Movements and Policies: Promises and Realities, [the second edition](#) on Data Collection and Evidence Building to Support Education in Emergencies, [the third edition](#) focused on Global Monitoring of National Educational Development: Coercive or Constructive?, [the fourth edition](#) examined New Philanthropy and the Disruption of Global Education, [NSI 05](#) addressed Domestic Financing: Tax and Education, and the most recent, [NSI 06](#) considered [States of Emergency: Education in the Time of COVID-19](#).

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Contents

Education in Times of Climate Change	9
Distinguished Professor Heila Lotz-Sisitka, Environmental Learning Research Centre Rhodes University, South Africa; Professor Eureka Rosenberg, Environmental Learning Research Centre Rhodes University, South Africa	
Part 1: Overview Perspectives	15
01 The Uses of Policy Research	16
Marcia McKenzie, Professor, University of Melbourne/University of Saskatchewan, Australia and member of the Monitoring and Evaluating Climate Communication and Education Project, Australia; Aaron Benavot, Professor, University of Albany-SUNY, United States of America and member of the Monitoring and Evaluating Climate Communication and Education Project, USA	
02 The Banality Of Climate Collapse: What Can Education Do?	19
Edgar J. González Gaudiano, Dr., Senior researcher, Instituto de Investigaciones en Educación, Universidad Veracruzana, México; Pablo A. Meira Cartea Professor, Faculty of Education, University of Santiago de Compostela, Spain	
03 Towards Climate Justice: Lessons from Girls' Education	23
Christina T. Kwauk, Education Consultant, Kwauk and Associates, United States	
04 Developing National Strategies: the Zambia Context	28
Justin Lupele, Dr., Environment and Education Specialist, Beehive Associates Limited, Zambia	
Part 2: Expanding Learning and Agency Across Boundaries	33
05 Transformation through Crisis: A Municipal Enacted Utopia in Finland	34
Annalisa Sannino, Professor, Tampere University, Finland; Yrjö Engeström, Professor Emeritus, University of Helsinki, Finland	
06 Climate Change Resilience through Collaborative Learning in the Colombian Coffee Region	38
Thomas Macintyre, Dr., Project leader, Fundación Mentas en Transición, Colombia, South America; Martha Chaves, Dr., Director Fundación Mentas en Transición, Colombia, South America; Tatiana Monroy, Ms., Sustainability practitioner, Fundación Mentas en Transición, Colombia, South America	
07 Towards an Unhidden Curriculum	41
Sarah Van Borek, Dr., Consultant, Environmental Learning Research Centre Rhodes University, South Africa	
Part 3: Transforming Learning, Activism and Relating	45
08 The Living Library :Transdisciplinary Conversations	46
Laila Mendy, Ms, Project Coordinator at Climate Change Leadership, Uppsala University, Sweden; Isabel Baudish, Ms, Project Coordinator at Climate Change Leadership, Uppsala University, Sweden; Stefania Barca Zennström, Dr., Visiting Professor in Climate Change Leadership, Uppsala University, Sweden	
09 Scholar Activist Solidarity in Ocean Justice Movements in South Africa	51
Taryn Pereira, Ms, Researcher, Environmental Learning Research Centre, Rhodes University, South Africa; Dylan McGarry, Dr, Co-Director of the One Ocean Hub and Senior Researcher, Environmental Learning Research Centre, Rhodes University, South Africa	
10 Reimagining the Place of Nature in Education: Photographic Provocations for Relational Becoming	55
Elisabeth Barratt Hacking, Mrs, Senior Lecturer, Deputy Head, Department of Education, University of Bath, England; Bethany Davies, Mrs, independent researcher, Australia; Eliane Bastos, Ms, PhD Researcher, Department of Education, University of Bath, England; Ria Dunkley, Dr, Senior Lecturer, School of Education, University of Glasgow, Scotland; Hannah Hogarth, Mrs, PhD Researcher, Department of Education, University of Bath, England; Jenny Quinn, Ms, Learning and development professional, Bristol, England; Bryony Sands, Dr, Postdoctoral Fellow, Gund Institute for Environment, University of Vermont, United States; Lucy Wenham, Dr, Lecturer, School of Education, University of Bristol, England	

11	Eco-Citizenship Development in a High School in México	61
	Laura Bello Benavides, Dr, Instituto de Investigaciones en Educación, Universidad Veracruzana, México	
Part 4: Engaging Diverse Knowledges in Climate Change Response		65
12	University-community Engagement in Mozambique	66
	Adriano Felix, Mr, Assistant lecturer of Urbanism at Lurio University, Faculty of Architecture and Spatial Planning and Executive Director at Mozambican Association for Applied Studies (AMEA), Mozambique	
13	Diverse Ways of Knowing: Challenges for Responding to Climate Change	69
	Derick du Toit, Research Associate, Association for Water and Rural Development, South Africa; Sharon Pollard, Executive Director, Association for Water and Rural Development, South Africa; Charles Chikunda, Programme manager, Education for Sustainable Development, United Nations Educational, Scientific and Cultural Organization, Regional Office of Southern Africa, Zimbabwe; Ray Ison, Professor of Systems, Applied Systems Thinking in Practice Group, Open University, United Kingdom	
14	Rethinking School-Community Participation Policies in Times of Climate Change in Mexico	74
	Juan Carlos A. Sandoval Rivera, Dr, Researcher, Instituto de Investigaciones en Educación, Universidad Veracruzana, México; Rosa Guadalupe Mendoza Zuany, Dr, Researcher, Instituto de Investigaciones en Educación, Universidad Veracruzana, México; María Concepción Patraca Rueda, PhD student, Instituto de Investigaciones en Educación, Universidad Veracruzana, México; Fabiola Itzel Cabrera García, PhD student, Instituto de Investigaciones en Educación, Universidad Veracruzana, México	
Part 5: Young People and the Call for Climate Action		79
15	Regenerative Youth Futures: Learning Beyond Perfunctionary Awareness and Behavioural Change	80
	Nokuthula Daweti, Ms, Co-Founder and Director, Makhanda Black Kollektive, South Africa; Sanele kaNtshingana, Mr, Lecturer, African Languages and Literatures, University of Cape Town, South Africa; Injairu Kulundu-Bolus, Dr, Senior Lecturer, Environmental Learning Research Centre, Rhodes University, South Africa	
16	School Strikes as Catalysts for Rethinking Educational Institutions, Purposes and Practices	84
	Ole Andreas Kvamme, Associate Professor, Department of Teacher Education and School Research, University of Oslo, Norway; Astrid Sinnes, Professor of Science Education, Norwegian University of Life Sciences, Norway; Arjen Wals, Professor of Transformative Learning for Socio-Ecological Sustainability, Wageningen University, The Netherlands	
17	South African Youth Co-Engaged in Climate Policy Making	90
	Coleen Vogel, Distinguished Professor, Global Change Institute, University of the Witwatersrand, South Africa; Bright Nkrumah, Dr, Post-doctoral scholar, Global Change Institute, University of the Witwatersrand, South Africa; Desirée Kosciulek, Head of Youth Programmes, South African Institute of International Affairs, South Africa; Ditebogo Lebea, Youth Programmes Associate, South African Institute of International Affairs, South Africa; Tyler Booth, Youth Policy Committee, - South African Institute of International Affairs, South Africa; Marjorie Brown, Head of History Department, Roedean School, South Africa	
Part 6: Children's Voices in Climate Action		95
18	Responding to Voices of Children	96
	Karin Sporre, Professor, Department of Applied Educational Science, Umeå University, Sweden; Christina Osbeck, Professor, Department of Pedagogical, Curricular and Professional Studies, University of Gothenburg, Sweden	

19	Using Weather as Teaching Moments for Young Children	100
	Irida Tsevereni, Assistant Professor, Department of Early Childhood Education, University of Thessaly, Greece; Nikolaos Proutsos, Associate Researcher, Institute of Mediterranean Forest Ecosystems, Hellenic Agricultural Organisation “DEMETER”, Greece; Dimitris Tigkas, Laboratory of Reclamation Works and Water Resources Management, National Technical University of Athens, Greece	
20	Making space for children’s voices in climate action	104
	Anna James, Dr., PhD Scholar, Environmental Learning Research Centre, Rhodes University, South Africa; Nanna Jordt Jørgensen, Associate professor, University College Copenhagen, Denmark	
	Part 7: Transforming Higher Education for Sustainable Futures	109
21	Higher Education Leadership: Cruise or Expedition?	110
	John Holmberg Professor at Division of Physical Resource Theory, Chalmers University of Technology, Gothenburg, Sweden; Johan Holmén, Dr., Postdoctoral researcher at Division of Physical Resource Theory, Chalmers University of Technology, Gothenburg, Sweden	
22	Strategies Advancing Climate Change Education in Three Brazilian Universities	114
	Luciana Brandli, Professor, University of Passo Fundo, Brazil; Amanda Salvia, Dr., Research Associate, University of Passo Fundo, Brazil; Janaina Mazutti, Researcher, University of Passo Fundo, Brazil; Giovana Reginatto, Researcher, University of Passo Fundo, Brazil; Tercio Ambrizzi, Professor, University of São Paulo, Brazil; Salomão Hage, Professor, Federal University of Pará, Brazil; Tristan McCowan, Professor, University College London, UK	
23	Environmental Initiatives in Indian Higher Education	118
	Shnaoli Chakraborty Acharya, Assistant Professor, West Bengal State University, India	
24	A University Course Aiming at Whole Community Transformation in Malaysia	121
	Zainal Abidin Sanusi, Director, Sejahtera Centre for Sustainability and Humanity, International Islamic University, Malaysia; Dzul Razak, Rector, International Islamic University, Malaysia	
	Part 8: Inclusive, Responsive Educational Transformations in Service of Sustainable Futures	125
25	Botswana Teacher Educators’ and Schools’ Responses to Climate Change	126
	Nthalivi Silo, Dr (Primary Education), University of Botswana, Botswana; Kgosietsile Velepini, Dr (Languages and Social Sciences Education), University of Botswana, Botswana; Mphemelang Joseph Ketlhoilwe, Professor (Languages and Social Sciences Education), University of Botswana, Botswana	
26	Faculties of Education as Innovation Brokers	131
	Ying-Syuan (Elaine) Huang, Dr., Research Associate, McGill University, Canada; Stephanie Leite, PhD Student, McGill University, Canada; Blane Harvey, Associate Professor, McGill University, Canada	
27	Incubating TVET Policies in Uganda	135
	Sidney Mhangí, PhD Scholar, Environmental Learning Research Centre, Rhodes University, South Africa; David Monk, PhD, Lecturer, Gulu University, Uganda; Scovia Adrupio, Ms, Researcher, Gulu University, Uganda	
28	Planning for the Educational Impacts of Internal Displacement	139
	Christelle Cazabat, PhD, Research Manager at the Internal Displacement Monitoring Centre, France	

University Course Aiming at Whole Community Transformation in Malaysia

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Summary

The short-term crisis challenges of COVID-19 have forced universities to drastically change their approaches to and content of education. Paradoxically, the longer-term climate crisis has not triggered such changes. In this paper, we deliberate on an education model that showcases how to address these issues. A new course called “Sustainable Development: Issues, Principles and Practices” aspires to be a transformational platform for this purpose

Keywords

Transformative Education
Whole Institution Transformation

Introduction – The Need for a Post-COVID Model for Tertiary Education

The crisis conditions of the COVID-19 pandemic have highlighted the ongoing need for education models that address the longer-term climate change crisis—which is both a challenge and major imperative. The existing mainstream education model only offers courses on climate change as electives, despite the worsening condition of the planet. More than ever, the current university curriculum needs to be drastically and urgently reoriented towards making sustainability issues such as climate change a fundamental and compulsory part of education. The report by the United Nations Educational, Scientific and Cultural Organization ([UNESCO; 2020](#)), *Education in a Post-Covid World: Nine Ideas for Public Action*, argues that it is crucial to consider core principles and known strengths as we face unprecedented disruption to economies, societies and education ecosystems in the aftermath of the COVID-19 crisis.

In response to this demand, the International Islamic University, Malaysia (IIUM) has introduced a new compulsory university course called “UNGS 1201: Sustainable Development: Issues, Principles and Practices”. UNGS 1201 is a university-wide project that serves as a transformative, transgressive and transdisciplinary platform for post-COVID education. It amalgamates various pedagogical models, as the course is a specialised learning process that includes the delivery of content, behavioural analytics, learning psychology and assessments. These approaches are delivered through a hybrid model that has the flexibility to fit learners’ different needs. The authors argue that over the years, the formal curriculum at IIUM has become too focused and “segmented,” side-lining the humanistic aspects that shape attitudes and values. To restore and create balance between the technical and human dimensions, the university started to work on transforming learning towards “edu-action with soul”. Edu-action is a concept of learning that puts equal emphasis on theories and action. As such, to bring back

the soul of education, IIUM has been experimenting with different approaches to promote more holistic and rigorous sustainability education. The introduction of UNGS 1201 is one such experiment.

As a transformative, university-wide project on post-COVID sustainability education, UNGS 1201 requires close collaboration between universities and communities.

Whole Institution Transformation and Whole Community Transformation

The fundamental premise of UNGS 1201 is that university education must be closely linked to the realities of a post-COVID society, where knowledge must be directly relevant to the changing landscape of communities. Transformation must take place within the university's institution. At IIUM, the transformational change is taking place at two levels: structural change and knowledge management change. Structurally, classroom-based learning needs to reflect the real-world set-up. This is not just applicable to social science subjects, but to all knowledge disciplines. The whole ecosystem of learning on campus must make the community part of the process. Based on this premise, UNGS 1201 is designed to push for transformation within IIUM as a way to deliver transdisciplinary education that transgresses the boundaries between formal and informal learning systems.

Whole institution transformation (WIT) is holistic, integrated and entrepreneurial in nature, covering the spectrum from academic to community engagement, in order to meet the *raison d'être* of IIUM. The WIT approach enables all stakeholders in the university—leadership, academics, learners and administration—to jointly develop a vision and plan to implement education for sustainable development (ESD) in the entire institution. For the purpose of WIT, changes are advocated and carried out at all levels with predesigned stages. The WIT model aims to change the university ecosystem by pushing the university's agenda of serving the community, both systemically and systematically, with other stakeholders, such as government agencies and industry players. IIUM has outlined two clusters of changes initiatives: structural change to break down institutional silos (holacracy) and knowledge management change. The latter focuses on generating and disseminating new knowledge for sustainability through interfaculty interaction. Through these two initiatives, the WIT approach aims to make IIUM a multidimensional enterprise that draws on the full range of human capacities for learning to know, to do, to be and to live together (UNESCO, 1996).

To realise this aspiration of becoming a sustainable university, IIUM has gone through an intensive WIT journey. This journey is outlined in a document called the IIUM roadmap (IIUM, n.d.) The transformation process seeks to operationalise

the university's mission statements in the context of present and future scenarios while standing firm on the university's philosophical foundations based on Islam and spirituality. Knowledge imparted at IIUM should include intellectual, spiritual and moral dimensions, and the education process should be values based, in line with *maqasid shariah* (the objectives or purposes of Islamic rulings) and operationalised through the Sustainable Development Goals (SDGs). This transformation ties the religious and spiritual link through Islam with the concept and principles of sustainability in all that the university does—be it education, community development or engagement, or tackling climate change—making their actions more holistic in their impacts.

While WIT is taking shape at IIUM, the university is contributing towards whole community transformation through its roles as the Secretariat for the Regional Centre of Expertise (RCE) on Education for Sustainable Development, Greater Gombak (RCE Greater Gombak, 2021) This is a network of existing formal and informal organisations that facilitate learning towards sustainable development in local and regional communities. The purpose of the RCE is to connect formal education institutions with local stakeholders in their sustainable development efforts. Through this network, IIUM can work with the surrounding community with the goal of becoming a sustainability society, based on the Malaysian concept of sustainable living called *Sejahtera* (well-being).

UNGS 1201 as a Transformative and Transgressive University Course

The process of transformation to sustainability requires IIUM to move away from and transgress the boundaries and dominant narratives that underlie much unsustainable development responsible for maintaining poverty, inequality and ecological degradation. UNGS 1201 is the manifestation of WIT for the sustainability agenda at IIUM, contributing directly to whole community transformation. It is a transformative platform catalysing both levels of change: structural change to allow transgressive education, whereby knowledge is generated and disseminated across the boundaries of conventional disciplines, which can lead to changes in management of the knowledge developed.

The fundamental objective of the UNGS 1201 course is to increase students' knowledge of sustainability and develop the attitudes, values and skills to address sustainable development issues and related challenges in a globalised world. More specifically, this course aims to demonstrate the importance of sustainable development principles and practices, which include the Islamic perspective on sustainable development and local concept of *Sejahtera*. Through multiple case studies, students are expected to understand the challenges and barriers in integrating

sustainable development at the local, national and international levels.

UNGS 1201 targets all new students at IIUM, with the aim of nurturing attitudes, values and skills, while generating hybrid and flexible transformative learning to meet the challenges of a sustainable world. It has a pragmatic focus on developing people who use their heads or cognitive abilities (or to know); their hands or their psychomotor domain for mastering skills (or to do); and their hearts or affective domain to form values and attitudes to be translated into action (or to be). These three components represent parts of a person who learns to live together with others in a harmonious, respectful and peaceful society. This is in line with [UNESCO \(1996\)](#), which emphasises the four pillars of lifelong education: learning to know, learning to do, learning to be and learning to live together.

Most formal education is limited to learning to know (which includes numeracy, literacy and critical thinking) and learning to do (which includes skills and competency). Little emphasis is given to learning to live together, which requires the development of social skills and values, and learning to be, which requires personal development to act with creativity, judgement and responsibility. The head, the hand and the heart must become integrated to realise the goal of learning to live together (Razak, 2019). The IIUM model distinguishes itself from the other teaching and learning models by following five criteria for content and delivery method:

Transdisciplinary and integrated

The course is facilitated by a multidisciplinary teaching team from all faculties in the university so that no single discipline dominates the curriculum. In each classroom, students come from a variety of disciplines, allowing them to contest sustainability issues and reflect on problems from multidisciplinary perspectives.

Formative and summative assessment

UNGS 1201 is designed to have both formative and summative assessments without a final examination. Assessments are spread throughout the semester via quizzes, online questions, reflective journals or blogs and team project proposals.

Responsible research based

As part of the university academic community, students must be trained and exposed to the university's responsible research culture, which emphasises contextualising the research in relation to local needs. Identification of those issues for student project proposals are carried out using suitable research methodologies and empirical processes.

Community engaged

UNGS 1201 is a community-driven course with real-life community engagement. This allows students to appreciate and apply what they have been exposed to in the classroom and *vice versa*. Students are required to analyse those findings acquired on the ground back into their classroom discourse.

Action and solution oriented and transgressive

UNGS 1201 students are trained to use systematic problem-solving perspectives.

The course is transgressive because classes consist of students from different fields and majors. Lecturers come from various fields. This arrangement was designed to ensure multiple perspectives on the environment, sociocultural issues and economics. This leads to the use of transdisciplinary knowledge and skills in project proposals, in the quest for real-world solutions for the challenges faced by both clients and community members.

With such a dynamic set-up, despite being introduced only a year ago and running only two cohorts, the course has already shown significant outcomes. These include:

- The development of 300 student project proposals addressing a wide range of sustainability issues both inside and outside the campus. These proposals are useful databases for the university in the process of becoming a sustainable campus.
- More than 20 newspaper articles written by students voicing their concerns on various SDG-related issues in Malaysia and other countries.
- Hundreds of blogs and individual journals written by students as part of their reflection during the course.
- The adoption of one student proposal at the university. This involves setting up shops on the university campuses where the community can purchase sustainability-certified products.

These outputs are not just for campus sustainability; more importantly, they are part of the whole community transformation plan. They are to be extended to the wider community surrounding the campus within the network of the RCE Greater Gombak, which includes about 20 nongovernmental organisations (NGOs) and local communities.

Another unique transformational feature of the course is that it has attracted 60 lecturers volunteering to be in the teaching team. Additionally, for the first time in the university's history, administrative staff are empowered to teach students.

To further strengthen the impact of the UNGS 1201 course on ESD, two new courses are being designed to expand community engagement in ESD courses at IIUM, named "*Usrah* in Action 1" and "*Usrah* in Action 2". *Usrah* is an Arabic term for "family",

which also implies that everyone works closely together as in one family. Thus, “*Usrah in Action*” requires students to collaborate with community members in addressing shared issues.

As with UNGS 1201, *Usrah in Action 1 and 2* will be compulsory for all IIUM students. These new courses will adopt many of the operational approaches of UNGS 1201, such as the use of volunteer lecturers or facilitators and student assessment through formative and summative methods. However, they will have a more concrete and interactive level of community engagement.

Lessons learned and policy recommendations

The UNGS 1201 course provides three core learnings that are critical to share. First, it shows that sustainability is best learned through community engagement in a realistic community set-up. Second, it shows that interdisciplinary learning is crucial for developing impactful skills in the next generation. Third, action speaks loudest in sustainability education, something that is also relevant to the SDG 13 emphasis on climate action. These learnings put pressure on education institutions to change old ways and push boundaries to create a conducive environment for young people in particular to thrive in understanding and taking action for sustainability and in responding to climate change.

As a testimony to the potential of this course, it was recently “Highly Commended” at the [International Green Gown Awards 2021](#), which is administered by the Environmental Association for Universities and Colleges. Established in 2004, the Green Gown Awards recognise exceptional sustainability initiatives undertaken by educational institutions and is considered to be the most prestigious recognition for sustainability best practice in the tertiary education sector. Such an award recognises IIUM’s future-focused approach to connecting the dots of sustainability and education through a systematic overhaul of their tertiary education ecosystem. It is also a call-to-action to other education institutions and sustainability-affiliated partners to adopt more experimental approaches to sustainability education, given that time is running out to reduce and reverse the negative impacts of climate change and build sustainable, resilient communities.

For successful implementation of the WIT approach, several policies need to be introduced to encourage universities to work harder at meeting the needs of society rather than the conventional emphasis on research and publications alone. Universities need to be incentivised and rewarded when they work together with members of the community or NGOs.

In conclusion, UNGS 1201 can serve as a catalyst and model for other universities that want to include ESD in their university curricula. UNGS 1201 showcases a whole institution approach and a community transformation

approach. It demonstrates the policy changes that may be needed if societies are to address climate change challenges through education.

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English Edition, October, 2022
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ISSN: 2571-8010

