

17th Higher Education Reform (HER) Conference 2023

Sustainable Development Goals: Their potential and relevance for higher education policy and reform

21-23 June, University of Glasgow

Advanced Research Centre, 11 Chapel Lane, Glasgow, G11 6EW

#HEReform2023

Introduction and Welcome

We warmly anticipate your arrival at the University of Glasgow for the 17th Higher Education Reform conference from 21-23 June. Below you will find the final detailed programme for the conference, abstracts of all presentations (keynotes, panels, posters and papers) and a list of delegates. Paper copies of the programme will be available at the conference, but not the abstracts. These will be available on the conference website should you need to consult these during the conference. If you are bringing a laptop or mobile device then you will be able to consult the details there, and we will make it easy by providing a scannable QR code.

All conference sessions with the exceptions of dinners are at the newly built Mazumdar-Shaw Advanced Research Centre, 11 Chapel Lane, University of Glasgow, G11 6EW. It is so new that when you ask for directions even on campus not everyone knows! Here however is the [link](#) on Google Maps. The ARC is walking distance from both Hillhead and Kelvinhall Subway stations, and most likely either walkable or accessible by subway from your hotel. The subway consists of two circles (Inner and Outer) and no matter which line you get on, you will always eventually get to your destination, though one way will take longer than the other. If you are staying in the city centre, then take the Inner line.

We attach a map of a city map which is scannable through the QR code, a hotel map and also details of some sights in Glasgow that may be of interest, and which offer discounts to delegates.

There are no hidden costs in the conference for delegates – all meals including the reception at the city chambers, and the conference dinner at the Glasgow Grosvenor Hotel are included. However, if you wish to bring a guest to either of these events please let us know. Smart casual is the mode of dress for both events.

If you are making a presentation, then you can send a copy of your slides by email to cradall@glasgow.ac.uk in advance or simply bring in on a memory stick on the first day of registration, labelling it clearly with the name of the corresponding author.

If you are presenting a poster, you have been sent instructions on the format and you should bring a printed copy to handover at registration.

Our website (<https://highereducationreform.org/>) contains more general information on getting to Glasgow and finding a hotel. Glasgow will be very busy at the time of the conference, and if you have not yet booked accommodation, then you may find hotels expensive. We advise that if you are on a budget that you look at AirBnB options in Glasgow Centre.

You will be arriving on the longest day of the year with around 20h of daylight. It is mid-Summer, which means that temperatures may exceed 20C and it may not rain, but nothing is guaranteed.

Glasgow City Council provides guidance on matters of safety at this [link](#). It is considered to be a very safe city, but it is of course prudent to be cautious as you would in any major city, particularly with regard to valuables such as your passport and cash/credit cards. In an emergency you can call police or ambulance services using 999.

If you have any further queries just email cradall@glasgow.ac.uk, and if there is something very urgent feel free to send me a WhatsApp message on +447803589772.

We will be tweeting about the conference using the hashtag **#HEReform2023** and would encourage you to use this tag when posting to social media about the conference.

Finally, I hope that you will be pleased to know that it has recently been announced that the University of Glasgow has been ranked 13th, out of some 1700 universities in the world who took part, in the Times Higher Education (THE) World Impact Rankings 2023.

This is a ranking for measuring universities' support for social, economic and environmental sustainability through the contribution they make to the UN Sustainable Development Goals (SDGs). They measure our activities across a broad range of areas, including research, learning and teaching, civic engagement and operations. Of note is that in SDG 11 (Sustainable Cities and Communities) the university maintained a rank of second in the world, and in SDG 16 (Peace, Justice and Strong Institutions) and SDG 17 (Partnership for the Goals), finished within the top 10 globally.

We hope that your contributions to the conference will stimulate us to achieve greater things. We attach a report of our own assessment of our contributions to the SDGs.

We wish you all a safe journey and look forward to seeing you soon.

In anticipation of your arrival

Professor Michael Osborne, Conference Chair, CR&DALL, University of Glasgow

Detailed Programme

DAY 1 – 21 June 2023

09.00	Registration / Meet & Greet
09.45	Chair - Michael Osborne , University of Glasgow Welcome (Rachel Sandison , Deputy Vice Chancellor - External Engagement and Vice Principal - External Relations, University of Glasgow, UK; Mia Perry , Professor of Arts and Literacies in Education, University of Glasgow, UK; Maria Slowey , Emeritus Professor and Director of the Higher Education Research Centre, Institute of Education, Dublin City University, Ireland, and HER-Network Coordinator.
10.30	Keynote - <i>The SDGs: A policy framework for governments and action plan for universities?</i> (Hillegje van't Land , Secretary-General of the International Association of Universities) – Chair, Michael Osborne
11.15	Mid-morning break
11.45	Keynote - <i>Adoption of Education 5.0 in Zimbabwe: Implications for Higher Education Reform and Attainment of Sustainable Development Goals</i> (Charles Nherera , Professor of Education, University of Zimbabwe) – Chair, Hans Schuetze
12.30	Lunch <ul style="list-style-type: none">• 1300 - Optional Lunchtime Treat - <i>Waste Stories</i> – Anna Wilson
13.30	1 st parallel papers/panels (4 parallel sessions) Session 1, Room 237B <ul style="list-style-type: none">• Panel - <i>The CartoODD projects - a tool for mapping the level of consideration of the SDGs using AI, communication and feedback</i> - Morgane Bousquet, Ashley Byrne, Daniel Forget, Louis-René Rheault, Stéphane Roche, David Siaussat and Georgina Gough Session 2, Room 237A – Chair – Mike Osborne <ul style="list-style-type: none">• <i>Higher education, research, and sustainable development in Mexico</i> - Wietse de Vries, Olga Grijalva Martínez• <i>Study on development of non-verbal educational materials for rabies prevention using gamification techniques</i> - Mitsuyasu Oda• <i>Sustainability measures in University Investment Policies and Procedure</i> - Chad Dickson, Srikanth Ramani, Deidre Henne, Donna Kotsopoulos, Brandon Dickson Session 3, Room 237C – Chair - Germán Álvarez Mendiola <ul style="list-style-type: none">• <i>Promoting health and accessibility in online learning environments to achieve UN Sustainability Goals in higher education</i> - Natalie Frandsen• <i>Weaponizing Sustainability: Is ecojustice a goal in Canadian higher education?</i> - Sandra Kouritzin, Satoru Nakagawa Session 4, Room 224 - Chair - Maria Slowey

- *How UK Universities Define and Enact Sustainability – A Systematic Review* - Ronghui (Kevin) Zhou
- *Reforming International Higher Education through Transformational Leadership* - Rakha Zabin
- *Universities' missions and the institutional logics in meeting SDGs* - Paul Wabike

14.45 Session break

15.00 2nd parallel papers/panels (4 parallel sessions)

Session 1, Room 237B

- **Panel** - *The United Arab Emirates University and Reforming Education Towards Sustainable Development Goals* - Eihab Fathelrahman, Walid Ibrahim, Mark Baildon, Emma Pearson, Ahmad Qablan and Elke Neumann

Session 2, Room 237A - Chair - Marcela Ramos

- *Performance-Based Funding for Universities in Ontario and Sustainable Development Goals: Navigating Challenges for Achieving SDG 4 on Quality Education* - Atiqa Marium
- *The Sustainable Development Goals in the top 100 universities: where does the compass point now?* - Sol Sanguinetti-Cordero, Sandro Sánchez
- *Contributions of three Mexican higher education institutions to sustainable development: a comparative analysis* - Lindsay Carrillo Valdez, Leónides Villanueva Gutiérrez, Germán Álvarez Mendiola

Session 3, Room 237C - Chair - Annie Tubadji

- *Sustainable design without compromise: Explorations of the meaning of the consciously responsible Design student in Higher Education* - Victoria Newton, Thomas Ellis
- *Pro-environment Behaviours of Vocational College Students in China* - Ran Zhang, Li Zheng
- *Can HE offer the learning we need to face the Climate Crisis?* Anna N Wilson, Iain Black

Session 4, Room 224 - Chair - Rob Mark

- *Promoting Sustainable Development: The Role of Academic Libraries in Promoting Quality Education in Higher Education Institutions in Zimbabwe* - Chipso Mutongi, Shadreck Ndinde
- *Multicultural Perspectives in a Brazilian University: possibilities for addressing global goals for sustainable development* - Ana Ivenicki
- *Organizational Governance of Transnational Partnerships in Higher Education: Study of Sino-foreign Joint Institutes for Sustainability* - Huili Si and Stephen Rayner

16:15 Poster presentations

- *Exploring the employability of graduates from the China-foreign international joint universities* - Anan Chen

- *Entrepreneurship Education and Sustainable Development* - Bahar Cemre Karaagacli
- *Beyond time limited projects – Ensuring ongoing support for refugee students in German higher education* - Jana Berg
- *Canadian Universities Addressing the SDGs in their Strategic Plans: A Snapshot* - Ashley Byrne, Denis Savard and Catherine Larouche
- *How two world-leading universities undertake interdisciplinary research to respond to a specific UN Sustainable Development Goal (SDG Goal Number 1 “No Poverty”): Case studies from two of the world's leading universities in the East and West* - Candy Lan Qiu Qin

16:45 **Plenary speaker** - *Challenges and Opportunities in Advancing Equity in and Through Higher Education: A Canadian Comparative Review and Case Study* - **Arig al Shaibah**, Associate Vice-President, Equity & Inclusion, University of British Columbia, Canada. Discussant, **Srabani Maitra**, Professor of Adult and Vocational Education, University of Glasgow

17:30 **End of formal proceedings**

19:00 **Reception** with drinks and full buffet dinner at Glasgow City Chambers, 82 George Square, Glasgow G2 1DU (adjacent to Queen St railway station and Buchanan St. Underground station)

- 19.00 - Guests arrive, drinks served
- 19.15 Civic Welcome on behalf of the Lord Provost by Bailie Annette Christie
- 19.20 - Reply by Head of the School of Education, Professor Margery McMahon
- 19.25 - Formalities conclude, private buffet served, drinks refreshed
- 20.30/21.00 - Event close time

DAY 2 - 22 June 2023

09.30 **Keynote** - *Universities and the SDGs: some critical questions about the role of higher education* (**Michele Schweisfurth**, Professor of Comparative Education, University of Glasgow, UK) – Chair, **Prisca Mugabe**

10.15 Mid-morning Break

10.30 3rd parallel papers (4 parallel sessions)

Session 1, Room 237B, Chair - Elsa Hackl

- *Confronting Climate Denial to Promote Sustainable Futures in Higher Education* - Mark Baildon
- *Universities and the SDGs: A critical look* - Tom Collins
- *Higher Education in partnership to improve lives of people at human-wildlife interfaces in southern Africa* - Prisca H Mugabe, Alexandre Caron, Vladimir Grosbois

Session 2, Room 237A, Chair - Nematollah Azizi

- *Teaching and assessing competences in higher education*- Georgina Gough
- *Global climate governance and higher education in the context of sustainable development goals* - Shifei Duan

- *Climate Justice and the Role of Higher Education in Transformative Change* - Jennie C Stephens

Session 3, Room 237C, Chair - David Charles

- *SDG4 and access to higher education: An examination of public policy approaches to university access in Sri Lanka* - Sashika Jayewardene, Anthony Welch
- *Redesign of Research Methods and Pedagogy for Education in Conflict-Affected Societies* - Nancy M. Pratt, Marius Boboc
- *Implications, Paradoxes and Paradigm Transformation of Governance to Promote Edge-cutting Interdisciplinary Research* - Dan Zhang

Session 4, Room 225, Chair - Roberta Piazza

- *Progress and prospect of Digital Transformation of higher education in China - A Multi-case Study Based on Bibliometric and CIPP Models* - Xiaoyu Xu, Le Kang
- *Inclusive Mentoring as a Sustainable Development Tool for Higher Education: Student Perspectives of a DEI Mentoring Program at a Public College* - Roxana Toma, Matthew Berge
- *Towards disability-inclusive, accessible, and sustainable HE institutes in Kurdistan Province of Iran* - Lamiah Hashemi

11.45

4th parallel papers/panels (5 parallel sessions)

Session 1, Room 237B

- **Panel** - *To what extent is the concept of academic freedom relevant to the achievement of the UNESCO SDGs?* - Germán Álvarez Mendiola, Rolf von Lude, Sir Peter Scott, Maria Slowey, Wietse de Vries and Shinichi Yamamoto

Session 2, Room 237A, Chair - Rob Shea

- *From Muddled Missions to Learning-Centred Institutions* - Ralf St. Clair
- *The Changes of Higher Education Missions Towards Sustainability: The Hungarian Case of Recent Marketization and Governance Reform* - József Berács

Session 3, Room 237C, Chair - Paul Wakibe

- *University voices on the SDG agenda and beyond* - Tristan McCowan, Elizabeth Buckner, Annalise Halsall
- *Empower to grow through Higher Education* - Annette Strauß, Ireen Kowalleck, David Rempel, Nastja Pusic, Anja Zimmermann
- *Predictive Learning Analytics: A Contemporary Students Retention Framework in the U.S. Higher Education System* - Fednold Thelisdort, Amber Dumford, Guitele Rahill

Session 4, Room 224, Chair - Muir Houston

- *The Constitutional Right to HE education in Mexico in the context of the SDGs: progressive rights, old rhetoric, inconsistent policies* - Ernesto Treviño-Ronzón

- *Making Higher Education Curricula Relevant to Current Environmental Issues* - Panagiota Axelithioti, Rachel Fisher
- *Promoting Sustainable Development Goals in Higher Education: Advancing Competency - Based Education and the Implementation of Rubrics in Japan* - Kunihiro Takamatsu, Akira Ito, Hibiki Ito, Keita Nishiyama, Takafumi Kirimura, Taion Kunisaki, Ikuhiro Noda, Kenya Bannaka, Kenichiro Mitsunari, Katushiko Murakami, Mizuki Kondo, Ryosuke Kozaki, Aoi Kishida, Sayaka Matsumoto, Yasuo Nakata

Session 5, Room 225, Chair - Lamiah Hashemi

- *Nurturing Cultural Warriors' Learning Spirit: Reducing Inequalities through Meaningful Access to Teacher Education at the University of Winnipeg* - Derek Stovin
- *Sustainable Development Goals beyond classroom teaching in teacher education. A policy compliance perspective* - Bolaji Gabriel Popoola
- *SDG action and impact in and through teacher education: A cross-border study of school-university partnerships* - Hélène H. Leone

13.00 Lunch

14.00 **Keynote** – *Access, Equity and Reform in Higher Education*
(**Sir Peter Scott**, Emeritus Professor of Higher Education Studies at University College London, Institute of Education (IoE), UK) – Chair,
Maria Slowey

14.45 Poster presentations

- *Transforming education for accelerating transitions: a youth perspective for addressing today's most pressing challenges* - Hajar Choukrani, Hyeongyeong Kim, Anaëlle Durfort, Nicholas De Kock, Marianne Chaumel and Thaura Ghneim-Herrera
- *The 3P Approach: Contributing to Sustainable Development Goals Effectively through Higher Education* - Pamsy P. Hui
- *Introducing pedagogy to SDGs in higher education: an actor-network theory perspective* - Alexander Vaniev and Michael Malt

15.15 5th parallel papers/panels (5 parallel sessions)

Session 1, Room 237B

- **Panel** - *Contributions of Higher Education Reforms to Sustainable Development Goals: Some examples and experiences from the University of Zimbabwe* - Joice Tafirenyika, Stephen Mahere, Rumbidzai Masina, Abigail Mawonedzo and Peter Kwaira

Session 2, Room 237A, Chair - Kemal Ketuly

- *Ensuring quality higher education in Ukraine in times of war* - Yuliya Zayachuk
- *Implementing SDGs in German universities: the art of the (im)possible? A literature review* - Christian Fulterer

- *Re-imagining SDG 4 in the changing modalities of Online Higher Education: Evidence from the Northernmost Union Territories of India* - Sayantan Mandal, Sheriya Sareen

Session 3, Room 237C, Chair - Arig al Shaibah

- *Discriminatory Expectations for Student Achievement: The Devil is in the Details* - Annie Tubadji, Balaussa Shaimakhanova, Wayne Thomas, Fred Boy
- *Measuring Financial Literacy of Post-Secondary Students Enrolled in Fort McMurray – A Pilot Study* - Pratibha Shalini, Nermin Zukić
- *Preparing Students to Co-Create the Future: The Role of Universities in Global Transformation* - Roberta Piazza, Giovanni Castiglione, Jose Roberto Guevara

Session 4, Room 224, Chair - Bahar Karaagacli

- *Reforming Higher Education in South Africa by addressing gender inequalities* - Anri Wheeler, Laurika Wiese
- *Inclusion, equity, and quality are far away: Mexican higher education and SDG 4* - Germán Álvarez Mendiola
- *Leading Health Promotion Efforts on Campus* - Vicki Squires

Session 5, Room 225, Chair - Ana Ivenicki

- *Quality Education: Fostering Characteristics of Creativity for Sustainable Development* - G. Chiranjeevi Reddy
- *Hear the sound of 13.3* - Marcus Russell Slater
- *Maximizing the Value of Research Projects for Sustainable Society development: The Triple S System of Social Impact Assessment*, Sornnate Areesophonpichet, Nuttaporn Lawthong, Thitirat Panbamrungkij

16.30

6th parallel papers/panels (4 parallel sessions)

Session 1, Room 237B

- **Panel** - *How can universities contribute to the UN Sustainable Development Goal (SDGs), through their teaching and learning mission, while simultaneously building trans-sectoral and transdisciplinary skills among their student bodies?* - Marin MacLeod, Moni Kim, Sena Agbodjah, Iza Sánchez Siller and Kate Roll

Session 2, Room 237A, Chair - Shinichi Yamamoto

- *The application of Business Process Management to a Japanese university administrative -meeting the goals of SDG4 and 8* - Shotaro Imai
- *Science translation, communication and knowledge co-production – Challenges and chances of NGO-science cooperations* - Jana Berg
- *Developing partnerships for effective knowledge exchange between universities and local policymakers* - David Charles

Session 3, Room 237C, Chair - Wietse de Vries

- *Overcoming the student representation-student partnership dichotomy: toward a political conception of the student voice* - Justin Patrick

- *Higher education for lifelong learning: Shaping the new global social contract for education* - Martha Cleveland-Innes, Håkansson Lindqvist, Jimmy Jaldemark, Peter Mozelius
- *Towards a commitment to lifelong learning for displaced people entering higher education: new challenges for a sustainable future* - Ievgeniia Dragomirova, Rob Mark

Session 4, Room 225, Chair – Hans Schuetze

- *Beyond the SDGs: Pluralizing Higher Education Futures on a Warming Planet* - Sharon Stein
- *Methodological framework for assessing emerging university-society engagements in Africa* - Teklu Abate Bekele

Session 5, Room 224, Chair – Matthew Thomas

- *Transforming Education for Accelerating Sustainability Transitions: Fostering Transdisciplinarity, Systems Thinking, and Science-Policy-Society Interface*, Hajar Choukrani, Hyengyeong Kim, Anaëlle Durfort, Nicholas De Kock, Marianne Chaumel, Thaura Ghneim-Herrera
- *Sustaining Indigenous Hebridean Educational Research Methodologies through SDG4 & SDG17* - Kara Smith
- *Academic Freedom and University Autonomy in the Era of SDGs: The Case of Japan* - Shinichi Yamamoto

17.45 **End of formal proceedings**

19.00 **Conference Dinner** at Glasgow Grosvenor Hotel, 1-9 Grosvenor Terrace, Glasgow, G12 0TB

- 19.00 - Drinks in Terrace Lounge
- 19.20 - Dinner Call
- 19.30 - Welcome from Professor Kristinn Hermannsson, Head of School of Education (Designate), University of Glasgow
- 19.40 – Dinner Served

DAY 3 - 23 June 2023

09.30 **Keynote – Leverhulme Trust Lecture.** *Higher Education for Sustainable development: What can be learnt from the Islamic Academic Tradition?* (**Nematollah Azizi**, Professor of Educational Planning, University of Kurdistan, Iran, and Leverhulme Visiting Professor, University of Glasgow), Chair, **Tom Collins**

10.15 Break

10.30 7th parallel papers/panels (4 parallel sessions)

Session 1, Room 237B

- **Panel** - *Gender, STEM and student journeys through HE and into academia or industry: why such enduring challenges?* - Abimbola Abodunrin, Srabani Maitra, Barbara Read, Bonnie Slade and Jane Umutoni

Session 2, Room 237A, Chair – Alexander Vaniev

- *Contextual admissions, adjusted offers and university experiences* - Yvonne Skipper, Charlotte Bagnall,

- *Zimbabwe Higher Education Reform Policy and Aspirations of the New University Entrant* - Chipso Dyanda
- *Teaching Civics for Sustainability in post-authoritarian order - the challenges of developing progressive citizenship in new democracies* - Bohdan Szklarski

Session 3, Room 237C, Chair - Ralf St Clair

- *Implications of the SUEUAA project for policy development at the University of Duhok* - Kamal Ketuly, Sizar Abid Mohammed Sarky, Michael Osborne
- *Quality of Higher Education in the Gulf Cooperation Council Countries (GCCC) a Review on the Progress towards 2030 SDGs* - Eihab Fathelrahman, Ghaleb Alhadrami,
- *Changes in policy or process needed for embedding the SDGs as graduate skill for students in online distance learning postgraduate programmes: Policy implications findings from action research at SOAS University of London* - Annabel de Frece, Ros Taplin, Vicki Hart, Bindi Clements, Alberto Asquer, Tobias Franz, Loreley Hahn Herrera, Harald Heubaum, Shreeta Lakhani, Sarah Njeri

Session 4, Room 225, Chair - Michael Malt

- *Higher education's contribution to social inequalities: a historical comparative perspective* - Magdalena Fellner
- *Revolutionising the Health Care Education using Biomedical Engineering* - Tawanda Mushiri, Marvellous Moyo
- *"Walking the Walk" in Higher Education: Assessing the alignment of institutional and program goals with One Health values* - Carrie K. M. McMullen, Katie M. Clow, Cécile Aenishaenslin, Dale Lackeyram, E. Jane Parmley

11.45 Mid-morning break

12.15 **Closing Panel - Global South-North and North-South partnerships for sustainable development (SDG # 17): What role for universities?** **Hans G. Schuetze** (Chair), University of British Columbia, Canada and University of Glasgow, UK, and HER-Network Coordinator, **Charles Nherera**, University of Zimbabwe, **Hilligje van't Land**, International Association of Universities, **Shinichi Yamamoto**, Hiroshima and Oberlin Universities, Japan, **Tom Collins**, Maynooth University, Ireland **Ran Zhang**, Peking University, China

13.30 **Concluding Remarks - Germán Álvarez Mendiola**, Centro de Investigación y de Estudios Avanzados (DIE, Cinvestav), Mexico, and HER-Network Coordinator

14.00 Lunch

- 1430 Optional Lunchtime Treat - *Introduction to Quantum Computing* - Kaveh Delfanzari, University of Glasgow

15.00 Conference Closes

Abstracts of Keynotes and Plenary Speaker

Keynote 1 - Hilligje van't Land, Secretary-General of the International Association of Universities

Chair – Michael Osborne, Professor of Adult and Lifelong Learning, University of Glasgow

The SDGs: A policy framework for governments and action plan for universities?

Since the adoption of Transforming our World: the 2030 Agenda for Sustainable Development, the discussion around sustainability, including climate action, inequalities, have increased. Many governments have included these issues at policy level. The Sustainable Development Goals (SDGs) have also earned themselves a place at universities, as they are a versatile and holistic framework to work with at the whole institution level. This engagement is much needed but must also be followed by action, from higher education and policy to support and orchestrate the transformative processes. While the 2030 Agenda deadlines are quickly approaching, the goal set to transform the world in order to ensure a more sustainable future is undoubtedly not. In higher education, whether in Teaching and Learning, Research, Community Engagement, and Partnerships, we need data and examples of good practice to advance our efforts and inspire the engagement of staff and students. Leadership plays a crucial role in driving forward the strategy and mobilising resources for these efforts.

Two recent reports in particular show the nexus between the SDGs as a framework for policy and action for policy makers and governments, but also for higher education. These are:

- The IAU Global Survey on Higher Education and Research for Sustainable Development (HESD) received 464 valid responses from higher education institutions in 120 countries were collected. The findings show that higher education and partnerships are essential to address the global challenges identified in the UN Agenda 2030 and the Sustainable Development Goals (SDGs) and to build a more sustainable future together. Furthermore, the survey looked closer at partnerships, leadership, and strategy for SD (Sustainable Development) and the relatively new concept of Climate Change Education (CCE).
- The ASEF (Asia Europe Foundation) ARC9 Study on Asia-Europe Higher Education Mapping: Working Towards the SDGs. The study consists of two parts:
 - Part 1: Mapping Policymakers Perspectives: This study maps higher education policies advancing sustainable development across Asia and Europe. Covering 31 national contexts in Asia and Europe, the study combines data from a survey, focus group discussions, and a review of secondary sources to glean patterns in how governments are encouraging HEIs to contribute to the SDGs, provide concrete examples of enabling measures, and identify opportunities that may be leveraged to strengthen the HE policy-practice interface towards the SDGs.
 - Part 2: Mapping Higher Education Institutional Perspectives: This study showcases developments regarding sustainable development in the higher education sector from the perspective of higher education institutions. The study was conducted in partnership with the International Association of Universities (IAU). Data from the third iteration of IAU Global Survey on Higher Education and Research for Sustainable Development (HESD) specific for the purview of ASEF was analysed to investigate the scope, depth, and breadth of engagement of higher education institutions with the 2030 Agenda for SDGs

Keynote 2 - Charles Nherera, Professor of Education, University of Zimbabwe

Chair – Hans Schuetze, Professor of Higher Education, University of British Columbia

Adoption of Education 5.0 in Zimbabwe: Implications for Higher Education Reform and Attainment of Sustainable Development Goals

Higher education reforms are widespread across the African continent, mainly spurred by both local and external international imperatives. However, the transformations have largely come in different forms due to the diverse contexts of the higher education institutions. Key drivers of these reforms include various contextual aspects such as: dwindling financial resources against rapidly increasing enrolments, demands for higher education to contribute meaningfully to national challenges and development plans, and pressure from global changes taking place in higher education as advocated by development partners such as UN agencies. The diverse and often complex drivers of the reforms have made it impossible to produce a single model that informs the higher education sector, even within the same geographical region. It is however still possible to identify some common and recurring trends, such as: the increasing demand for relevance, responses to national and even international challenges such as pandemics and natural disasters, increasing competition arising from online programmes, shift to online and virtual teaching and learning, new quality assurance standards and procedures, and the politicisation of university reforms. It is against this background that this presentation examines the transformative reforms that higher education in Zimbabwe has embarked on and the extent to which the reforms still address the Strategic Development Goals that summarise the needs of society and the environment.

The current higher education reform in Zimbabwe was set in motion through a pronouncement by government that the country is to attain an Upper Middle-Income Economy status by 2030. Different sectors of the economy were therefore tasked to unpack this ideal and develop strategies to contribute towards this goal. Government provided guidance through the National Development Strategies 1 and 2, with the first one running from 2021 to 2025 and the second one covering the period 2026 to 2030. In this regard, the Ministry of Higher Education Innovation Science and Development introduced Education 5.0 as a new ‘doctrine’ to drive higher education reform in the country. Higher education has been identified as the missing cog in past economic development strategies and has been tasked to play its expected role. The transformative thrust has been supported by government through provision of research and innovation hubs and industrial parks at State universities and funding of projects identified as answering this call. Universities have embraced the call as evident in their revised transformative strategic plans realigning curricula and research towards the attainment of the National Vision 2030 and Agenda 2063 ‘The Africa We Want’. This presentation which takes the form of policy analysis examines the extent to which the universities are still grounded in their traditional deep academic missions of research, teaching and learning, and community outreach, while embracing the additional dimensions of innovation and industrialisation as espoused in Education 5.0. Is this transformative path that has been adopted by the higher education sector in Zimbabwe leading towards a new paradigm shift in our conceptualisation of higher education provision in Sub-Saharan Africa?

Plenary Speaker - Dr. Arig al Shaibah, Associate Vice-President (Equity & Inclusion) University of British Columbia, Canada

Challenges and Opportunities in Advancing Equity in and Through Higher Education: A Canadian Comparative Review and Case Study

This presentation is focused on the role of universities in advancing twin “equality” SDG goals #4 and #10 – ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all and reducing inequalities within and among countries, respectively. In the last decade, the goal of advancing university campus educational and employment equity goals and contributing to local and global social betterment goals have increasingly emerged as salient policy priorities intrinsically tied to

the visions and missions of every Canadian University. This commitment is evident in the Principles on Indigenous Education (2015) and the Principles on Equity, Diversity, and Inclusion (2017) which were endorsed by all 98 members of Universities Canada, the Association of Canadian Universities. While a strong articulation of commitment to advancing educational, employment, and social equity from executive heads is essential, historically and contemporarily marginalized communities question whether current equity policies, political will, and pace of change are sufficient to mobilize and sustain meaningfully transformations in the university sector.

I discuss the current situation at Canadian universities and the policies for advancing social equity in and through higher education, by exploring some common and distinct contexts, challenges, and change efforts at four research-intensive universities in Canada – Queen’s, Dalhousie, McMaster, and UBC – at which I have worked as a senior equity administrator and social justice scholar-practitioner. I will address the following questions: (1) How are equity-related SDG goals foundational to university visions and missions? (2) How do university organizational, financial, and governance models present challenges and opportunities to advance equity? (3) How might universities become a force to mobilize trans-sectoral and trans-disciplinary change efforts?

As a comparative review and case study, this presentation aims to offer insights into the opportunities and aspirations for higher educational policy reform – in Canada and in other nations – to enhance the capacity of the sector to advance the “equality” dimensions of their SDG commitments.

Keynote 3 - Michele Schweisfurth, Professor of Comparative Education, University of Glasgow, UK

Chair – Prisca Mugabe, Professor of Rangeland Ecology and Animal Production, University of Zimbabwe

Universities and the SDGs: some critical questions about the role of higher education

The apparent assumption underpinning this conference is that universities can have a significant role to play in operationalising and achieving the SDGs. That may well be true. However, the SDGs, like any global goals constructed by diverse actors in a complex world, are not perfect. Their development involved power struggles and compromises. Operationalising them, measuring them and achieving them are equally contested actions.

By definition, the SDGs were created to have all actors pulling in the same direction. But what if that direction is imperfect, its monitoring fraught with issues of methodology and washback, and goal achievement always problematic – what then should critical thinkers in universities be doing? Using SDG4 (Quality Education) as a case, this presentation will present evidence on its construction and monitoring and the barriers to its attainment. It will explore how different international actors have taken different approaches to its operationalising, many of which reflect longstanding institutional agendas that predate SDG4 and will probably outlast it. Most importantly, it will consider what space there is to ask critical questions about how universal SDG4 and other global goals can or should be, the consequences of the current direction of travel, and the scope for staff in higher education institutions to raise those questions and occupy those spaces. Which is the stronger moral imperative: to support the fulfilment of the SDGs, or to exercise academic freedom to maintain a critical distance? And how can – or should - higher education policy reforms motivate and support universities in engaging with these roles?

Keynote 4 - Sir Peter Scott, Emeritus Professor of Higher Education Studies, University College London, Institute of Education (IoE), UK

Chair - Maria Slowey, Emeritus Professor and Director Higher Education Research Centre,, Dublin City University, Ireland

Access, Equity and Reform in Higher Education

Only one of the 17 UN Sustainable Development Goals refers directly to education - number 4 'Quality Education' - although many of the others involve education indirectly - notably 5 (Gender Equality), 8 (Decent Work and Economic Growth), 9 (Industry, Innovation, and Infrastructure), 10 (Reduced Inequalities) and 16 (Peace and Justice, Strong Institutions). Arguably, through its research, universities play a key role in realising nearly all the others.

But there are risks in seeing the relationship between higher education and the SDGs in this rather flat and instrumental way. Higher education is more than an enabler of the actions, and reforms, needed to advance these goals. Universities, and other institutions, themselves need to change, to be reformed, as part of that wider advance. Also, the SDGs do not offer a complete checklist of the actions that must be taken to secure a fairer, greener, more peaceful world. Missing is any reference to the political action that needs to be taken to secure and defend liberal and democratic values - not in a simplistic, uncritical, even self-righteous geopolitical sense; but in terms of challenging authoritarianism, intolerance, anti-science wherever it can be found. And it can be found even in many supposedly freedom-loving and freedom practising countries.

My talk will focus on two areas in which higher education can make a contribution to realising not only the established SDGs in which, directly and indirectly, it is engaged but also this other, unspecified but essential, goal - defending a culture of liberty and pluralism:

- The first is the urgent imperative to open up higher education to underrepresented social groups, whether defined by class, culture and ethnicity or gender, and to reduce the systematic biases that continue to exist despite the advance of mass participation in universities. Truly to be realised this will require the radical transformation of not just the institutional norms and social practices, but also the academic culture of higher education. However else 'quality education' is defined it must not be as an affirmation of elite academic culture - a clear danger when the policy discourse of higher education is frequently characterised by ambiguous references to 'excellence' and 'top universities'.
- The second is the need to think more radically about how knowledge is produced under 21st-century conditions. The need for the co-production of knowledge with market organisations, and some social partners, is readily accepted. Much less accepted in the co-production of knowledge with communities, especially marginalised communities and the action groups that support them. In their research agendas, and research practices, universities must not do things to or for their enveloping societies (local, national and global) but also with them. Some will argue universities can do most for achieving SDGs through 'excellent' research, as it is practised in elite (but socially exclusive) institutions. But that would turn them into a kind of expert bystander. On the contrary - just as we need more democratic access, we also need more democratic knowledge.

Keynote 5 and Leverhulme Trust Lecture - Nematollah Azizi, Professor of Educational Planning, University of Kurdistan, Iran, and Leverhulme Trust Visiting Professor, University of Glasgow, UK

Chair – Tom Collins, Professor Emeritus and former President, Maynooth University, Ireland

Higher Education for Sustainable development: What can be learnt from the Islamic Academic Tradition?

Unbalanced and rapid economic and industrial growth in all human societies has caused many harmful consequences to the environment and humankind. Such a harmful situation has caused the United Nations to pay attention to the strategic issue of sustainable development and the need to review and modify development policies and strategies in all countries, in line with SDGs in the 2030 Agenda. Consequently, considering the influential role HEIs have had in the process of economic and social development of societies, higher education policymakers and practitioners around the world should purposefully be engaged and contribute to offering creative solutions for this crisis. By focusing on their third mission, HEIs can offer creative and innovative ways to get out of this environmental crisis and propose new ways to manage it sustainably. Therefore, it is urgent for steps to be taken towards a change in mentality and beliefs, as well as in institutional and individual values and actions. And such steps need to be led by our universities since they are responsible for training professionals who will be faced with solving the systemic problems that we are suffering. Since universities innovatively play a unique role in addressing global challenges and helping decision makers to revise public policy wisely, the SDGs can only be achieved when the contribution of higher education and research is assured.

What is very important in these circumstances is opening the door to use all religious, value and cultural capacities amongst all nations to create sustainability in the process of development and protection of all manifestations of life on the planet. As a result, one of the platforms for effective implementation of the SDGs is to pay attention to the religious, ethical and long-standing scientific traditions in Islamic countries. The Islamic assertion is based on fundamental principles of environmental conservation in Islam in which sustainability refers to Islam as a guide and rule that can affect the faith of Muslim and its consequences for environmental, social, and economic profits. In the light of these principles, concepts such as economic development, poverty alleviation as well as environmental policies issues must be reassessed critically. By referring to Islamic teachings, not only ESD does not contradict religious beliefs, but it provides solid support for all pillars of sustainability resulting from Islamic manifestation in which Islam's long-standing commitment to environmental conservation through sustainability has been reaffirmed. Therefore, in this presentation the role of Islam in Sustainable Development (SD) as well as Islamic perspectives on higher education linked to SDGs will be discussed.

Abstracts of Panels

The CartoODD projects - a tool for mapping the level of consideration of the SDGs using AI, communication and feedback

Morgane Bousquet, Ashley Byrne, Daniel Forget, Louis-René Rheault, Stéphane Roche, Laval University, Quebec, Canada, **David Siaussat**, Sorbone University, Paris, France, **Georgina Gough**, University of West of England, UK.

At the global scale, considering Sustainable Development (SD) and Sustainable Development Goals (SDGs) in public and private organizations is essential. In this perspective, a research initiative at Université Laval (Quebec, Canada) has carried out a literature review on the existing approaches and tools for SDGs assessment. This study highlights a lack of models and software which, when they exist, are mainly based on traditional approaches (United Nations statistical model). These results confirm the need for the development of appropriate and innovative technological tools (learning algorithm, semantic analysis, etc.). The CartoODD projects, led by Laval University, aims at developing a tool for mapping the level of consideration of the SDGs and then, offering a syntactic and semantic analysis functionality of document corpus (research projects, PhD and master thesis, action plans, etc.) based on machine learning. The results are visually presented as a SDG map.

The tool development started with an analysis of course description and publications of Université Laval. Then, the tool aims to be developed and tested in organizations outside Université Laval (SDSN-Canada, Accelerer2030, the city of Quebec and other higher education institutions).

The operation of the tool is based on three components:

- An "artificial intelligence (AI)" component based on a semantic analysis (topic models) of document corpus, using a learning algorithm, trained using a database of keywords relating to SD and to the SDGs, developed by the City of Quebec. This database is enriched by the manual analysis of all Université Laval course descriptions and some PhD and Masters thesis.
- A "Communication" component is dedicated to transferring the results of the AI component in the form of an SDG Map. It allows visualization of the level of consideration of the SDGs.
- A "Feedback" component devoted to users that not only validates the robustness and relevance of the analyzes produced, but also adapts the tool to needs/sectors/contexts and improves the algorithm by offering him new training data.

During the development phase of the AI component, a manual analysis has been carried out in parallel with the automatic analysis by the tool. It has made it possible to define the "SD" character of the course (SD confident / SD not confident / no SD not confident / no SD confident), based on an identification of the level of consideration of the SDGs (major SDG / Minor SDG / SDG not covered) and keywords. An SDG is identified as "major" when the course description explicitly addresses concepts directly related to this SDG. Conversely, an SDG is identified as "minor" when the course description addresses concepts implicitly or indirectly with this SDG.

During the summer 2022, about 5.000 course descriptions were manually analyzed by 4 students. To validate the robustness of the approach and tool, a counter-analysis was carried out by the project coordination team on a sample of 10% of course descriptions, as well as a comparison with teacher analysis on 14 courses, along with a comparison of Université Laval's results with those of Manchester and Arizona State universities. The team, in collaboration with the Teaching and Research in Sustainability Working Group of Laval University, ensured the standardization and normalization of student judgment. The optimized results of the tool at the end of 2022 allowed a SDG diagnosis for the course that can be replicated, and also adapted to the program and departmental scale.

During the fall 2022, the French publications of Université Laval for the year 2021 (650 publications) were manually analyzed by two students to provide a new lexical field to AI for publications' analysis purposes. The tool aims to extend the analysis to all publications.

The session is specifically based on this project and aims at exchanging and discussing its first results as well as its methodological and technical components with colleagues from UK and French universities. This session will be organized as followed:

Short presentations

Morgane Bousquet and Stéphane Roche, CartODD: a "top-down" quantitative method for integrating SDG in academic curriculum

Georgina Gough, Towards a "bottom-up" qualitative method for integrating SDG in academic curriculum

Panel

The panel will address the following questions: What are the challenges of initiating these kinds of approaches? To what extent could these methods and tools be adapted in other Quebecer/Canadian or even international universities? Could or should it be applied to the context of accreditation programs?

To what extent could those approaches provide relevant answers to the needs and issues raised by student engagement?

David Siaussat and Ashley Byrne

Eihab Fathelrahman, Walid Ibrahim, Mark Baidon, Emma Pearson, Ahmad Qablan and Elke Neumann, United Arab Emirates University, Al Ain, UAE

The United Arab Emirates University and Reforming Education Towards Sustainable Development Goals

United Arab Emirates University (UAEU) is the country's first and most comprehensive federal university, founded in 1976. The university's vision is to offer "*Leadership and innovation in higher education, research, and community service at national and international levels.*" UAEU is committed to providing its students with the highest quality education and a supportive learning environment to ensure equal opportunity for all students to succeed. The University has adopted an outcomes-based teaching and learning model. It has developed effective learning outcomes assessment policies to ensure that graduates attain the learning outcomes relevant to their disciplines, and the critical competencies and soft skills that prepare them to cope with today's extremely dynamic job market. To foster the alignment of the university's programs with the Sustainable Development Goals SDGs initiatives (SDG 4.3), the periodic program review policy was recently revised to include Key Performance Indicators (KPIs) such as gender equality, percentage of international students, relevance to the market needs, international programmatic accreditation, and alignment with global trends. Program administrators must develop and implement a program improvement plan to rectify deficiencies in the identified KPIs.

UAEU College of Education offers significant opportunities to prepare teachers and school leaders in Education for Sustainable Development (ESD), applies quality assurance in higher education, and determines how and to what extent university students engage in productive and interactive learning that has value beyond the university curricula. The college examines the preparation of teachers and school leaders for ESD in alignment with Goals (SDGs) indicator 4.7.1 – Education for Sustainable Development – this is by considering the extent to which the preparation of pre-service and in-service teachers and school leaders in the college' programs are developing understandings and capacities (e.g., to plan and teach lessons to support teacher development) in ESD. Data is drawn from two sources: 1.) questionnaire items developed by UNESCO Institute for Statistics to monitor SDG indicator 4.7.1; and 4.7 2.). Focus Group discussions identify participants in the college's teacher education and school leadership programs. The aim is to investigate how participants perceive university education to prepare teachers and school leaders to understand and implement core ESD themes (climate change; environmental sustainability; human survival and well-being; and sustainable consumption and production). This all offers recommendations for making ESD central to teacher and school leader preparation and quality assurance.

STEAM education combines science, technology, engineering, the arts, and maths. STEAM integration in the UAEU education system aims to develop an innovative education system for knowledge and a globally competitive society by coping with the global market demands UAEU, as part of the country's education policy, seeks to achieve gender equality which is clearly stated in SDG # 5, by implementing a STEAM approach. Despite the advancements made by UAEU women in entering STEM (Science, Technology, Engineering or Maths) fields, no studies have examined the preferences of students when choosing STEM fields or how many of these students went on to graduate with degrees in any of the STEM fields. Such information is essential to UAE educators and policymakers to highlight gaps that

exist in the national labour market and define the specific details of the skills and competencies needed to support the UAE's national economic growth, and identify the policies that are required to encourage both girls and boys to enroll in STEM-related disciplines, in particular, to keep girls in the national STEM pipeline. Therefore, the aim is to address such a research gap and identify UAE women's enrollment rates, percentages, and preferences who have pursued their university degrees in any STEM field since implementing STEM education in the university/the country.

To achieve SDG goals relevant to food security and sustainability, the UAE increased support for educational and research projects as part of the country's transition from an oil-based economy to a more diversified, knowledge-based economy. A newly developed 2022 initiative named ASPIRE Research Institute for Food Security in the Drylands (ARIFSID) at UAEU aims at bringing researchers from different disciplines concerning food, water, energy, and environmental sciences and applications. These researchers and their institutions work together to develop food supply systems tailored to the environmental and socio-economic conditions of the UAE in alignment with SDGs 1, 2, 6, 7, and 12. Progress towards SDGS by 2030 will most likely require increased use of renewable energy resources and the development and implementation of novel agricultural technologies and consumer diets inclusive of the unique but challenging UAE cultural and climatic environment. The envisaged path of innovation and economic transition will need to be paved by educational programs that equip the researchers and decision-makers of tomorrow with the confidence, creativity, and self-awareness it needs to transition from adaptation to innovation of economic, technological, and societal concepts. This will require a critical review of existing educational programs and a reflection on how these should be benchmarked with those developed for universities in other parts of the world.

Marin MacLeod and Moni Kim, University of Toronto, Canada, **Sena Agbodjah**, Ashesi University, Ghana, **Iza Sánchez Siller**, Tecnológico de Monterrey, Mexico, **Kate Roll**, University College London, UK

How can universities contribute to the UN Sustainable Development Goal (SDGs), through their teaching and learning mission, while simultaneously building trans-sectoral and transdisciplinary skills among their student bodies?

In recent years, commitment of higher education institutions to societal engagement and advancing the SDG Agenda has accelerated. Dialogue surrounding the imperative for postsecondary institutions to keep pace with uncertain times, and further conceptualize their role in local communities and economies, in tandem with internationalization is increasingly reflected in the evolving metrics of strategic plans.

This panel will explore the question: ***How can universities contribute to the UN Sustainable Development Goal (SDGs), through their teaching and learning mission, while simultaneously building trans-sectoral and transdisciplinary skills among their student bodies?*** This question will be answered through the case of the Reach Alliance, as one scaled experiential learning model fueled by collaboration between higher education institutions, the private, public, and civil society sectors.

The Reach Alliance, inspired by the SDGs, is a global team-based research and leadership initiative, equipping and empowering the next generation of leaders to create knowledge and inspire action, by examining how critical interventions and innovations reach those who are the hardest to reach: those living in extreme poverty, the geographically remote, administratively invisible, and marginalized. Through this process, student research teams publish actionable research insights via case study reports and other knowledge translation deliverables.

The Reach Alliance convenes interdisciplinary students and faculty to contribute to and learn from a rich, cross-sector discussion focused on understanding how to reach some of the world's hardest to

reach populations. These regular in-person and online forums provide an opportunity for the exchange of ideas and research insights and foster local and global engagement. Furthermore, as part of the strategic priority to cultivate a global community of problem-solvers and purpose-driven leaders with a shared commitment to achieving the SDGs, the Reach Alliance provides alumni with ongoing professional development opportunities, support for the translation of their research findings, and leadership roles to mentor new researchers.

Reach's Academic Consortium consists of eight leading universities, each contributing to the network through local and global engagement and implementation. The diverse network drives collaboration across students and faculty from around the world, accelerating development of the next generation of principled, experienced, and globally fluent leaders. These students are well positioned for cross-sector leadership roles after participating in the Reach initiative and are highly sought after by some of the world's leading institutions.

Rigorous case study data drawing on seven years implementing the initiative at the University of Toronto, including three years of scaling globally, serves as the basis for analysis. Through this data, Reach identifies three changes that need to be made to scale globally fluent, trans-sectoral and transdisciplinary, SDG focused university-based initiatives.

Ethical Partnerships: Practicing ethical partnership and co-investment is time consuming and necessitates confrontation of longstanding power dynamics between partners, especially between the so-called Global North and Global south. That said, ethical partnerships are the only way for SDG focused initiatives like Reach to successfully operate within the higher education space. This looks like asking questions before offering answers, creating time and space for co-creation and co-design, university exchanges and reciprocal visits to establish understanding and trust across institutions, and a willingness to learn from each other. For example, each university in the Reach Alliance network has a differentiating program element. These unique elements are celebrated, and Reach creates space for sharing best practices and cross-university learning.

Balancing for Shared Experience: Striking a balance between standardization and customization of the initiative is difficult but also an important success factor. Ensuring that members of the global community have a shared experience relative to their peers, while at the same time have autonomy and ownership over implementation of the initiative's components, is necessary for Reach's continued success. Additionally, practicing flexibility and adaptability is needed when delivering experiential learning opportunities to students, especially when students are in different geographical locales. In practice, this includes accounting for interactive hybrid collaboration opportunities and community building, facilitating virtual research practices as needed, and offering bespoke team-based support to develop key skills such as report writing.

Sustainability: Achieving sustainability for SDG focused initiatives requires non-traditional advancement strategies; strategies that centre ethical partnerships, co-creation, student experience, and impact potential. Time must be spent to assess donor priorities and universities must go beyond the "usual suspects" when it comes to making the case for limited external funding. Equally important is achieving local (internal) institutional buy-in. For example, transitioning from an extra-curricular initiative to a curricular initiative. The option to offer course credit to participating students is particularly important in relation to equity, diversity, and inclusion, as some students are unable to participate in extra-curricular initiatives due to competing academic and professional demands.

Abimbola Abodunrin, Srabani Maitra, Barbara Read, Bonnie Slade, University of Glasgow, Jane Umutoni, University of Glasgow/University of Rwanda

Gender, STEM and student journeys through HE and into academia or industry: why such enduring challenges?

This panel discusses the longstanding and seemingly intractable problem of gender underrepresentation in STEM disciplines across a wide range of countries across the globe, both in the global ‘North’ and ‘South’, intersection with other aspects of identity and positioning such as race/ethnicity. This issue is of urgent global importance as science has a critical role in supporting global sustainable development (see UNESCO, 2015) which will not be realised until the discipline is able to attract and retain scientists from the full range of society. At Higher Education level, only 35% of students enrolled in STEM studies internationally are women (UNESCO, 2017a). At present, girls and women are markedly under-represented in STEM areas both as students and in the workforce in most countries across the globe. Addressing this problem is vital in ensuring equitable access to quality education and meaningful work, and is crucial for countries seeking to prioritise equitable economic development, speaking directly to UN SDGs 4, 5, and 6. As UNESCO’s (2017a) Report, *Cracking the Code*, states, ‘Ensuring girls and women have equal access to STEM education and ultimately STEM careers is an imperative from the human rights, scientific, and development perspectives’ (p15).

The panel session will include a number of speakers from the *Gendered Journeys* project funded through the UK’s Economic and Social Research Council within the framework of the Global Challenges Research Fund (GCRF). This is an interdisciplinary mixed methods project investigating these issues particularly in the countries of India and Rwanda, as well as involving current PGR students studying aspects of this problem for their doctoral studies. The panel will each spend ten minutes introducing their thoughts on **‘Why is the issue of gender diversity in STEM such a difficult challenge to address, despite many national and international campaigns and initiatives?’** In doing so they will draw on data from the Gendered Journeys project and/or the speakers’ own doctoral studies. The panel will then throw the floor open to audience members to continue the discussion, ask questions and contribute their own perspectives.

Project Theory and Methodology

A pertinent criticism of much research in the field of gender and STEM in education and workforce (particularly literature using the ‘leaky pipeline’ model) is that it is under-theorised and/or downplays broader institutional and social inequalities (see Metcalf, 2010). In contrast, our study foregrounds a theorisation of the dynamics of gender and STEM education/employment that draws on feminist interdisciplinary sociological and social psychological perspectives. We situate our analysis with a fluid, social constructionist conception of gender (Butler, 1990, 2005; Lorber, 1994) as well as a commitment to investigating gender intersectionally (Crenshaw, 1989).

Moreover, as with higher education, we must look intersectionally at the ways in which other aspects of social identity and positioning differentially impact women and men in STEM careers. Subramanian (2007) notes, for example, the importance of analysing the impact of region, caste, religion and language differences, in combination with gender in India, when exploring social and cultural conceptions of the most ‘competent’ people to practise science and advance new knowledge in STEM. We are particularly concerned to look at the ways in which gender dynamics play out in everyday life at the micro-level in the HE and employment contexts that are included in our study.

The project includes a range of data collection methods, in particular a large-scale survey of STEM students in HE in India, Rwanda and the UK; and in-depth interviews with students and employees in India and Rwanda. Project members will be focusing particularly on emerging findings from the qualitative data, which has been analysed utilising a combination of thematic analysis and Foucauldian discourse analysis (Arribas-Ayllon and Walkerdine, 2008) exploring intersectionally the multi-layered identity work and processes of subjectivation involved in the journeys through education and employment for our participants, and their navigation and negotiation of institutional, social and cultural influences affecting their trajectories.

Germán Álvarez Mendiola (Centro de Investigación y de Estudios Avanzados (DIE, Cinvestav), Mexico), **Rolf von Lude** (University of Hamburg, Germany), **Sir Peter Scott** (University College London, Institute of Education, UK), **Maria Slowey** (Dublin City University, Ireland), **Wietse de Vries** (Universidad Autónoma de Puebla, Mexico), **Shinichi Yamamoto**, Hiroshima and Oberlin Universities, Japan

To what extent is the concept of academic freedom relevant to the achievement of the UNESCO SDGs?

The call for papers for HE 2023 highlights a paradox between a traditional core aspect of higher education as being ‘innately conservative’- to conserve and transmit knowledge and culture for and to future generations- while, at the same time universities are also expected to be innovative, generating new knowledge.

There is another, not unrelated, paradox facing higher education relevant to its potential contribution to achievement of the SDGs which concerns the distinctive role it is called upon to play as being independent to the society of which it is a part. Threats to the core concept of academic freedom are not uncommon– some threats are explicit and direct; some implicit and indirect; some are external, some take the form of self-censorship; some are subtle, others, for example, in authoritarian states, can be draconian.

In the Western world, universities have held a distinctive, privileged position in society. It is true that they have always been subject to both direct ideological and political influence from external agencies- historically, pre-eminently Church and State- and to indirect cultural influence from the prevailing orthodoxies of the time. Nevertheless, universities have, in general, emphasised and stoutly defended institutional autonomy and academic freedom.

Academic freedom is thus central to the conception of the university as articulated though the determination to pursue research, scholarship, and teaching as they, as ‘communities of scholars,’ see fit. This is an aspiration which, of course, has not always been attained: but it has remained both a framing context and a cultural ‘ideal type.’

This international panel comprises higher education researchers from Europe (Ireland, Germany, the UK) Asia (Japan) and North America (Mexico). Contributors explore these issues in relation to their relevance, or not, to the contribution of higher education to achievement of the SDGs. This interrelationship which can be complex.

On the one hand, explicit commitment to the SDGs provides an opportunity for higher education -at both system and institutional levels- to demonstrate the myriad of ways in which universities and other tertiary institutions engage with wider society, contributing both to public and private good.

On the other hand, the formal adoption of selected SDGs in some countries has translated into HE policies which prioritise specific topics/programmes for research and development. This arguably can result in a situation whereby academics are indeed free to research what they want to...but only in so far as such research can be supported from other than state sources. In practice, may one way in which academic freedom is curtailed be by excluding some projects *a priori* from public funding- with the rise of neo-nationalism may some topics be deemed irrelevant, unworthy, or undesirable?

Joice Tafirenyika, Stephen Mahere, Rumbidzai Masina, Abigail Mawonedzo and Peter Kwaira,
University of Zimbabwe

Contributions of Higher Education Reforms to Sustainable Development Goals: Some examples and experiences from the University of Zimbabwe

Presentations for this panel discussion illustrate how education reforms at the University of Zimbabwe (UZ) are panning out in some of its departments in attempts to contribute towards national imperatives and attainment of targeted Sustainable Development Goals (SDGs). In line with regional trends, Zimbabwe has adopted a new economic blueprint, Vision 2030 as a reform that transcends ministerial boundaries, aimed at transforming and developing the country into an upper middle-income economy by 2030. Consistent with Vision 2030, the Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development (MHTEISTD) introduced Education 5.0 as a framework to contribute to national development goals by embracing 21st Century competences to realise the Sustainable Development Goals (SDGs). Consequently, the transformative UZ Strategic Plan (2019-2025) is based on the new Education 5.0 model, in line with the higher education policy that is aligned to national development goals. Education 5.0 introduced 'innovation' and 'industrialization' in addition to the traditional 3 missions that comprised; 'teaching', 'research' and 'community service'.

The panel presentations illustrate how three departments at the UZ have embraced Education 5.0 and are endeavouring to contribute towards the attainment of SDGs; 1-4, 9 and 12. These SDGs address: poverty reduction, hunger eradication, good health and well-being, quality education, industry innovation, and infrastructure, and responsible consumption. The panel presentations provide examples from the following three departments in the Faculty of Education:

- Early Childhood and Junior Education (ECJE),
- Educational Administration and Leadership (EAL), and
- Art, Design and Technology Education (ADTE).

The five missions that constitute Education 5.0 were the basis of the seven strategic goals of the UZ Strategic Plan 2019-2025. The first strategic goal is to develop & promote a programmatic approach to research and innovation, for the generation of knowledge, products, goods, and services that respond to the needs of industry, commerce, and society. Inter- and intra-faculty collaborative research groups have been formed to generate knowledge for resolving societal problems. The department of Art Design and Technology Education has introduced computer aided design and manufacture (CAD/CAM) in areas such as: product design, pattern development and textile design of adaptive clothing for breast-feeding mothers, and for the disabled. Research emanating from these programmes can be multi- and inter-disciplinary, involving other departments and faculties within and outside the university. Other collaborative research projects under this strategic objective have been embarked on by staff in the fields of early childhood development, health sciences, applied psychology and educational leadership.

The UZ Strategic Objective 2 focuses on reviewing, streamlining, and or introducing undergraduate and postgraduate degree and academic programmes inspired by growing demands for technological advancement, industrialisation and modernisation at national level and beyond. In tandem with this goal, the university transformed academic programmes and widened their scope from a uni-focal to multi-focal perspective. The programmes develop graduates with the necessary competences in advanced techniques in areas such as: materials science, innovative product design, adoption of modern technologies in manufacture, consumer behaviour, and market changes. Students get firsthand exposure to the needs of local industry while the university stays updated with changes in industry and adjusts its curriculum accordingly.

The third UZ strategic goal focuses on developing strategic partnerships to leverage knowledge sharing, resource mobilisation and investments for advancement of innovative research, outreach, teaching, and business development. This resonates well with the SDG 9, which focuses on Industry Innovation and Infrastructure. Students are engaged in industrial attachment for 'work-related learning' (WRL) and entrepreneurship where they get hands-on experience. Identification and nurturing of talent are realised through the production of creative and innovative product designs, some of which are showcased during the University of Zimbabwe Research and Innovation Week annually. The Strategic objective targets talent identification, nurturing and mentorship towards an industrialisation and modernisation agenda. Of significance are staff development programmes implemented through design-based research where

students engage in problem-solving and innovative designs in areas where they show interest and competency.

In view of the increasing technologically driven systems and threats posed by pandemics such as COVID-19, '*educational change*' has taken place as university teaching methodologies have shifted from the traditional face-to-face to the: *virtual*, e-learning, online, and blended methodologies thereby warranting professional upgrading of skills among educational practitioners. In order to maintain quality education, UZ has, for instance, introduced a work-related internship model for practicing teachers pursuing Masters degrees. This is intended to facilitate the provision of sustainable, inclusive, equitable, and quality education which resonates well with *Sustainable Development Goal 4*. The SDG aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

Overall, the panel presentations illustrate how the UZ has embarked on a transformation journey with reforms that are aligned to national development goals while addressing the targeted SDGs.

Hans G. Schuetze, University of British Columbia, Canada and University of Glasgow, UK, **Hillegje Van't Land**, International Association of Universities, France, **Charles Muchemwa Nherera**, University of Zimbabwe, Zimbabwe, **Shinichi Yamamoto**, Hiroshima and Oberlin Universities, Japan and **Ran Zhang**, Peking University

Global South-North and North-South partnerships for sustainable development (SDG # 17): What role for universities?

The UN 2030 Agenda Sustainable Development Goal 17 aims to strengthen Global Partnerships for Sustainable Development. Specific targets postulate:

- the need to enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology, and innovation and to enhance knowledge-sharing on mutually agreed terms (Target 17.6), and
- global and multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology, and financial resources, to support the achievement of the Sustainable Development Goals in all countries (Target 17.16).

Introduction - Hans G. Schuetze, (chair)

Most universities in the developed world (the 'global North') are engaged in 'international education' which in most cases means 'recruiting' and educating students from other countries, including from (mostly) developing countries (the 'global South'). With few exceptions this flow of students is from the South to the North whereas few students and even fewer researchers go in the opposite direction. As many students from the South will stay on in the host countries, in particular, because of better working conditions and career chances and many of the hosting countries make these graduates a preferred target for immigration, the resulting 'brain drain' has negative effects on Higher Education institutions as well as the economy of the sending countries.

While there is a certain amount of North-South knowledge and technology transfer through graduates returning to their home countries, there are very few larger North-South partnerships which share, on an equal basis, resources, knowledge, and technology. Collaboration by researchers from the North and the South is more common than the one-sided education relationship would suggest. However, in fields where equipment and facilities require massive investments such as satellites, synchrotrons, telescopes, or large basic research facilities, global university partnerships are rare, as universities in the South lack the industrial partners and government support universities have in the North. Yet ideas and innovative approaches to issues are developed world round and require better dissemination, sharing and

valorisation. In their presentations, **panel members** will emphasize different elements and perspectives and raise questions that should be addressed.

Hillegje Van't Land

What is the role of the International Association of Universities (IAU), and other consortia with a major participation of higher education institutions, in fostering attention to the importance of this particular goal and how to engage with it and address it? Why and how should Higher Education institutions advocate for their important contributions to addressing the challenges identified in the 2030 Agenda to both the Higher Education sector and to policy makers and multi-stakeholder organisations?

Charles Muchemwa Nherera

The prevailing 'lopsided' partnership relationships is largely based on the preferences of funders / donors rather than HEIs regarding distribution and administration of funds provided for research and projects. Discussions on any change in this regard therefore needs involvement of funding agents / donors. While their countries are faced with most of the poverty-related challenges such as hunger and diseases, HEIs in the Global South such as in Sub-Saharan Africa face numerous challenges including poor infrastructure, particularly research facilities and funding, declining budgets for HE, and resulting low staff morale. Their contribution to the attainment of the SDGs is therefore compromised. What can be done about this?

Shinichi Yamamoto

Universities should play a major role in training human resources for sustainable development, whether they are in the "North" or the "South". For the North, the recruitment of foreign students should be focused on the contribution of the university from a global perspective. Universities must maintain a certain degree of independence from national and international politics, or else the government alone will be responsible for sustainable development initiatives.

Tom Collins

The role of universities in the context of the climate and wider environmental crisis must now take centre stage in all discussions regarding the future of the academy. If higher education cannot point to potential solutions here it is unlikely that it can retain the esteem and public investment it has commanded heretofore. The SDGs provide a framework for a response - but it remains to be seen what the higher education response will look like.

Ran Zhang

Concepts such as cultural diplomacy, soft power, and hegemony have dominated the larger discourse on international partnerships. An inside perspective from within higher education institutions is needed, in particular, on how is the mission of education achieved within the partnerships. With reforms and opening-up efforts in the past forty years, China has developed various forms of international partnership both symbolic and substantial. For example, Peking University has established partnerships with more than 380 universities and research institutions in more than 60 countries both in the global South (specifically Asia) and global North (mainly Europe and the US). Some HEIs offer joint/dual degree programs. Joint Sino-foreign universities have been established. Some Chinese universities offer their own degree programs taught in English, often with a financial aid package, recruiting talented students from both the North and the South.

Abstracts of Posters

Anan Chen, University College London

Exploring the employability of graduates from the China-foreign international joint universities

This research seeks to discuss how international higher education policies can contribute to the SDGs by promoting international cooperation and cultivating high-quality talents. The Internationalisation of higher education has continued to develop over the past two decades, despite new barriers to globalisation emerging following the 2007/8 global financial crisis and the coronavirus pandemic. New forms of internationalisation like cooperative programs and joint universities have become increasingly popular. The Chinese government and the Ministry of Education (MOE) have been encouraging the development of Sino-foreign international/cooperative universities in recent years, for the purpose of cultivating high-quality talents with international vision and intercultural competences.

Meanwhile, owing to the need for economic innovation and the increasing level of graduate unemployment and job market competition, universities are making efforts to cultivate students' employability. Thanks to the advantages such as the international curriculum and teaching staff and independent learning mode, the Sino-foreign joint universities, as a unique mode of HE, are claimed by some experts, media, and employees, as a cradle for talents with better employability in the globalised market. The Covid-19 pandemic has further spurred interests in China-foreign joint universities as a way for 'internationalisation at home'. However, despite their prominent role, little is known about well TNHE graduates from joint universities fare in China's highly competitive graduate job market.

To fill in the research gap and develop a deeper understanding of the contribution of joint universities to graduates' personal development and talent cultivation, this mixed-method research explored the employability (including employment outcomes and self-perceived employability) of graduates from two Sino-foreign international joint universities and then compare them against a sample from a Chinese national university. With Human Capital theory and the Signalling theory as the theoretical framework, the study collected quantitative and qualitative information from a group of recent graduates. Methodologies included sending quantitative survey and then conducting semi-structured follow-up interviews with a group of graduates and school staff. The data results clearly indicated that graduates from international joint universities were advantageous in employment outcomes and self-perceived employability concerning the prestige of joint universities than local graduates, which were strongly related to their engagement in international and intercultural experience during their undergraduate study, providing evidence for the positive effect of international higher education on delivering high-quality education.

Jana Berg, German Center for Higher Education Research and Science Studies

Beyond time limited projects – Ensuring ongoing support for refugee students in German higher education

Following the refugee influx of 2015 and 2016, many German higher education institutions (HEIs) responded with support programs for refugee students. Given the underrepresentation of refugees in higher education, such programs can be an important instrument to promote quality education for all. Also, they can be understood as a part of HEIs' third mission. However, HEIs have been facing several challenges in establishing and maintaining refugee student support, from an initial lack of experience and organizational memory on how to address the specific needs of refugee students to time limits on funding and employment contracts. High staff turnover and limited project durations increase the difficulty of pursuing consistent strategies and gaining sustainable lessons from grant programs. Thus, support projects for refugee students can on the one hand be seen as an example on how HEIs can implement structures to address SDG4, but at the same time, pose the question on how policy, funding and organizational context shape the realization of support measures.

Based on a qualitative longitudinal study, which includes 27 expert-interviews with members of nine German HEIs, I will provide an overview of the challenges HEI-members have encountered during different stages of program development. A central factor shaping the realization of support structures, but also causing some challenges with regards to their sustainable impact, is the funding structure and

project-based organization of support programs. Using theories of organizational memory and learning, I will provide implications how HEIs could be supported to establish ongoing services for refugee students and how they can draw sustainable lessons from current experiences beyond funding project durations

Ashley Byrne, Denis Savard and Catherine Larouche, Université de Québec

Canadian Universities Addressing the SDGs in their Strategic Plans: A Snapshot

Universities play several critical roles in society's transition toward sustainable development (SD). They are responsible for providing knowledge, evidence, and innovations needed to support the achievement of the Sustainable Development Goals (SDGs) and have a social responsibility to train future leaders and proliferate public awareness of SD. Moreover, universities are required to respond to the demands of their students and other stakeholders, who demonstrate growing interest in institutions which are socially, environmentally, and economically responsible.

In the context of these roles, universities are faced with pressure to contribute to the SD of their internal and external environments to their institutions' full capacity. In Canada, a growing number of universities are turning to the SDGs to guide both their institutional evaluations of sustainability and their strategic frameworks. Although previous studies have demonstrated a presence of SD themes and strategies in university strategic plans, there has been no scientific analysis of the strategies undertaken by Canadian universities through the lens of the SDGs. By analyzing how universities are contributing to sustainability through the language of the SDGs, results may be communicated to universities and governments using a framework of sustainability that they are familiar with.

The objective of this communication is to present a global portrait of the sustainable strategies and themes present in Canadian universities' institutional strategic plans. These results are part of an ongoing longitudinal study funded by the federal Social Sciences and Humanities Research (SSHR) Insight program.

Using a four-pillar framework of How universities contribute to the SDGs developed by the Sustainable Development Solutions Network (SDSN), this study will analyze the strategic plans of 142 universities by contextual analysis in order to create global (Canada-wide), regional, provincial, and individual university profiles demonstrating how the SDGs are being addressed by Canadian universities.

The interpretation and comparison permitted by such profiles will initiate dialogue surrounding how universities may reorient their policies and plans to better meet the SDGs and how governments and other external stakeholders may better support universities in their transition toward sustainable development.

Hajar Choukrani, Hassan II Agronomic and Veterinary Institute (Morocco), and Institut Agro Montpellier, France, **Hyeongyeong Kim**, **Anaëlle Durfort**, University of Montpellier, France, **Nicholas De Kock**, University of Pretoria, **Marianne Chaumel**, **Thaura Ghneim-Herrera**, Montpellier Advanced Knowledge Institute on Transitions, France

Transforming education for accelerating transitions: a youth perspective for addressing today's most pressing challenges

Having foresight towards learning or education practices is a crucial step in coping with a rapidly changing world. Adapting learning practices empowers students to be agents of change and to equip them with tools for a constantly evolving and unpredictable future. In this paper, we introduce a participatory initiative that was driven in Montpellier by the Montpellier Advanced Knowledge Institute on Transitions (MAK'IT) and Masters and PhD students from various programs. The initiative aimed

to co-create transformative education proposals that could support and expedite the transition towards sustainability. The discussion platform featured a public conference where students presented proposals for education transformation and engaged in discussions with a panel of education, research, and policy experts and the audience. A preliminary brainstorming session was conducted ahead of the conference where students- invited to join through an open call distributed in various networks- expressed their motivation, highlighted topics of interest, and attributed them for further development.

During the public conference, the students presented three proposals: reinventing learning practices, promoting a sustainability-centred curriculum, and fostering transdisciplinarity. The revised curriculum would equip students with critical thinking and resilience skills and position them to view problems as challenges. The practical experiences - “learning by doing” - such as work experiences and activities in civil society and nature, will supplement their theoretical knowledge and enhance their competencies. To encourage learners to examine and respect different systems of values and knowledge, the revised curriculum should be built on the principle of transdisciplinarity.

However, there are several challenges to implementing the revised curriculum. Immersive learning environments outside the classroom require adequate resources, and many tertiary institutions are structured around distinct faculties and departments that act as knowledge silos, making it difficult to promote transdisciplinarity. Despite these challenges, transforming education is crucial to empowering students to become agents of change and to equip them with the necessary tools for a constantly evolving and unpredictable future.

Pamsy P. Hui, The Hong Kong Polytechnic University

The 3P Approach: Contributing to Sustainable Development Goals Effectively through Higher Education

The Sustainable Development Goals (SDGs) inform issues that we must tackle to allow future generations to flourish. With many global issues now approaching being irreversibly disastrous for humankind, we need to rethink how higher education institutions (HEIs) can bring solutions more effectively. HEIs have tended to incorporate SDGs in their educational offerings in a piecemeal manner. Based on our observations from two Innovation classes, we identify keys to an effective implementation of SDG education. While what we deliver is important, how we deliver it can amplify or mute our intentions. This how hinges on 3 Ps – purpose, perspective, and partnership.

Purpose refers to the sense of commitment to tackling problems. It is contingent on clear understanding of the problems and goals. In our classes, when students were allowed to choose the problems they tackled, they were more invested in finding solutions and were more likely to achieve their intended goals. Therefore, if students are given the chance to explore a wide spectrum of SDGs as they begin their university curricula, they would be able to make informed decisions and cultivate their sense of purpose for specific SDGs before they are influenced by the predominant perspectives of their chosen disciplines.

SDG-related issues are wicked problems requiring complex solutions with interrelated components from different perspectives. Much like how research centres are increasingly problem-focused and interdisciplinary, HEIs can consider a parallel shift for upper-level subjects. Students revisit SDGs after gaining disciplinary knowledge in the middle of their university journey in problem-based subjects that bring different disciplines together. This opens a space for interdisciplinary collaboration. Students in our classes found having diverse perspectives challenging but helpful because they exposed blind spots.

The abovementioned will not be effective without close partnerships with active social innovators. Such partnerships afford students opportunities to connect with people directly affected by SDG-related issues. Perspective taking is fickle, especially for people coming from diverse backgrounds. By putting

students in context, HEIs create a space in which students gain perspectives through communication and observation. This is key to effective innovation. In our classes, students were surprised by their discoveries through communicating with and observing the people they served. Those who tried to take perspective out of context tended to make inaccurate assumptions.

Bahar Cemre Karaagacli, University of Glasgow

Entrepreneurship Education and Sustainable Development

Among the varied missions of higher education, employment is given attention in terms of sustainable development to boost decent work and economic growth. One pillar reinforcing this mission has been one of the target areas in the Sustainable Development Goals, namely youth unemployment. In particular, in Goal 4.4, the goal to enhance the number of young people with entrepreneurship skills could depict the link made on the sustainability-centred policy side. Beyond the SDGs, the prominent supranational actor, the European Union also acknowledges entrepreneurial skills as a crucial asset for the creation of social and economic sustainability (Seikkula-Leino et al., 2021). Within the context of sustainable development encompassing individual and institutional levels, entrepreneurial competencies are aimed to be reinforced to address social, economic, or environmental problems (Pepin et al. 2021; Urbaniec, 2018).

Therefore, this study will analyse one particular programme with the conceptual framework built on these concepts. Analysing the policy level with content analysis, the following policy question will be answered: On which grounds is sustainable development addressed with entrepreneurship education facilitated by a policy instrument? This question is scrutinised through the analysis of the *EXIST* funding programme operating under the German Federal Ministry of Economics and Climate Protection. This programme helps universities to create start-up culture with entrepreneurship activities and initiate entrepreneurship education activities to support their students. The preliminary results indicate that sustainability for the university contexts is accomplished by stimulating start-up culture, which reinforces the youth employment strategies in SDGs and the European-level policymaking. In addition to sustainability in business models, entrepreneurship education is deemed particularly important for making an impact with social and green entrepreneurship. However, one of the remaining questions to discuss is to what extent entrepreneurship education should be included into the missions of higher education to relieve youth unemployment and reinforce sustainable goals

Candy Lan Qiu Qin, The Education University of Hong Kong

How two world-leading universities undertake interdisciplinary research to respond to a specific UN Sustainable Development Goal (SDG Goal Number 1 “No Poverty”): Case studies from two of the world's leading universities in the East and West.

This paper reports on the status and development of interdisciplinary research for facilitating the United Nations Sustainable Development Goal (UN SDG) Goal 1 “No Poverty”, by using The University of Hong Kong (HKU) and Oxford University as case studies. Specifically, it explores how interdisciplinary research in the two universities could facilitate the achievement of the UN's SDGs. HKU is in Hong Kong and Oxford University is in the UK, and to some extent, reflect the differences in interdisciplinary research approaches between Asia universities and Western universities.

The methods used in this study include reviews of each university and research centres' websites, examination of their research publications, and actual site visits and observations. Semi-structured interviews with university and research centres' leaders, professors, alumni, and students are conducted to examine the similarities and differences and key influential factors between the two research centres, their research agenda, leadership, strength and challenges, and influences locally and globally.

The research utilises the work of Cohen and Miller (2019) to create a conceptual framework for this study. This study's conceptual framework is built based on three key disciplines: economics, management, and higher education, and three main theories: economic theory, full-range leadership style theory, and agenda-setting theory. This framework is used to investigate these two research centres' research agendas and good practices. This study follows the principles of Yin in developing theory, propositions, and related issues to guide the case study and generalise its findings.

This study uses the UN's SDG Goal Number 1 "No Poverty" as a case study theme to explore how the two selected world-leading universities and their research centres can conduct interdisciplinary research to address this issue and achieve this goal in local and global contexts.

This study:

- examines how interdisciplinary research is increasingly important in solving real-world problems such as 'no poverty.'
- illustrates the importance of triple helix relations among universities, government, and industry.
- shows how interdisciplinary research influences the structure of the existing universities' systems, including research funding allocation and faculty expertise
- considers how the adoption of interdisciplinary research may influence single-disciplinary research and scholarly fields.
- provides further research opportunities to investigate how university research as a common good applies to the research centres' daily operation as their mission and vision, and how universities will sustain their future development.

Alexander Vaniev and **Michael Malt**, University of Glasgow

Introducing pedagogy to SDGs in higher education: an actor-network theory perspective

Sustainable Development Goals (SDGs) adopted by the United Nations aim to promote sustainable approaches to resolving interconnected global challenges through a broad range of environmental, social, and economic activities. Target 4.7 under SDG 4 focuses on providing quality education on global citizenship and sustainability, measuring these using national education policies, curricula, teacher education, and student assessment (United Nations, n.d.). However, at the higher education (HE) level, pedagogical practice is not highlighted in SDG 4 and its related outcome indicators. The importance of embedding SDGs into pedagogical practice for HE delivery is under-recognised in favour of an SDG-oriented curriculum content (Holmes et al., 2022). Adopting a focus on pedagogy offers an alternative view to engaging with SDGs within the HE context, decentering the capitalist and economic underpinnings of the SDG framework (Chankseliani & McCowan, 2021). Additionally, this perspective implies a culturally sensitive approach to addressing SDGs that challenges mainstream universalist and progress-focused understandings of sustainable development.

By using actor-network theory (ANT), we propose an initial analytical framework for university educators, shifting focus away from economy and resources, towards recognising practical, student-centred active and experiential learning. This approach allows students to come away with an embodied experience and critical understanding of sustainable development, global citizenship, and what it means to think and live sustainably.

The poster will present the results of a documentary analysis of multiple secondary data sourced from journal articles, book chapters, openly available university annual sustainability reports, webpages, course guides, and strategy and policy documents. The data will be collected through an internet-based search targeting Scottish universities. Only those universities with SDG initiatives will be considered

for review. The data will be analysed using the ANT perspective, i.e., by identifying the human and non-human actors which leave traces in the corresponding cases and by “following the actors” (Latour, 2005) through a web of relations. This exploratory study will show an aggregated network of key actors and their associations that “assemble” HE provision of SDG education. This, in turn, will be useful to inform, facilitate, and sustain future pedagogical initiatives and practices that move towards target 4.7 and enact wider SDGs.

Abstracts of Papers

Inclusion, equity, and quality are far away: Mexican higher education and SDG 4

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The primary aim of this study is to analyze the causes that account for the poor performance of Mexican higher education with respect to SDG 4, which pertains to "ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all." Mexico's considerable distance from achieving this goal stands in stark contrast to other countries in Latin America that are at an equivalent or even lower level of development, such as Argentina, Uruguay, Chile, Costa Rica, and Colombia.

The research presents an analysis of fundamental indicators, such as higher education coverage rates, policies for expanding educational offerings, attention to socially and economically disadvantaged sectors, maintenance scholarships, quality assurance, and financing, in a context of intense legal reforms and abundant rhetoric production in higher education. It offers an interpretation of the structural and public policy causes underlying Mexico's performance concerning SDG 4, as well as the impact of the pandemic on higher education.

Mexico has a vast system of higher education, distributed across all states of the Republic. Over 5 million students are enrolled in higher technical education (ISCED 5), undergraduate (ISCED 6), and graduate programs (ISCED 7 and 8) in more than 4,700 public and private institutions. Nevertheless, the gross enrollment ratio in higher education is only 47%. Significant disparities exist in terms of coverage among different states, and the quality of education varies considerably between and within institutions. Access to education for economically and socially vulnerable populations, as well as for students with disabilities, remains low. Affirmative policies are limited: the number of maintenance scholarships increased in the past decade, but in recent years, they have undergone significant reductions. The federal government has promoted constitutional reforms to establish free and universal access to higher education. However, it has also implemented an austerity policy that has led to underfunding of higher education, creating a contradiction. In the private sector, the COVID-19 pandemic has affected families' ability to pay for education, and a significant number of students have dropped out of universities, especially in the private sector.

In this context, achieving the Sustainable Development Goals related to higher education seems remote.

Maximizing the Value of Research Projects for Sustainable Society development: The Triple S System of Social Impact Assessment

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Higher education institutions have a vital role in promoting sustainable development across all dimensions of society. Universities must ensure that their research and innovation align with social needs and are co-created with stakeholders within the community, with a focus on sustainable impact on society. To achieve this, the United Nations' 17 Sustainable Development Goals (SDGs) provide a critical framework for comprehensive planning and operationalizing of research projects, considering the benefits and direct impact on stakeholders in the community by collaborating with relevant organizations. This study in Thailand assesses five university-community engagement projects using a mixed-methods research design. The goal is to create an evaluation framework that aligns with societal values before and after project implementation, emphasizing impact pathways and indicators related to sustainable development goals (SDGs). As a result of this study, a new model of social impact assessment, the Triple S system, was developed to maximize the value of research projects for sustainable social development. The model focuses on implementing university research and innovation to solve community problems and create greater impact value in terms of sustainability. The Triple S System is an integrated social impact assessment model that aligns with the sustainable development goals based on the IRIS framework.

The Triple S System consists of three main components and six steps. The first component, Strategic Sustainable Development Goals (S1), aligns with the 17 SDGs, considering the social impacts of the project's five dimensions: objectives, stakeholders, expected outputs, contribution, and risks. These dimensions are used to determine the impact pathway and identify the project's output, outcome, and impact. The second component, Social Impact Assessment models (S2), evaluates the social impact of research and academic service projects within a sustainable development framework. The third component, Step of Social Impact Assessment 3I3S (S3), outlines the steps for assessing the social impact of research and academic services that align with sustainable development. This process consists of six steps: identifying strategic SDGs, identifying the impact pathway, identifying indicators for output, outcome, and impact; conducting site visits and focus groups, evaluating the social return on investment, and conducting a social impact assessment based on SDGs.

In conclusion, the Triple S system is a valuable tool for assessing the social impact of research and academic services in sustainable development. The Triple S system can provide guidance to future projects in facilitating long-term social impact. It also enables researchers to identify the necessary steps in each stage of a project to achieve intended outcomes and social impact and allows project managers to plan for efficient progress tracking, improvement, and continuous evaluation. The system also helps those responsible for project implementation to monitor project progress efficiently and to evaluate project performance using both quantitative and qualitative data to enhance project effectiveness.

Making Higher Education Curricula Relevant to Current Environmental Issues

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A review of recent literature on Climate Change Education, Education for Sustainable Development, and Environmental Education, revealed that each of these educational arenas occupy the same main area of learning, namely environment and human interactions. However, the content and learning outcomes in each of these areas are diverse, so much so that they can be described as different fields. In higher education specifically, there are efforts to insert climate related content in different fields of natural and life science courses, as well as in the social sciences and arts. Practically, the traditional

modules in UK curricula or courses in international curricula focus more on sustainable development, sustainable science, or sustainability courses/modules.

In a recent pilot study, investigating the extent to which climate change, mitigation, and adaptation were included in engineering curricula, the observations were that there were seven sustainability modules across 225 modules in Civil, Mechanical, and Electric Engineering (curricula for 2020-21). Using an innovative text analysis methodology, the study additionally showed that there were four climate change relevant references across the 225 modules. Examining the Module Descriptions and Learning Objectives in the selected engineering curricula highlighted two key observations: sustainability modules focused more on examples of sustainable engineering that already exist and less on understanding how to create more sustainable engineering practices as climatic changes evolve; even in modules immediately relevant to adverse climatic occurrences (e.g., floods), there was scarce mitigation and/or adaptation content. A further layer of study revealed, however, that there was potential to add robust climate relevant science in the existing engineering curricula, in the form of targeted and evidence-informed content (Axelithioti *et al.*, 2023). The hypothesis formulated from this project, is that sustainable courses/modules that combine economic, environmental, and social implications, investigations, applications, and solutions are still in their infancy.

Sustainable development, climate change and human-environment interactions are equally important educational venues that can depict the relevance of all study fields to environmental issues. Widening the scope of the pilot research, this study presents ways of using the innovative methodology within existing module descriptions and learning objectives in Higher Education to examine the *status quo*, and to propose and design curricular changes towards more SDGs-inclusive curricula. To this end a new project is underway that proposes the automation and use of the innovative methodology and tool, to systematically examine, update and adjust Module Descriptions and Learning Objectives, to reflect the principles of sustainability within the natural, life, social sciences as well as the arts.

Confronting Climate Denial to Promote Sustainable Futures in Higher Education

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This paper will focus on different forms of climate change denial with an emphasis on *climate action denial*, the unwillingness or inability to take necessary actions to adequately address climate crisis. In the case of climate action denial, while climate science is generally accepted, the needed actions are not. The paper highlights the social organization of denial and how a “climate denial machine,” a network of fossil fuel industry-led organizations, foundations, associations, and industry-funded politicians, has challenged climate science, sown public doubt and confusion about climate science, and impeded effective climate policy action. Denial and the delay of urgent climate action has influenced higher education institutions, often driven by managerialism and metrics designed to enhance rankings. As a result, higher education policies directly affect contributions higher education institutions make to the Sustainable Development Goals (SDGs). The paper identifies texts, contexts, tactics, and techniques that promote climate denial and suggests educational practices and policies to confront climate change denial and inaction in order to move toward more sustainable futures. Drawing on ecolinguistics, the paper then focuses on ecojustice stories-To-live-by that offer opportunities to explore, investigate, and cultivate more just and sustainable futures. With the United Nations Conference of the Parties (COP 28) being held in Dubai, United Arab Emirates from November 30-December 12, the paper explores how educators might advance ecological justice and shares thoughts about the role of the university in addressing climate crisis and advancing the United Nations’ SDGs.

Methodological framework for assessing emerging university-society engagements in Africa

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Higher education institutions pursue three distinct but interrelated missions of teaching, knowledge production, and community outreach. Also known as community engagement, the third mission has been relegated behind the two missions, teaching, and research, until the last decades of the 20th century. Varied terminologies denoting community service or engagement that shape the conceptualization of the third mission include third stream, service learning, outreach, community engagement, scholarly engagement, university–industry linkages, popularization of science, and entrepreneurial activities. The distinct characteristics of the third mission are still under-theorized, although it generally aims to contribute to socio-cultural and economic transformations of society.

However, several frameworks that could provide conceptual and theoretical scaffolds to the third mission exist. Mode 2 knowledge production, which explains knowledge within the context of its application; Mode 3, which explains service in terms of socio-economic development, democratization, and public accountability; academic capitalism and the new economy, which examines the ever-increasing commercialization of education and research; and the entrepreneurial university model are widely discussed in the literature.

None of the available methodological and theoretical frameworks provides a holistic analysis of the significant domains of indicators, items and scales that transcend specific contexts. Likewise, engagement indicators are not directly aligned with university core functions and supporting processes and structures. Moreover, most methodological frameworks do not provide conceptual clarity between engagement as a process and an outcome. Such conceptual ambiguity hinders a genuine academic discussion on the notion of the third mission interrogating the quality, effectiveness, and efficiency of engagement. Consequently, further operationalization of the third mission or university societal engagement is required.

This study contributes to filling this gap by developing a methodological framework of university-society engagements (USE) in Africa. It proposes a comprehensive framework constituting eight domains aligned with university core functions (teaching, research, and societal service) and support systems (governance, digitalization, internationalization, partnerships, and sustainability). It contributes to conceptual clarity and interpretations of the different modalities of engagement and provides a foundation for further theorization and assessment of the quality of USE.

The Changes of Higher Education Missions Towards Sustainability: The Hungarian Case of Recent Marketization and Governance Reform

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Higher education in Hungary, as in other post socialist countries, has been through tremendous changes in the last seven decades. The first four decades after World War II were characterized by central planning and by the socialist/communist paradigm which still have their “footprints” in higher education today. The political system change in 1990, the movement from elite to mass higher education and joining the European Union in 2004, influenced the governance of higher education institutions. These antecedents paved the way for the discussions about the mission and vision of universities and colleges, where subtly third mission appeared beyond the traditional educational and research missions.

A decade ago, the Center for International Higher Education Studies (CIHES) at the Corvinus University of Budapest implemented empirical research about the conversion and extension of missions

of higher education institutions. It concluded that the third mission had become more relevant (for instance, regional responsibility and cultural services) but that sustainable development, and the environment appeared only in 4 missions of the 64 HE institutions. In the last decade, the Hungarian government forced universities towards marketization, global competitiveness, enhancing their self-financing, increased marketing and developing an entrepreneurial orientation (Berács: 2014), which culminated in the recent model-change. The State established Foundations (akin to private entities) that took over the role of the state as maintainer institutions. This controversial legal system caused political and social tensions and negatively affected the rule of law.

Based on recent literature on marketing and sustainable development, especially regarding the 17 Global Goals for Sustainable Development (Bolton:2022), this paper analyses the new missions of the Hungarian Universities to answer the following research questions. How did the missions of universities (especially those maintained by state-established foundations) change in the last decade? Are the goals of sustainability and profitability (the public vs private good of HE services) in conflict? Is greater competitiveness, university ranking aspirations antagonistic or not to inclusive higher education? How can the market as a “social construct” opposed to the market fundamentalism help the well-being of society?

Science translation, communication and knowledge co-production – Challenges and chances of NGO-science cooperations

Corresponding Author: Jana Berg, German Center for Higher Education Research and Science Studies (DZHW), Germany

The global impact of climate change will have relevant consequences for a number of areas that are addressed by the Sustainable Development Goals. Globally and transdisciplinary, scientists are expected to come up with solutions to prevent, mitigate, and respond to those consequences and provide practical guidance. This results in an increased focus on usable science and science communication. However, studies in formal and informal science education have pointed to the need for community-based approaches and emphasized the importance of well-connected civic organisations.

Globally, nongovernmental organisations (NGOs) play a central role in communicating evidence about causes and effects of climate change and in promoting and discussing possible strategies to prevent it. They translate knowledge from a global to a local level and vice versa, connect social, legal and scientific aspects of climate change beyond disciplinary boundaries, and maintain networks with numerous organisational, public, and civil stakeholders. It can be expected that NGOs reach different, and possibly broader, audiences than scientists. However, research has indicated that NGO-science cooperations are often rather based on individual acquaintance than institutional strategies.

Based on a conceptual understanding of science communication as a network of actors in which scientific information is distributed and processed, the paper focusses on cooperations, interactions and networks between NGOs and scientific institutions. The results of a scoping literature review and semi-structured interviews with scientists and NGO practitioners will be used to discuss challenges and chances of science communication networks. The paper concludes with considerations on institutional cooperation strategies and implications for productive NGO-science cooperations.

Contributions of three Mexican higher education institutions to sustainable development: a comparative analysis

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The 2030 Agenda for Sustainable Development is a common and global agreement for people, the Earth, peace, and prosperity. The Agenda includes 17 Sustainable Development Goals (SDGs), 169 targets, and 230 indicators to plan and monitor priority issues, mainly in regions such as Latin America, where the challenges of sustainable development (SD) are greater.

Mexico is actively involved in the implementation of the agenda, for instance, through the Sustainable Development Solutions Network Mexico (SDSN Mexico). The 2030 Agenda recognizes the role played by Higher Education Institutions (HEIs) in achieving the 17 SDGs. Consequently, the Mexican government seeks to strengthen the link between academia, and the public and private sectors to generate educational, scientific, and technological solutions in support of sustainable development. Since then, several HEIs in Mexico have aligned themselves with the SDGs, constituting concrete local implementations of global discourse.

From a *glocal* perspective, this research focuses on the contribution of three Mexican HEIs (Universidad Nacional Autónoma de México (UNAM); Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM) and Universidad de Guadalajara (UdG) to sustainable development considering public information from websites, global, national, and local literature. The principal aim is to understand how HEIs implement the SDGs in their institutional strategies and to compare their contribution to sustainable development.

The analysis showed that all institutions examined developed a specific organizational structure for managing and monitoring sustainability. The three institutions are integrating the 17 SDGs into their strategic plans. The three HEIs report activities in the four main areas of contribution: learning and teaching; research; organizational culture and operations of the university, and external leadership. However, the activities reported by the UNAM focus on the areas of learning, teaching, and research while the activities of the ITESM concentrate on external leadership and those of the UdG on operations of the university (policies for sustainable campuses).

The three HEIs contribute to SD at different levels. These differences may be related to the lack of clarity in the criteria of each institution to consider an activity as oriented/based to the SDGs and their maturity levels with regard to SDGs, in addition to the size of the institution, its financing, and type of organization. Moreover, it is difficult to identify the transversality between institutional activities and the SDGs beyond the discourse. Many activities are disjointed, without interconnections between the different academic disciplines, actors, and functions.

Developing partnerships for effective knowledge exchange between universities and local policymakers

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This paper examines the approaches taken by universities in developing institution-wide policy engagement activities working with local partners. It examines the motivations and expectations leading to such initiatives and the types of initiatives developing within UK universities. It presents a case study of one such partnership project involving two universities and a group of local policy partners and outlines the steps to its formation. It finally presents the evaluation and learning strategy being developed to assess the lessons from this initiative.

Universities have been under increasing pressure from governments to demonstrate their commitment to knowledge exchange beyond industry engagement. Various normative models for the approaches to

engagement have been identified such as the quadruple helix, engaged university, anchor institution, and civic university, coupled with processes of engagement such as co-creation and responsible research and innovation. Much of this theory is vague on application and focuses on strategic levels of engagement. This paper seeks to examine the operation of the civic university concept through the practice of policy development and the application of co-creation techniques.

The paper combines a review of policy and practice across the UK, with a case study of collaboration involving two universities. The review part examines the evolution of the policy framework around university civic engagement in the UK, the response of universities, and the emergence of a set of localized policy engagement initiatives funded by the UK research funding agencies. A series of such agreements, in many cases involving two or more universities in a city with local partners are identified and key actions are identified, especially focused on policy development and implementation. Factors influencing the demand for such policy initiatives are identified. In parallel the main public research funding body UK Research and Innovation (UKRI) has started supporting a series of experimental centres and programmes to foster local policy development.

In the second element, a case study of the Insights North East project (INE) in Newcastle is presented drawing on the internal action learning and process evaluation of the project. In this context the Insights North East case study presents an early analysis of one of these initiatives. INE is a project part funded with a £2.8 million grant from Research England, combined with additional support from the local partners. The process is outlined by which the need for the initiative was identified and the proposal was developed. The model of policy engagement and co-creation is outlined and experiences of the first months of operation are also described.

Higher education for lifelong learning: Shaping the new global social contract for education.

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The call for a higher education that embraces lifelong learning began in the 1970s, continued to escalate, and has never been louder. From extensive review, this new approach requires a delivery system that is accessible and meaningful to adults of all ages and from diverse backgrounds. Now embedded in the United Nations Sustainable Development Goals, a new social contract for education could be the keystone in our quest to create and sustain “a world of peace, dignity and prosperity on a healthy planet” (Guterres, 2020).

This new social contract encourages us to analyse and embrace the results of the Covid-19 pandemic. This event left over 24 million diverse learners at significant risk of developmental loss. These learners from all age groups, including millions of children, may carry a deficit that will increase the demand for education across the lifespan. The same pandemic also left a legacy for digital learning that will shape education forms into the distant future. We add to these two key influences on higher education UNESCO’s recent suggestion that we need “a sector-wide, lifelong learning approach towards the future development of higher education” (International Commission on the Futures of Education, 2021, p. 102).

Our research rests in the current higher education but draws on expert opinion about the necessary transformation needed for lifelong learning. An expanded Delphi method gathered data from prominent scholars and practitioners from around the world. This data driven exercise was guided by the question: What are the critical aspects of higher education transformation needed for lifelong learning in a digital era?

The paper outlines the data gathering and analysis processes, which include Grounded Theory steps of open, axial, and confirmatory coding. For those with demonstrated knowledge about technology-

enabled lifelong learning, there is an interrelated taxonomy of structures and processes that must be addressed in policy creation and reform of higher education. We argue that these seven identified elements need integrated repurposing to achieve lifelong learning outcomes: ‘Multimodal delivery,’ ‘Pedagogical change,’ ‘Financial resources,’ ‘Quality assurance,’ ‘Digital literacy,’ ‘Accessibility,’ and ‘Equity, diversity and inclusion.’ In addition, we identify government policy examples from Sweden and Canada that support these change requirements in alignment with SDGs.

Universities and the SDGs: A critical look

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If universities took the SDGs seriously, in what ways would they be different?

Firstly, they would reflect on the nature of knowledge interrogate the scientific paradigm out of which they work. A reductionist approach to science and scientific research accentuates the tendency to neglect a systemic focus in research and a concentration on specialist and sub specialist concerns and interventions which are agnostic on whole of system implications.

This perspective characterises most universities and underlies both the teaching and research agendas of the university. Teaching is organised along siloed disciplinary lines where interdisciplinary possibilities are unusual and untypical. Research is conducted in a similarly siloed context with veracity accorded only to research which can trace a direct and measurable causal relationship between variable and invariable factors.

The consequences of this approach are far reaching in all areas but especially in the environmental domain. The widespread use of pesticides and herbicides in agriculture, for instance, has contributed greatly to increased food production, but have had a devastating consequence on biodiversity, water quality and potentially human health and well-being. Meanwhile, universities, especially Agriculture faculties persist in their teaching, research and extension activities with production models based on such interventions.

Clearly, if universities were committed to the SDGs, they would not only discontinue this focus on inorganic compounds which nature finds so difficult to break down but would re-engineer their research and teaching agendas around the natural world with the purpose of nurturing nature's capital rather than mining this capital. This requires a science of multiculture rather than a science of monoculture – with an awareness of systemic implications and an understanding of complex interrelationships rather than simplex ones.

The SDGs also remind the universities of Dewey's assertion of schools as sites of social reform where democracy emerges as the ultimate ideal of human development. This resonates in terms of the pedagogical model of the university and also in terms of the governance structures and culture of the university. A corporatist, performative and executive led university is at variance with the democratic, collegial origins of the university and at odds with the focus on inclusivity, diversity and multicultural underpinnings of the university.

Similarly, the SDGs foreground the whole of world context in which many of the most wicked challenges we are currently facing must be addressed. The nation state is clearly not fit for purpose in meeting such global challenges. It is rather a serious impediment to the formulation of meaningful global responses. Within such a structural vacuum, universities through interinstitutional collaboration, especially between institutions in the global North and the global South can potentially grow a whole of world university position and approach which can meaningfully address global challenges of climate change; loss of biodiversity and degradation of oceans and fresh water which no other global institution could approach with confidence.

Changes in policy or process needed for embedding the SDGs as graduate skill for students in online distance learning postgraduate programmes: Policy implications findings from action research at SOAS University of London.

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If higher education graduates are not exposed to learning about the UN Sustainable Development Goals (SDGs) in the curricula for their programmes, they are less likely to understand how they can contribute to sustainable development in their future professional and personal lives. Graduate sustainability skills are “capacities to think critically and to innovate and implement solutions ... [and are] essential in addressing complex sustainability challenges” (Phelan et al. 2015, p. 12). This paper reports on research conducted at the School of Oriental and African Studies (SOAS), University of London addressing the question: how may knowledge and understanding of the SDGs be embedded as a graduate skill in curricula across disciplines for online postgraduate distance learning courses?

This project built on research contributions in Education for Sustainable Development and recent research on embedding SDGs in the curriculum in universities. Online learning and incorporation of SDGs has had less research focus to date. The aims of the research reported in this paper were directed towards curriculum change, and change in teaching and learning approaches, but more broadly aimed to address the changes in policy or process needed for embedding the SDGs as graduate skill for students in online distance learning postgraduate programmes. SOAS was selected by the Centre for Online and Distance Education, University of London Worldwide, to develop this research project.

Action research methods were directed towards achieving the following goals:

- explore how the SDGs are relevant to areas of Open and Distance Learning (ODL) postgraduate teaching at SOAS
- facilitate dialogue across SOAS centres and departments about the SDGs
- provide training support in SDGs integration, education for sustainable development, and action research
- develop SOAS graduate skills to meet implementation needs for the SDGs
- address changes in policy or process needed for embedding the SDGs as graduate skill in postgraduate programmes.

This paper reflects on the experience of ODL academics in embedding knowledge and understanding of the SDGs as a graduate skill in curricula across disciplines in the ODL postgraduate programmes at SOAS. The paper also discusses the reforms required in the institutional policy environment that would facilitate better incorporation of graduate skills in learning and teaching to meet implementation needs for the SDGs.

Higher education, research, and sustainable development in Mexico

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In this paper, we will review the repercussions of the adoption of the United Nations Sustainable Development Goals (SDGs) on the research agenda for higher education in Mexico. As we will point out, this is a topic that has received little attention. Most of the literature on SDGs indicates that

education's contribution to education consists mainly in better teaching and learning. The UN (United Nations) makes explicit references to education in SDG4, but around half of the goals attain basic education. According to UN, higher education should contribute to: 4.3 Equal access to technical/vocational and higher education; 4.4 Relevant skills for decent work; 4.5 Gender equality and inclusion; and 4.7 Education for sustainable development and global citizenship (UNESCO, 2022). Only recently do UN documents mention research, but its contribution seems limited to "look at the different SDGs, understand what approaches are more effective and analyze the process of implementing the 2030 Agenda".

This lack of clarity has led to several national and international initiatives. For example, the publishers, Elsevier started to elaborate rankings of funding organisms, institutions and researchers that contribute most to the 17 SDGs. At the same time, many universities and governments started to debate what projects should or should not be carried out and funded. Questions are raised about collaboration with the fossil fuel, pharmaceutical, biogenetic or car industry. In a similar vein, since 2018, Mexico's national government has "translated" the 17 SDGs into 10 priority research programs and announced it will only fund projects that comply with these priorities.

Thus, the adoption of SDGs has impacted international and national research agendas, with important local variations. For example, in Mexico the oil industry is a national priority, but trans-genetic maize should be forbidden. But in all cases, researchers face a changing research agenda, tied to financial consequences. And what once were national priorities can turn into anathema.

Sustainability measures in University Investment Policies and Procedure

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The presentation is based on our research evaluating the success of responsible investing (RI) integration internationally through analyzing the inclusion of sustainability measures in university Statements of Investment Policy and Procedure (SIPPs). We focus on the following research questions:

To what extent is RI integrated throughout the various sections of university SIPPs?

How do university SIPPs compare across sections and in support of explicit RI implementation requirements?

Our research is grounded on the notion that SIPPs serve as a vital component of defining investment goals and ensuring proper portfolio governance. Our research responds to Jackson et al.'s (2022) scoring system to evaluate university organizational, financial, and sustainability policies on their commitment to integrating climate considerations into their portfolio. Building from the belief that true institutional change is achieved through commitments encoded within SIPPs, we developed a research-informed Rubric for Evaluating Responsible Investment in Policies (RERIP) to specifically evaluate RI integration in university SIPPs and provide a tool to aid practitioners in implementing RI.

While Target 13.2 of the UN SDGs emphasizes the integration of climate change measures into national policies to combat climate change, our research adds that higher education institutions play a crucial role in the sustainability movement through their large investments and national scope. Using our RERIP, we perform an international comparison of RI integration in university SIPPs. Canada, as well as Australia and New Zealand score the highest according to our rubric, the United Kingdom and Ireland score in the middle, and the United States ranks last. Our research finds alarming variation internationally in the integration of RI measures. Moreover, our research finds that the highest relative scoring regions nonetheless performed poorly compared to the absolute scores of the RERIP, indicating

that RI leaders still require significant improvements to achieve meaningful RI implementation. Through these findings, our research expands the scholarly knowledge base by examining the current state of international RI integration in university SIPPs. Beyond these contributions to the literature, our RERIP acts as a practical tool for investment practitioners to evaluate their own RI practices, determine the next best steps for RI integration, and further the contributions of higher education to Goal # 13 of the UN SDGs.

Towards a commitment to lifelong learning for displaced people entering higher education: new challenges for a sustainable future

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The challenges faced by the world are immense and include mass migration and population displacement. The inclusion of lifelong learning as a driver for sustainable development (SDG#4) emphasizes the key role it can play and has specific relevance for higher education and learners.

The potential of lifelong learning to support change has implications for higher education as a provider of lifelong learning opportunities and in HEI's role in widening participation in education among displaced adults. This paper will investigate the challenges faced by the University of Glasgow (UofG) which has been awarded University of Sanctuary status in recognition of its commitment in supporting people who have experienced forced migration and also the Centre for Lifelong Learning in the Strathclyde University. The paper will also present the analysis of the experience of the invited bachelor and master students at UofG and older migrant learners at Strathclyde University

The research will be built on the responses received during interview of 45 Ukrainian students studying at UofG and 15 students of the Centre of Lifelong Learning. Mentors, academics, and managerial and administrative teams responsible for them will also be interviewed. The interviews will be based on standard and validated questionnaires for both groups. It will examine the learning needs expressed by the displaced students and how they are heard met by management of HEI's. Using the example of a course for older migrants initiated by the 1st author of the article in the Centre of Lifelong Learning, the aspect of intercultural interaction and its effect on the implementation of SDG#4 will be studied.

Based on the successful example of UofG, will propose strategies of partnerships and cooperation that cross the boundaries between formal, non-formal, and informal learning, and with different departments of government which will help to realize the potential of lifelong learning.

Zimbabwe Higher Education Reform Policy and Aspirations of the New University Entrant

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Higher Education reform in Zimbabwe targets Sustainable Development Goals (SDGs) 8 and 9. These two SDGs speak to the importance of inclusive economic growth and decent employment opportunities that are spurred by innovation and industrialization. In terms of achieving these SDGs, the key driver is the business sector. However, from a policy perspective, Zimbabwe institutions of higher education have been given the primary mandate to drive this process, not business. This is expected to be achieved through a new education policy referred to as Education 5.0, within which two of the five mandates are

innovation and industrialization. Specifically, higher education is now required to focus on innovations that seed new industries and graduates that create rather than seek employment. This transformation contrasts with the previous higher education framework which focused on developing graduates that were employable by industry. This previous approach has led to job anxiety-ridden youth and sometimes unrest when the jobs are not forthcoming. However, for Zimbabwean universities the challenge is that, while on one hand they have embarked on a new education policy framework, on the other, they are receiving candidates whose high school experience and aspirations was not to create jobs and new industries but to look for jobs. The study that will be reported sought to examine the relationship between the mandates of innovation and industrialization and the aspirations of the new entrant whose orientation through high school was to get a decent job after graduating from university. A voluntary on-line-survey for two first year cohorts from the 2021 and 2022 academic years was utilized to explore this relationship. The justification for the study was that if universities are going to be successful, they need to know the aspirations of the candidates on entry into university to inform the institution on strategies to reorient students. In general, the survey found that a considerable number of students' aspirations were aligned to the goals of the new policy framework and mandate. The surprising finding was that the students gave a low rating for developing technologies that can assist or sustain existing industries. Rather, they were focussed on creating new industries. The conclusion of the study was that there was sufficient goodwill to reorient students from the old education framework which gave universities a good starting point to achieve SDGs 8 and 9.

Quality of Higher Education in the Gulf Cooperation Council Countries (GCC) a Review on the Progress towards 2030 SDGs

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Rapid expansion and reform programs underpin higher education in the six members of the Gulf Cooperation Council (GCC), Saudi Arabia, United Arab Emirates, Oman, Kuwait, Qatar, and Bahrain. There is a need to assess the progress and the challenges that face higher education institutions reform in the region regarding common quality themes of education relevant to SDG4 targets by 2030. This assessment spins across SDGs 4.4., 4.5, 4.7, and 4.c.1. Previous studies have shown that the everyday challenges between the GCC countries may limit the progress in reforms in the region, including

- the need to expand education from metropolitan cities to reach out to the outer areas and towns
- access to education and the issue of gender equality in engineering, technology, and sciences disciplines
- quality assessment and accreditation to meet the international standards, international links, and partnerships
- meeting both private and public sector employment needs,
- and nationalization of the labor force.

This assessment offered in this paper uses published data and reports by the GCC countries and United Nations Organizations (e.g., UNDP and UNESCO) to quantify the countries' progress as of 2022. Most of the countries in this region made noteworthy progress overall in higher education quality (SDG4). However, across the GCC countries, education institutions face challenges that need to be addressed, including lack of uniformity in higher education quality assessment, different norms for recognition of degrees, shortage of regionally relevant research, difficulties in recognizing online programs, and the rise of higher education financial cost.

Higher education's contribution to social inequalities: a historical comparative perspective

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This study argues that, in order to understand the social inequalities of the present as described in SDG10, we need to parse the role of higher education institutions and their contribution to the stability and legitimisation of powerful actors from the past. The initial function of contemporary phenomena and common concepts (e.g., university entrance exams and alternative pathways) on the one hand and the impact of policies on student demographics on the other is analysed for three historical periods: (1) Middle Ages and Early Modern Times, (2) Enlightened Absolutism up to the post-war period and (3) European Integration up to the present.

The historical comparative perspective yields important insights into the contribution of higher education to the reproduction and legitimisation of social inequalities. Against the backdrop of an increasing marketisation of commercialisation of higher education in the context of a modern world, this study shows the importance of re-thinking the role of universities in society and the need for a fundamental discussion on the functions of education in society - and its limits. The socio-critical perspective must focus on three areas in particular: (1) Selection logic. A socio-critical perspective should shed light on opportunity structures which are distributed differently among population groups. (2) Structural-institutional framework conditions: The framework conditions (e.g., scholarships, design of the study architecture) should not lead to systematic exclusion but enable individualised support instead. (3) Functions of higher education: Finally, there is a need for a fundamental discussion on the purpose of higher education and the contribution it can and should make in reducing social inequalities.

Dominant structures can be favourable to some population groups, while limiting or preventing the opportunities of others. To understand the interaction of structure and agency, this study draws on central premises of the agency theory on the one hand, and Bourdieu's theoretical conceptions on the other. While the agency approach considers the social interconnectedness of agency in "temporally embedded processes", Bourdieu's theory is considered essential in analysing the underlying mechanisms that contribute to the reproduction of social inequalities.

This study is based on a document analysis and literature research. The material available for reconstructing the structural-institutional conditions is extremely disparate. On the one hand, numerous university libraries and databases were searched, whilst on the other, the research followed the snowballing approach and was open to unexpected findings. These did not only stem, but also from other disciplines such as psychology, sociology, history, political science, or economics.

Promoting health and accessibility in online learning environments to achieve UN Sustainability Goals in higher education

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Higher education plays an important role at societal and individual levels. The human capital developed during higher education programs fosters social and economic prosperity by developing the country's workforce. Completing higher education contributes to increased lifetime earning potential for everybody, but might be particularly beneficial for people with mental health related disabilities (MHRD). Therefore, as the number of students attending higher education with mental health related challenges continues to rise, it is critical that these students have access to education that meet their needs. The purpose of this descriptive qualitative study was to examine experiences of higher education students with MHRD in online classes to understand the ways in which the institution is supportive and non-supportive of them. Theoretical perspectives from the multidisciplinary fields of public health and

the learning sciences framed this study. Thematic analysis of data from interviews with 14 university students, 15 instructors and seven student support staff members, at one mid-sized university in Western Canada, indicate that the accommodation model currently in place is problematic, potentially causing harmful and disabling effects. For this study, the socio-ecological model for health promotion was used to organize the study findings. Adopting an accessibility model with a mental health promotion orientation has the potential to improve the quality of education through facilitating learning, preventing harm, and promoting health and well-being for all students. Key findings from this study will be presented along with practical strategies for higher education institutions to meet the United Nations Sustainable Development Goals (3 and 4 in particular) by creating more inclusive online classes and more accessible learning environments. This presentation will be relevant to researchers, educators, policy makers and leaders interested in reforming higher education.

Implementing SDGs in German universities: the art of the (im)possible? A literature review

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This paper is part of my doctoral research project: “Education for Sustainable Development (ESD) in the management and politics of higher education in the German federal state of Baden- Württemberg” (working title), which focuses on three main aspects:

- International/national policies regarding sustainable approaches in higher education (HE) (meso-level)
- Fulfilment of Education for Sustainable Development and the Sustainable Development Goals (SDGs) in HE (macro-level)
- Leadership and Management of HE (micro-level)

HEIs and especially the concept of sustainable higher education (SHE) plays a major role in alleviating global crises (Barth & Timm, 2011). Since the introduction of the Sustainable Development Goals (SDGs) by the United Nations in 2015, this major role is becoming increasingly important. Although research in the field of ESD is increasing (Findler et al., 2017), very little literature exists concerning the role of leadership positions in higher education institutions (HEIs) in implementing ESD, even less so within the German context of HE. This paper aims to fill this research gap by examining the role of leaders and sustainability officers in HEIs in the German federal state of Baden-Württemberg. It presents the findings from a literature review of barriers and obstacles in the implementation process of Sustainability in HE.

Some studies have already focused on various barriers HEIs face on their journey towards becoming more sustainable (Leal Filho et al., 2020; Lozano et al., 2013; Scott, et al. 2012). Barriers include, for example, a lack of awareness or funding (Leal Filho et al., 2018), a lack of inclusion of stakeholders (Bohman & Andersson, 2013), insufficient inclusion in curricula (Lozano, 2010), and missing incentive structures and interdisciplinary approaches (Ferrer-Balas et al., 2008). These and other barriers discourage HEIs and especially their leaders from becoming more sustainable (Lambrechts & Mulà, 2010). Even less research has explored the role of those in charge of HEIs and the implementation of sustainability in the HE sector.

This paper analyzed over 80 international peer-reviewed publications, all of which deal with the topic of the implementation and associated difficulties of ESD in HE. The difficulties have been analyzed, clustered and ranked. A total of 30 different barriers have been identified and summarized.

To conclude, this research may help HE leaders and their support staff understand better why SDGs are, to date, not being easily implemented in HE, and it may help leaders to become more aware of their personal role in implementing SHE.

Transforming Education for Accelerating Sustainability Transitions: Fostering Transdisciplinarity, Systems Thinking, and Science-Policy-Society Interface

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This paper argues that addressing the complex and interconnected global challenges facing our world and the transition to a more sustainable one requires a paradigm shift towards an education that integrates transdisciplinarity, systems thinking and recognizes the interconnectedness between science, policy making and social and societal needs.

Transdisciplinary education emphasises collaboration between diverse fields of knowledge to address complex problems that a single discipline cannot tackle, leading to innovative solutions. Transdisciplinarity aims to break down the knowledge “silos” that have appeared between different fields of knowledge. This will allow for the increased collaboration which is vital to address challenges relating to sustainability. Systems thinking provides a framework for understanding the interconnections and feedback loops between the various components of these complex problems. It is a holistic approach as far as it can interrelate and interlink various entities of the system. By integrating these two approaches, education can equip students with the tools, skills, and mind-sets from various fields to meet the world's complex sustainability challenges. Moreover, confronting higher education students and helping them realise differences in approaches, rhetoric, time constraints, and complex relationships and interactions between scientists, policymakers, and citizens provide them additional incentives and competencies to address real-world issues. In that sense, higher education institutions – but also those at a lower level - can aid in bridging the gap between science, policy, and society and contribute to accelerating sustainability transitions.

Transdisciplinary education that integrates systems thinking and promotes the science-policy-society interface must also include youth/students' perspectives and involve young people in decision-making processes related to their transformation. To illustrate this, we conclude our paper by presenting an example of a participatory exercise led by master and doctoral students that highlights the value of creating transdisciplinary and multi-stakeholder discussion spaces to co-construct transformative proposals for education capable of sustaining and accelerating the transition to sustainability.

Teaching and assessing competences in higher education

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This paper reflects on the role which Higher Education Institutions could play in transdisciplinary efforts for sustainable development through their curriculum and programme portfolios. In particular, the potential for appropriate competences to be taught and assessed within the current UK model of higher education is considered. Literature on the nature and accessibility of competence provides context for the discussion. ‘Appropriate’ competences for sustainable development are framed by the work of Wiek et al. (2011), UNESCO (2017) and Advance HE/QAA (2021). It is suggested in the Advance HE/ QAA Education for Sustainable Development Guidance (2021) that competences be central to curricula in order to “transform how staff and students view issues related to sustainable development” (p21) and that they lead to “both parties questioning their own and societies’ ways of thinking, ways of practicing and ways of being, which is central to a transformational learning experience” (ibid.). The paper proposes that whilst students can be made aware of the nature and the value of sustainable development, and of competences identified as being useful for achieving sustainable development, current organisation of the HE sector in the UK and with HEIs is not well aligned to facilitating and assessing the achievement of all such competences.

Interdisciplinary respect and collaboration are core to notions of sustainable development competence. This paper explores tensions between pressures which ‘push’ HEIs and students to disciplinary specialism and competition (for example institutions ranking systems, Research Excellence Framework, Teaching Excellence Framework, and, professional, statutory and regulatory bodies (PSRBs)) and those which advocate for more collaboration within and between institutions (such as education for sustainable development (ESD), the United Nations Sustainable Development Goals (SDGs), anchor institution status and some research funding criteria). Metrics which are used to measure ‘success’ within and by HEIs are also considered here. It is proposed that metrics which ‘reward’ inter-, multi- and transdisciplinarity are needed to complement existing metrics. HEIs must meet the challenge of developing interdisciplinary respect, transdisciplinary competence, AND subject specialism; of developing generalists as well as specialists, both of whom appreciate each other; and of seamlessly combining systems thinking with self-awareness and efficacy.

This proposal stems from the perspective that sustainability is core to the purpose of higher education and that education for sustainable development is a key mechanism by which that purpose will be realised.

Towards disability-inclusive, accessible, and sustainable HE institutes in Kurdistan Province of Iran

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Education is a fundamental human right and yet persons with disability face many barriers to education. According to the 2018 United Nations Development and Disability Report, people with disabilities are more likely to be illiterate and less likely to complete primary level education than persons without disability. The percentage of illiterate persons with disability is higher in all countries of the world: 54 percent of persons with disabilities compared to 77 per cent of persons without disabilities are literate. The 2030 Agenda for Sustainable Development which comprises of 17 Sustainable Development Goals (SDGs) and based on a holistic approach and the rule of “leaving no one behind” explicitly references disability in multiple parts. The present paper aims to look at the issue of disability in the context of higher education institutes in Kurdistan Province of Iran and the relevant SDGs. Of the 17 SDGs, four are particularly relevant to promoting disability inclusion in higher education institutions. These include SDG 4, which seeks to ensure inclusive and equitable education opportunities for all, SDG 8, which aims to promote decent work and economic growth, SDG 10, which aims to reduce inequalities, and SDG 11, which aims to create inclusive and sustainable cities and communities.

Based on informal interviews with key stakeholders using institutional analysis approach, and analyzing various statistical data at national and local (Kurdistan Province) levels and policy documents and legal frameworks on disability in the education sector, it can be argued that Iran, like many parts of the world, lacks appropriate strategy for inclusiveness of persons with disabilities in higher education institutions which has resulted in significant barriers to the full participation of students with disabilities in higher education. Despite the existence of legal frameworks, many higher education institutions lack appropriate accessibility for persons with disabilities, specialist teaching or training resources, and suitable training and specialist resources for faculty and staff. This lack of inclusiveness is further reflected in the limited data available on disability in Iran, with estimates only accounting for persons with disabilities who use the services of such organizations as the State Welfare Organization or NGOs without any synergy between them. The challenges faced by persons with disabilities are even more prominent in so-called ‘economically deprived areas’ such as Kurdistan Province.

By promoting disability inclusion in higher education institutions in Kurdistan Province of Iran, it is possible to contribute to several SDGs, including those related to quality education, decent work and

economic growth, reduced inequalities, and sustainable cities and communities. Some examples of concrete policy recommendations that could be considered for promoting disability inclusion in higher education institutions in Kurdistan Province of Iran are as follows:

- Develop and implement clear policies and guidelines for accommodating students with disabilities, including providing assistive technologies and other resources, as well as exam accommodations and accessible transportation.
- Establish a disability services office or center within each university, staffed by trained professionals who can provide support and accommodations to students with disabilities.
- Invest in accessible infrastructure and resources, such as installing ramps, elevators, and accessible restrooms, as well as providing assistive technologies and other resources that can support the learning needs of students with disabilities.
- Provide training and support for faculty and staff on disability awareness and inclusion, including the use of assistive technologies and other resources that can support the learning needs of students with disabilities.
- Increase the representation and participation of persons with disabilities in decision-making and planning processes at higher education institutions, including involving them in the development and implementation of disability-inclusive policies and practices.
- Develop and implement targeted recruitment and retention strategies for students with disabilities, such as providing financial and academic support, mentorship programs, and specialized orientation and transition programs.
- Establish partnerships with disability organizations and advocacy groups to ensure that the needs and perspectives of persons with disabilities are represented and considered in all aspects of university planning and decision-making.
- Collect and analyze data on disability in higher education, including information on the number of students with disabilities, their needs and experiences, and the impact of disability-inclusive policies and practices.
- Develop and implement awareness-raising campaigns, events, and activities that celebrate the diversity of persons with disabilities and promote positive attitudes towards disability among the broader student body and the community.

The application of Business Process Management to a Japanese university administrative - meeting the goals of SDG4 and 8

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The Tokyo Institute of Technology has launched a “Institute Transformation Section” to improve data flow structure to ensure high-quality Institutional Research (IR) and reformation of administrative work in the university. We will report on the framework of the improvement method in this section in the context of achieving the SDGs.

Many studies on IR focus on data handling, including data storage systems and methodologies for data analysis. Although most studies implicitly assume the accessibility and availability of data, gathering data and information is a longstanding problem in the IR community in Japan. We have suggested the root of the problem is administrative work because it is the origin of data. Administration staff usually focus on immediate handling of tasks, and do not pay attention to the reuse of the result of work (outcome data). The accumulative effect is the creation of low-quality data, and interspersed data, and therefore those working in IR face the difficulty of data gathering and cleansing.

To improve the data flow structure, we have investigated the workflow of administrative tasks using the methodology of Business Process Management (BPM). Through the analysis, we suggest an improved web-based workflow system. All the data of the workflow is stored in the system automatically, and it has high accessibility for IR analysis since the data structure and metadata are

well-defined. The result of IR is an important ingredient in the decision-making of university executives and management.

High-quality IR data analysis and reports are key to rapid and effective reform of higher education institutes to ensure inclusive quality education (SDGs 4). While the principal goal of this activity is the improvement of IR, the result is also effective in the reform of administrative work in HEIs. Since we analyse workflow with those in charge of these processes, these persons begin to understand limitations and the ways to improve their work. This experience is good training for administrative staff, and they seek to apply the methods to other workflows voluntarily and spontaneously. Cascading the knowledge of BPM in the university will be crucial for productive employment and decent work for the staff (SDGs 8).

Finally, we will review and discuss the situation of Digital Transformation (DX), which is a significant factor in promoting sustainable economic growth (SDGs 8) in recent Japanese business and public organizations. Our improvement methods can be considered one of the practical approaches of DX.

Multicultural Perspectives in a Brazilian University: possibilities for addressing global goals for sustainable development

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This paper is based on a multicultural theoretical perspective that highlights the potential of higher education as a space for differentiation to promote the valuing of cultural diversity and to challenge the silencing of voices of subordinated groups in the face of race, ethnicity, gender, and other identity markers.

The paper argues that two concepts may be central for higher education institutions to embrace a multicultural perspective, namely: lifelong learning, which refers to the importance of providing learning opportunities for individuals across all stages of life, addressing issues of inclusion and equality for social groups; and community engagement, which is the third mission of higher education (named “extension dimension” in Brazil), which has to do with higher education social impact in terms of re-engaging communities and the wider society.

The paper focuses on two experiences of lifelong learning developed by a higher education institution in Brazil in its programmes of extension, in partnership with public schools, geared towards continuing education of school actors in a multicultural perspective. Both studies aimed to raise awareness of school actors to the possibilities of linking curriculum with multicultural sensitivities. They were developed through a qualitative, action research methodological approach, and data was recorded of on-site and virtual meetings and documentary analysis of the activities.

Results from both courses indicated challenges referring to some resistance of a few participants to engage in gender and other identity markers’ multicultural discussion. At the same time, there was a general awareness that those may be considered features that make the higher education of the 21st century differentiated from that of previous centuries, in that knowledge should be intertwined with broader social, multicultural, and international concerns.

In the year of 2021, in which we commemorated the centenary of the great Brazilian education Paulo Freire, post-pandemic education could resume the principles of education for the challenge of oppression. A multicultural perspective may arguably contribute to interlink the vision and mission of higher education to the sustainable development goals (SDGs) set to be attained by 2030, particularly those related to quality education (4), gender equality (5), reduced inequalities (10) and peace and justice strong institutions (16), including the higher education ones.

Implications of the SUEUAA project for policy development at the University of Duhok

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The overall aim of the *Strengthening University Engagement with Universities in Asia and Africa* (SUEUAA) project funded by the British Academy within the *Global Challenges Research Fund* was to strengthen the contribution of Higher Education Institutions in six cities in global south countries, (Iran, Iraq, Philippines, South Africa, Tanzania and Zimbabwe) to the development of urban infrastructure across a range of inter-linked domains. It was concerned with how universities could through better engagement with city stakeholders contribute to improving physical, economic, social, health, environmental and cultural infrastructures that make cities resilient to natural and human-made disasters.

This paper concerns one of cities, Duhok in the autonomous region of Kurdistan in Iraq. The engagement activities of universities respond to a variety of different SDGs, for example, in relation to gender equality, health and well-being, peace, justice and strong institutions, and responsible consumption and production. In Duhok, there have been a number of concrete outcomes as a result of our work. A highlight has been the establishment of a research collaboration on the environmental impact of conflict and landmine clearance between the University of Duhok, and the Duhok City Landmine department. We have also identified a number of other initiatives including the following two examples amongst many:

- In relation to SDG5 (Gender Equality), the university has been supporting and facilitating the enrolment of female students, and the appointment of women to senior academic and management positions. It has also encouraged research related to gender issues, and the implementation of a syllabus for women's education rights and their rights to equality in employment, healthcare, and the workplace.
- In relation to SDG3 (Good Health and Well-Being), the medical colleges (Medicine, Pharmacy, Dentistry, and Nursing) of the university have coordinated with the Duhok City Health authorities to provide health services and protection for about 850,000 Internally Displaced People (IDP) mainly from Mosul and about 250,000 Syrian refugees, and also thousands of migrants from Syria and Turkey. A particular emphasis has been on mental health, and the College of Basic Education has developed and implemented courses related to Trauma and Psychological rehabilitation for IDPs and refugees. And there are significant developments in Peace Education related to SDG16 (Peace, Justice and Strong Institutions)
- In relation to SDG12 (Responsible Consumption and Production), the College of Agriculture at UoD have special field programs with farmers in the development of agriculture products, focusing on yield protection and their economic plans for fruits, cereals and vegetables.

Collectively these programmes are making contributions to SDG11(Sustainable cities and Communities), including through linking urban spaces with their rural hinterland. In this paper we will consider these initiatives in further depth and look at the implications for the development of university policies.

Weaponizing Sustainability: Is ecojustice a goal in Canadian higher education?

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In 2015, the UN adopted the 2030 Agenda of Sustainable Development, proposing 17 economic, social, and environmental goals commonly referred to as Sustainable Development Goals (SDGs) that together aim to end poverty and inequality, protect the planet by reducing conflict and slow violence, while at the same time improving the lives and prospects of all humanity. Clearly, universities and other tertiary institutions have leadership, educative and research roles to play in achieving the SDGs. Therefore, in line with the notion of ecolinguistics, we engage comparative analyses of publicly available policy data (on university websites) with illustrations from our significant database of archival, interview and survey research, in order to see how well Canadian universities are doing. We raise questions about how the language used by higher education institutions has created conditions working against the goals of eco- and social justice.

We first examine the pervasiveness of neoliberal keywords used on Canadian University websites. The linguistic principles for interpreting the function of neoliberalism in organisations included Gramsci's (1971) notions of hegemony and common sense; the prominence of neoliberal discourse in university digital documents implies a strong consensual relationship to power by universities, revealing the hegemonic role that neoliberalism serves in constructing university communities. Based on the contextual and discursive function of keywords we observed that the university is increasingly viewed as a corporation, rhetorically viewed as a machine or vehicle, and it constructs academics as specific forms of labour.

We next examine uses of the word "sustainability." Prominently featured in university public documents, most references were to sustainability of economic growth as a desirable feature. Nowhere did we find incidence of sustainability in terms of SDGs: avoidance of the depletion of natural resources in order to maintain ecological balance. In fact, "sustainability" and "extraction," arguably linguistic and ideological opposites, were conflated. Sustainability was linked to growth, to market-based metaphors, to the enclosure and commodification of nature, and superficially to Indigenous realities. Sustainability was presented as extraction.

Doing so aligns universities with petro-capitalist values rather than university ideals of intellectual pursuit, knowledge creation, disciplinary wisdom, and rigorous scholarship. Finally, universities in Canada relegate ecojustice to a list item, grouped alongside gender, sexual orientation, racial, disability, religious or linguistic equity concerns.

SDG action and impact in and through teacher education: A cross-border study of school-university partnerships

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The purpose of this paper is to report the results of a pilot study on the implementation of *Education for Sustainable Development Goals* through course work, preparation, and orientation in a university-based teacher education program. This pilot study draws on cross-border knowledge from four (4) sites, including unique partnerships between school administrators and their in-service teachers in Canada, France, Bahrain, and Burkina Faso, as well as teacher candidates enrolled in a university-based teacher education program in Canada. This paper introduces firsthand accounts from school administrators who have a cross-over role as teacher educators, teacher mentors, and/or practicum faculty advisors, and the voices of their in-service teachers, and preservice teacher candidates. Each contribution is distinct,

providing international-comparative analysis into school-university partnerships emerging from a cross-sectorial collaboration (Bradbury & Acquaro, 2022). Through interviews, surveys, and document analysis based on unique local contexts, and policy-informed practices of the *Education Sustainable Development Goals*, this paper will examine best practices, and policy-implications relating to course design and delivery in a university- based education programme.

This paper reports findings of initial discussions drawn upon authentic experiences of school administrators in their cross-over roles, and of in-service and pre-service teachers, and also highlight knowledge-generating insights and recommendations relating to policy-informed school university partnerships and their influence on the delivery and implementation of education for sustainable development goals through professional development and teacher education in university-based teacher education programme

Performance-Based Funding for Universities in Ontario and Sustainable Development Goals: Navigating Challenges for Achieving SDG 4 on Quality Education

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The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015. Federal Government of Canada released “Towards Canada’s 2030 Agenda National Strategy (interim document)” in 2019, which was an important first step to move the 2030 Agenda forward. The performance-based funding model for HEIs was announced by the provincial government for all the publicly assisted universities in Ontario, Canada in 2019. The implementation of the funding model initially got postponed due to the pandemic, but it is now part of the SMAs of individual universities for 2022-2023, 2023-2024 and 2024-2025.

The SDG 4 on Quality Education emphasizes on the role of HEIs in the sustainable development and performance-based funding model has been proposed for HEIs in Ontario, raising concerns about how these two policies can be implemented coherently, particularly at the provincial level. This study aims to analyse the coherence and tensions between the performance-based funding model and Canada’s 2030 Agenda towards sustainable development and how these policies will shape the meaning and purpose of Higher Education Institutions in Ontario, Canada.

Performance-based funding model, in varying forms and mechanisms, has already been working in 35 states in the USA, many countries in Europe (Germany, France, Sweden, Ireland, Scotland, Netherland, Denmark, Belgium, United Kingdom, Austria, Finland), Australia, New Zealand and Japan (De Boer et al., 2015). It has been introduced and implemented by different governments to achieve objectives like improving the accountability of higher education institutions, improving quality of education, and meeting certain political and economic priorities. However, this model has also resulted into conflicting consequences like reducing university autonomy, education quality, and increased equity concerns.

To address the research objective, data will be collected from faculty members and senior administrators working in U-15 groups of universities in Ontario in the form of semi-structured interviews. The study will also look at the policy documents, and secondary sources about two policies for HEIs in Ontario. The literature review has already highlighted the negative consequences of performance-based funding model on the quality of education and equity concerns. Policies pertaining to higher education sector should be aligned at all levels of government to avoid confusion and tensions for those who are required to implement and enact those policies, otherwise, these policies will hamper the implementation of SDGs towards Canada’s sustainable development.

University voices on the SDG agenda and beyond

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The SDGs represented a major shift from the previous Millennium Development Goals. Negotiations for the SDGs invited many stakeholder groups to define the new goals, including governments, civil society, academia, and business. The SDG agenda is more comprehensive, with stand-alone goals for inequality and gender. Moreover, the goal of balancing human development with environmental impact was a paradigm shift in the global approach to development. Yet at the halfway mark of the SDG period, it is now apparent that the SDGs also have limitations. One of the major critiques of the current agenda is their lack of appreciation or incorporation of Indigenous knowledges and explicit links to decolonization, both of which have important contributions to how development is understood and pursued.

Universities are recognized as an important partner in meeting the SDGs, and studies document how the SDGs are increasingly integrated into curriculum, mission statements, and university-wide strategic plans. More recently, numerous sustainability assessments have emerged to assess, compare, and rank universities' performance and contributions to the SDGs. At the same time, it is widely recognised that the voice of the educational community is weak in international agreements, even when those agreements emphasise the importance of education, and there is a need for the higher education sector to position itself more actively in the construction of the post-2030 agenda.

This paper reports on the current research project "After 2030: What Comes Next for the Sustainable Development Agenda?". The project aims to document the ways in which universities have engaged in the SDG agenda and to foster debate on their replacement after 2030. The study brings together diverse forms of data, through participatory meetings (involving academics, graduate students, university leaders and external agencies) and documentary analysis to map and analyse the diverse ways in which higher education institutions have interpreted and engaged with the process.

The findings show diverse and sometimes contradictory relationships with the SDGs. The agenda has fostered transformation in institutions and given greater visibility to environmental and social justice related work across teaching and learning, research and community engagement, while simultaneously serving an instrumental role in promoting reputational benefits in a market system. Implications are drawn out for the role that higher education institutions will play in developing and implementing the new agenda post-2030.

“Walking the Walk” in Higher Education: Assessing the alignment of institutional and program goals with One Health values

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One Health (OH) is an approach that fosters transdisciplinary collaboration to enhance the understanding of complex problems that lie at the human, animal, and environmental interface. One Health is not a new concept; however, OH university programs are a new addition to Higher Education Institutions (HEI) in Canada. The OH competencies that form the basis of program development include a holistic understanding of health, leadership and collaboration, problem solving and critical skills, communication, and ethical behaviour. These competencies, if effectively delivered in training programs, will allow graduates to contribute to a more equitable and just future for humans, animals, and all ecosystems, and thus contribute to attaining the Sustainable Development Goals. The issue is to assess how HEI align with and exemplify the OH values and support programs in their delivery of the OH competencies. Therefore, an evaluation framework that is grounded by One Health values needed to be developed to assess institutional and program alignment.

A draft evaluation framework was developed based upon published program evaluation frameworks and outlined according to a conceptual model for the evaluation of antimicrobial use and resistance surveillance. Core competencies that are exclusive to OH were identified from the OH competencies framework and used as the underpinning areas of emphasis. This framework was validated in a series of focus groups with university faculty and teaching staff.

The framework identifies five stages of program evaluation: 1) One Health competency integration, 2) One Health inputs and resources, 3) Student performance and interest, 4) Stakeholder perception and summative evaluation, and 5) Program impacts. These stages are aligned to the three main areas of emphasis of One Health values, which are Healthy Animals, People and Ecosystems; Interconnections and Working Together; and Doing Better and Making Positive Change. These stages of evaluation are used to assess the alignment of the values of the HEI and the program, and the program content.

Higher Education Institutions cannot train students to possess the competencies required for a future that is equitable, sustainable, and just, if they themselves do not embody those competencies. At the institutional level, the application of this evaluation will identify gaps in institutional and program alignment, and identify areas where HEI are not exemplifying the OH values to support program improvement. This will better equip OH graduates to be innovators and leaders in solving complex problems at the human, animal, and environmental interface.

Higher Education in partnership to improve lives of people at human-wildlife interfaces in southern Africa

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Research Platform PCP (Production and Conservation in Partnership)) (www.rp-pcp.org) was established in 2007 in order to develop self-sustaining and functional social-ecological systems for improving lives of people within the peripheries of southern African protected areas. Protected Areas (PAs) in southern Africa are important for the management and conservation of the vast biodiversity resources, including many wildlife populations which are important for nature-based industries. As such, PAs are accorded significant support by governments, conservation organisations and other interest groups. The people who live in the peripheries of these PAs are mostly communities who were historically pushed into the predominantly arid and remote areas as part of the forced resettlement of the colonial era. Characteristically, the peripheral areas are also part of transboundary landscapes which share ecological and socio-cultural continuities across these colonially imposed boundaries. Transfrontier Conservation Areas (TFCAs) are founded on the realization that natural resources that straddle international boundaries are a shared asset with the potential to meaningfully contribute to the

conservation of biodiversity and the welfare and socio-economic development of rural communities (tfcaportal.org). There is constant interaction of humans with wildlife from the PAs, as people often rely on plant and animal products from the PAs for food, medicines, and livestock forage, as well as also relying on water resources within PAs, particularly during dry seasons. There is often conflict due to damaging effects of wildlife through death and destruction of properties. Often this results in retaliatory responses by communities. Hence, the PCP was formed to address the coexistence issues of humans and wildlife in the PA (Protected Areas) peripheries. PCP has grown from two Zimbabwean universities and two French research institutes to seven Zimbabwe universities, four regional universities from Botswana, South Africa, Zambia, and Mozambique, and three French research institutions.

The platform promotes research on human/livestock/wildlife interfaces, guided by a socio-ecological framework that guides the understanding of the interfaces as constituent of systems of ecological systems, their components, and drivers, as well as the related socio-ecological systems describing values, attitudes, behaviours etc that define wellbeing. PCP uses transdisciplinary approaches to co-design, implement and monitor interventions that involve post-graduate students. PCP thematic areas are Health, Animals & Environment; Ecology & Sustainability; Agriculture & Conservation and, Natural Resources Governance, Institutions & Policies. This broad and holistic approach helps to systemically understand what constitutes these socio-ecological systems, the challenges of coexisting with wildlife and how human inhabitants can improve their well-being.

Through research and development projects ranging from zoonotic diseases ecology and surveillance to promoting sustainable livelihoods, PCP has progressively supported local communities in establishing knowledge-based economies buttressed by a constant presence of research students from multiple disciplines including ecology, agriculture, rural development, veterinary, sociology, and water engineering. PCP capacity building for graduate students and early career researchers primarily contributes to SDG 4 driven Higher Education Reforms to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” by facilitating graduate student research projects that are co-designed and implemented with communities in the human-wildlife interface areas. A PCP transformation was propelled at the 2017 PCP 10th anniversary international conference where communities requested PCP to focus on livelihoods related projects.

For instance, the ProSuLi project of 2018-2022 was implemented in human-wildlife interface areas of Great Limpopo TFCA (Transfrontier Conservation Areas) in Botswana, Mozambique, and Zimbabwe. and used anticipation approaches to facilitate the communities to envision plausible future states which they used to design development actions for desirable future states. Scientific processes of anticipation or Futures Visioning were done to objectively get the communities to decide on what actions to take in order to avoid contextual undesirable future states. In the Sengwe Zimbabwe ProSuLi site, communities decided on the development of solar-powered boreholes (SDG 6 on clean water and sanitation, SDG 7 on affordable and clean energy) to support livestock dips and develop nutrition gardens (SDG2 on zero hunger, SDG 1 zero poverty) as well as community learning centres (SDG 3 on good health and well-being). Based on these desired actions, PCP ProSuLi facilitated capacity for horticulture production systems, water management and risk management mainly through 6 research students. The role of higher education institutions in ProSuLi was to facilitate and build through the students’ research, credible knowledge systems for the communities. The research students were engaged in most of the context information gathering, not based on prior set questions, but allowing a learning process that led to emergence of pertinent issues. This knowledge generation was achieved through systemic accounting for gender, livelihoods, risks, sustainability, and climate adaptability, all of which are important underlying factors due socio-economic situations that have led to cross-border migration of many males, confounded by high levels of school dropouts and recurring droughts. The national vision for Zimbabwe is to become an Upper-Middle-Income Economy by 2030. The Government of Zimbabwe is designing a system which enables the Higher and Tertiary Education system to contribute directly to national development programmes by making sure that academics and students are involved directly down to the grassroots on matters of development.

In the context of Zimbabwe Vision 2030, the Zimbabwe Education 5.0 Model was conceived by the Ministry of Higher and Tertiary Education, Science and Technology Development to promote an education design that translates knowledge into tangible goods and services. Education 5.0 is implemented through six programmes including HTE (Higher Technical Education) driven Agricultural Programmes. Under the HTE driven Agricultural Programme, universities are directed to contribute towards improving local communities' food security through innovation and industrialization.

The ProSuLi project approach was action research to facilitate local communities in Sengwe to design intervention actions that would enable them to achieve a plausible and desirable future sustainable socio-economic-ecological state perceived to be ideal for wellness. University of Zimbabwe and Cirad facilitated community capacity development for future envisioning, collective action, livestock health management, horticultural systems development, and risk management. ProSuLi mobilised technical and infrastructural resources to assist the communities to pursue their vision for crop and livestock production. Masters research students were involved through continuous in-depth research of the communities' contexts to enhance ProSuLi project goals, and, in the process being developed into future research cadres for promoting the national Vision 2030. After ProSuLi project, some of the students have moved on to contributing to Zimbabwe Vision 2030 in National Horticultural Research Programmes and in heritage-based research and innovation at a younger local university.

ProSuLi was implemented in two other sites in Mozambique, Botswana, and a second site in western Zimbabwe, all with similar community intervention approaches. The PCP Platform supported the ProSuLi project by providing an overarching framework for working and engaging with communities coexisting with wildlife in a human-wildlife-interphase area.

Revolutionising the Health Care Education using Biomedical Engineering

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The effects of the recent Covid-19 pandemic have had a big toll on every aspect of life globally, but at the same time it helped researchers and scientists see new light when it comes to application of technology in healthcare. The University of Zimbabwe also launched its biomedical engineering program three years ago with the main aim to bridge the gap between science, engineering, and medicine so as to produce inventive and innovative solutions in medicine. Ever since the introduction of the program, many students have enrolled with the pioneer undergraduates now being in Year 3, while the Masters class graduated last year. One of the authors is a Masters student class of 2023. The program has contributed much to the development of the university and the Zimbabwean community; for example, a sanitiser plant was opened in the University to help reduce the costs of sanitisers during the Covid 19 pandemic. At the same time research on the application of artificial intelligence in healthcare was undertaken and presented during the research week program being offered at the university. This included the work Dr Mushiri on preventing hypothermia in new-born babies through design and fabrication of a portable hand-held infant transporter in hospitals throughout the country. This exemplifies how biomedical engineering research promotes health and wellbeing and contributes to both SDG3 (Health) and to SDG9 since these solutions are innovative and promote production of infrastructure. Overall, as the world is moving from industry 4.0 to digital ecosystems, biomedical engineering will play a key role since its main aim is to make sure that current systems in the medical sector are made more efficient and relevant through the application of artificial intelligence and robotics in healthcare, therefore helping to achieve sustainability in health sector.

Promoting Sustainable Development: The Role of Academic Libraries in Promoting Quality Education in Higher Education Institutions in Zimbabwe

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University libraries have a significant role in the expansion of science and knowledge. Today, many University libraries around the world are charged with better management of resources and offering improved services to their patrons, as well as determining how to enhance the service quality and performance level of their organisations. The Zimbabwean government exerts considerable effort to achieve universally recognized education levels by maintaining and improving its Higher Education Quality Criteria (HEQC). The paper considers how academic libraries in Zimbabwe are promoting quality education (SDG4). Quality education is anchored by four pillars: access to information resources, access to the internet, access to classrooms and access to teaching and learning.

The study to be presented adopts the higher education quality assessment model (HEQAM) and employs a combined quantitative and qualitative approach using a survey questionnaire and interviews for the data collection. A survey questionnaire was administered to library users, while a semi-structured interview was conducted with library managers purposively selected. Qualitative data were analysed using thematic analysis, while quantitative data were analysed using SPSS 2021 to generate descriptive and inferential statistics for actualising the objectives of the study. Reliability and validity of the instruments were ascertained through test-retest reliability using Cronbach's Alpha on Library users from one of the Universities that was not selected. The study adhered to the ethical protocol of the Midlands State University, National University of Science and Technology and the global protocols. It provides an exciting opportunity to advance our knowledge of library operations and services and improve our understanding of library roles and further enhance efficient service delivery.

It is crucial in the Information Science fraternity in several ways. For instance, the model of the study is intended to provide and contribute to the role of academic libraries in promoting quality education in Higher education institutions in Zimbabwe. It benefits Universities in Zimbabwe as the findings will help it to strengthen systems and strategies for improving the provision of services. More importantly, evidence-based modern benchmarking tools will usher in a new dimension in the management of University Libraries. The study proposes a more refined model and instrument to measure service quality and library operations. Finally, the study has the potential to improve user experiences of university libraries and ultimately, improve society.

Sustainable design without compromise: Explorations of the meaning of the consciously responsible Design student in Higher Education.

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There are approximately 1.5k HE design degrees in the UK.

There is general consensus among students and staff that designers have to be 'eco conscious' (Roberts 2006; Berman 2009; Sherin 2013), making decisions every day that will, consciously or non-consciously, impact their carbon footprint, from the files they are saving, to the designs they are creating. However, in higher education, this is still not discussed widely, or in depth, as part of delivery

(Boylston 2007). Communication Design is often developed through sketchbook and non-digital ideation (Motely 2017), while simultaneously involving a significant amount of large digital file submissions and cloud storage. This leads to unsustainable patterns in the production and consumption of both materials and artefacts in design teaching practices. 80% of the environmental impacts of a product are in the design phase (Smith, 2022) and it is estimated that 90% of material used in the production process of design goes to waste (Crawford, 2007). Yet this scale is invisible, meaning that the carbon footprint of the Designer can be an intangible conundrum.

This paper will explore issues of student perception around relevance, and personal choice verses institutional expectations which internally shape working practices in academia. Furthermore, it considers the notion of developing student consciousness across current HE design pedagogy. This introduces parallel questions in committing more explicitly to sustainable outcomes relative to submission and assessment expectations, ultimately founded on the UNSDGs as part of their 2030 agenda for Sustainable Development, focusing on goals 4, 12 and 13.

The UN's 2012 report surrounding sustainability goals recommended that the normative framework for a more integrated method for delivery of sustainable development be enhanced within HE. Supposedly this would ensure a holistic and integrated approach, reorienting HE to address sustainability in practice (Wals, 2012). Since then, a number of provisions and policies have been introduced within wider HE, from Hedgehog friendly campus, better energy systems, to working with communities. However, further disciplinary-centric delivery is needed to help students understand all aspects of their choices.

A purist approach is likely needed to instigate necessary levels of change (Thorpe, 2010), where a reinvention of assessment across all design pedagogy, involving wider scope for learning, economic literacy, and citizenship, will lead to a sustainable shaped design future. While UK government policy is limited in its consideration of HE (Tam, 2022), such suggestions as a 'sustainability lead' being placed in all education settings lacks the required need for shared responsibility across educators to effectively encourage real and consistent change from the ground up.

The overall discipline of Communication Design is, itself, undervalued and under researched both in terms of the subject and pedagogically (Harland 2014; Meron 2021), with limited analytical focus across assessment practice (Ellmers, Foley and Bennett 2008; Motley 2017). Relatively little research focusing on the specifics of creative industries, and climate change has been conducted (Smith 2022). Where there has been interest in portfolio and ePortfolio development and assessment (McDermott-Dalton 2022), and some broader consideration of the impacts of digitising assessments for practice-based subjects (Newhouse 2014), there has been no real significant focus on the notion of 'sustainable submissions'.

By using data and insights gathered from interviews and focus groups of current Communication Design students, this paper discusses the relationship of the design student, their creative process and their assessed output and opportunities for new pedagogic development within HE, in relation to SDGs. Design retains a strong relationship with material culture and tangible outputs, but in a world of finite resources and a reliance on digital technology, this relationship is, and should be, shifting to more responsible production and consumption.

Study on development of non-verbal educational materials for rabies prevention using gamification techniques.

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Rabies is a viral infectious disease with a mortality rate of almost 100%. More than 50,000 people worldwide die of rabies each year, despite well-established prevention methods. It is particularly

prevalent in poorer regions of Africa, Asia, and the Middle East, where most victims are children under the age of 15. More than half a century ago, in 1957, educational activities contributed to Japan's success in eradicating rabies. This experience can be applied to rabies countries.

Rabies victims may have low literacy rates because they are poor and young. Although cognitive measures against rabies are commonly taken in printed textbooks, they are not expected to be effective for these people. It is effective to communicate knowledge of rabies without using language. In Japan, there are many nonverbal media expressions such as comics and animation. These are especially popular with children. It seems to be effective to utilize these for rabies education.

The purpose of this study is to introduce gamification methods and develop non-verbal teaching materials for rabies prevention that can be used in various parts of the world. The development of these materials requires higher education that blends science and humanities. In the development of this teaching material, the content of rabies education needs to be a good combination of the knowledge of science fields such as medicine, veterinary medicine, and public health, and the knowledge of humanities fields such as education, linguistics, and media science for the communication and expression of information.

This measure of educational effectiveness uses a community intervention study with two samples: text and media materials. The study targets impoverished children in mountain minority villages where rabies occurs in Thailand. Here, the data on the amount of knowledge about rabies before and after the use of the teaching materials will be obtained, and quantitatively measure the effectiveness of the media teaching materials will be analysed statistically.

This research is closely linked to the following goals of the SDGs:

SDG 3 Health and Welfare: Rabies is a disease that affects people's health and well-being.

SDG 17 Achieving Goals Through Partnerships: Rabies prevention requires a concerted effort from different sectors and regions. Collaborating with the community, policy makers, and research institutions can contribute to rabies prevention.

Overcoming the student representation-student partnership dichotomy: toward a political conception of the student voice

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Two competing approaches dominate student leadership literature: student representation consisting of elected student governments, and student partnerships consisting of appointed students working closely with educational leaders. This paper derives from a paper published in Higher Education in 2022 and responds to critiques of student representation outlined in Matthews and Dollinger's article in the same journal and reframes the student representation-student partnership dichotomy within the context of power relations in education systems. An interdisciplinary critique of student partnership approaches is provided to demonstrate that they inherently risk corruption, patronage, tokenism, and ageism, drawing from definitions and studies pertaining to these terms in political science and social psychology. Populism scholarship is applied to student representation contexts to illustrate how student representation in itself is not problematic but rather how it has been implemented, and that populism in student representation can be reduced through liberal democratic safeguards that improve effectiveness, equity, and inclusion. A case is made about the importance of students having structural power within education decision-making instead of relying on the informality some student partnership approaches support. A framework to measure student power is provided by adapting Roger Hart's Ladder of Children's Participation theory to higher education contexts, so all student voice approaches plus their hybrids and subtypes can be evaluated comparatively.

This paper relates to SDG 4 as it outlines a way to reconceptualize student representation and student leadership to allow education policymaking to be better informed by student input. It also pertains to SDG 10, as it can be applied to help ensure students are treated equitably in education systems and in inevitable education micropolitics. Furthermore, it intersects with SDG 16 when understanding education governance and student representative institutions as inherently part of democratic decision-making. Reframing approaches to the student voice in terms of politics and power will allow for various United Nations and other initiatives related to the SDGs to be re-evaluated to reduce the proliferation of patronage, tokenism, ageism, and corruption when students are included in education policymaking processes and discourse. Such a reframing would be valuable in any attempts to reform higher education since it would help ensure that students have an effective voice that is equitably representative.

Preparing Students to Co-Create the Future: The Role of Universities in Global Transformation

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Universities have long promised to prepare students for the future, but recent years have shown that the future is uncertain and unpredictable. Thus, while Universities need to prepare students to be agile, adaptable, and resilient to change, it might be more appropriate to promise to teach and learn with students to become co-creators and co-leaders of this change.

The United Nations Sustainable Development Goals (SDGs) have brought attention to the global problems and the interconnected nature of the transformation needed to address them. While there is a single education goal in SDG4, we know that none of the SDGs can be achieved without learning. We argue that achieving these transformations requires a fundamental shift in not just what, how, where, and when we learn, but why we learn.

Universities play a critical role in shaping the teaching and learning that is needed to achieve this transformation. It will require rethinking what we teach, given that advances in knowledge have extended our lifespans, but have also threatened the very existence of our planet. It will require reimagining how we teach, given that information is now available on everyone's fingertips. It will require recognizing that learning is now happening outside the classrooms, so how does the university stay relevant as a site where learning happens?

We argue that as academics, researchers, and educators, we need to critically reflect on our own education and learning journeys and recognise the contribution of our disciplines to the problems and to the solutions. Adopting a radical pedagogy that engages students in co-learning and co-creating our shared future is necessary. Such a pedagogy draws on the rich experience of participatory action research, adult and community education and popular education.

To make this educational transformation a reality, university administrators need to encourage creative and collaborative work across traditional disciplinary boundaries, support staff and students to engage with local communities and businesses, and provide resources to develop the capacity of university educators to facilitate such radical and transformative learning programs. Overall, this transformative learning approach is essential to prepare students to be co-creators and co-leaders of a more equitable, just, and sustainable future.

Sustainable Development Goals beyond classroom teaching in teacher education. A policy compliance perspective

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Teacher education policy in Nigeria as in other countries plays an important and pivotal role in the provision of quality education at all levels of educational planning and development in line with the objectives of SDG 4. These objectives have been integrated into national policy in Nigeria and are part of public policy, but the country was ranked only 160 amongst 192 nations within the 2020 SDG index. Teacher education in Nigeria is the responsibility of a range of types of institutions which are faculties of education in the universities and colleges of education.

It is the extent of compliance with public policy as promulgated by the Ministry of Education that determines the extent to which stated objectives can be achieved. Compliance with policies is within the remit of the management of teacher training institutions. However, a contradiction exists because institutions have their own distinct quality assurance units and processes, and there is no national guiding document that ensures uniformity of practice and which can be used to assess the extent of compliance.

In this paper, it is argued that there should be a well-developed national compliance policy that can be implanted at institutional levels concerning the implementation of the objectives of SDG 4, in particular, SDG 4C to substantially increase the supply of qualified teachers by 2030. It is also suggested that there should also be an independent assessment of the extent to which the teacher training institutions have complied with public policy, devoid of political interference. This will help Nigeria in ensuring a uniform means to measure and assess the extent to which there has been adherence to public policy. This, it is argued, will ensure that teacher training institutions will better prepare trainees in line with SDG4. A handbook that details what is expected in compliance and provides guidance on how to assess within institutions should be developed and made available as a self-assessment tool.

Redesign of Research Methods and Pedagogy for Education in Conflict-Affected Societies

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As the World Bank and other international organizations suggest, countries need strong, resilient, and inclusive education systems that promote learning, life skills, and social cohesion. However, educational systems, including higher education, struggle to deliver those services in adverse contexts such as armed conflict, political crises, and pervasive violence. Our paper proposes a framework to advance efficacy in teaching during violent conflict through reforming research methods and pedagogy used when working with adult and lifelong learners in conflict-affected societies. In this way, higher education can be a pivotal feature fostering social norms underscoring cultures of peace, coexistence, and nonviolence.

Access to education is a critical component in the collaborative work aimed at bringing to life the 2030 Sustainable Development Goals (SDGs). Consequently, higher education should provide the training necessary to apply relevant research methodologies and pedagogical strategies to instructional settings in conflict areas. Given the myriad challenges (related to social mobility, climate change, resource allocation, socio-economic and political engagement, etc.) faced by the world, investigating how higher education institutions serve their public mission can reframe the community-facing work intended to lead to sustainable development.

Our framework, *Redesign of Research Methods and Pedagogy for Education in Conflict-Affected Societies*, builds on prior works of Paulo Freire and others. The six frames are: 1) Conscientization; 2) Codification; 3) Local Capacity Building; 4) Integration Instead of Adaptation; 5) Transformative Curricula; 6) Immersive Educators.

Rather than offering a fixed solution to higher education's role in conflict-affected societies, our framework addresses aspects of education practices based on culturally sensitive research methods and pedagogical approaches. This encourages institutions of higher education to implement any needed procedural change to meet their unique context. In this light, higher education, which can be perceived as a "soft measure" against conflict, becomes, a primary solution for sustainable peace and development in alignment with the SDG's specifically SDG 4 (Quality Education) and SDG 16 (Peace, Justice, and Strong Institutions).

Higher education and governmental entities charged with developing public policy have an intersecting relationship. Reforms in higher education supporting SDG goals can elevate them in governmental policy (and vice versa), creating a positive feedback loop. Moreover, such work should identify facilitators and obstacles (such as governance/leadership, pedagogical structures, discipline context, indicators of success) that supports SDGs integration into the fabric of the university via its strategic plan (Price et al., 2021), thus objectifying the role universities play in their commitment to the public good.

Quality Education: Fostering Characteristics of Creativity for Sustainable Development

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Education is recognized as a key enabler of sustainable development, and several SDGs are directly related to education. For example, Goal 4 of the SDGs aims to provide inclusive and equitable quality education, Goal 5 of the SDGs is to achieve gender equality and empower all women and girls, Goal 11 of the SDGs is to make cities and human settlements inclusive, safe, resilient and sustainable, while Goal 13 focuses on climate action, the Goal of the SDGs 17 strengthening the instruments of implementation and renewing the global partnership for sustainable development. India's National Education Policy (NEP), launched in 2020, strongly focused on promoting sustainable development through education. The policy recognizes the role of education in achieving the Sustainable Development Goals (SDGs) adopted by the United Nations in 2015, which aims to create a sustainable and equitable world by 2030.

The NEP recognized the importance of developing creative thinking, essential for achieving many SDGs like developing innovative solutions to address environmental challenges, promoting sustainable business practices, and reducing poverty and inequality. Design methodologies based on creativity, like Design thinking and Creative problem-solving, can be used to create sustainable products, processes, and services that minimize waste, reduce emissions, and conserve resources.

The intersection of creativity and sustainability offers a wealth of opportunities for positive change. By promoting creative thinking and encouraging sustainable behaviours leads to a more just and sustainable future for all. The four important characteristics of creativity are 1) Originality: Creative solutions to the SDGs can involve new technologies, new forms of communication, and new approaches to social and environmental problems. 2) Flexibility: Addressing the SDGs requires flexibility in adapting to local contexts and changing circumstances. Creative solutions can help stakeholders adjust to new challenges and changing circumstances. 3) Fluency: The SDGs are complex and multifaceted, requiring many potential solutions; fluency can help generate a diverse range of ideas and approaches to

addressing the goals. 4) Elaboration: Creative solutions to the SDGs can involve imagining new futures, new forms of social organization, and new ways of interacting with the environment in fine detail.

This study aims to understand the current state of developing characteristics of creativity in design education for sustainable development. The perception of educators working in Indian colleges and universities in design was comprehended. A questionnaire was designed based on the four characteristics of creativity; fluency, flexibility, originality, and elaboration concerning: regular and extensive practice; incorporation in the curriculum, pedagogy, and formal assessments; recognition, and appreciation.

A total of 131 teachers participated, including 44 males and 87 females. About 3% disagreed or strongly disagreed, and another 34% just agreed that creativity is essential at their institutions. 30% of educators feel that teachers in their institutions lack an understanding of creative thinking tools to address sustainable development goals. The paper also highlights the characteristics of creativity with illustrations. The important tools used for inculcating creativity are presented through a mind map.

This study helps to understand the current state and supports the development of creativity by enhancing the characteristics of creativity as part of the curriculum, assessment of students and teachers in design education in line with sustainable development.

The Sustainable Development Goals in the top 100 universities: where does the compass point now?

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As the challenges humanity faces grow, from overpopulation to the change of weather patterns, the SDGs need to be brought centre stage to be a key part of the decision-making agenda. However, for that to take place, current and future decision-makers need to be aware of what the SDGs are, learn about their implications and how they impact all areas of development including economic growth. The top 100 universities in the world are the best platform to target the future global decision-makers as they gather the best students worldwide.

For the conceptual framework guiding the research and policy questions we propose a comparative analysis of how the top 100 universities in the world (according to three different international rankings: QS, Times Higher Education, and/or CWUR) are:

- integrating SDGs in their mission, vision, and purpose;
- currently working with regards to embedding SDGs (in curricula, projects, developing groups);
- how visible SDGs are in their websites (publicly accessible information only);
- and at what level of education this occurs.

The framework focuses on otherness and economics in the sense of connection to social inequality and the pervasiveness of social immobility linked to poverty economics, the extractive and anthropogenic relationship we have towards resources, and therefore the need of SDGs as a roadmap.

The choice on institutions centres on the fact that these universities set the global agenda on education, and others follow suit. Further to this, we envision an exploration of best practices that can be replicated in other higher education institutions. This will provide the possibility for education policy analysis on what needs to be done moving forward to include the SDGs as part of HE curricula

worldwide, going beyond the top 100 schools. The idea is to further this research focusing it on emerging economies, the ones that need SDG implementation the most.

Re-imagining SDG 4 in the changing modalities of Online Higher Education: Evidence from the Northernmost Union Territories of India

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While Online Higher Education (OHE) promotes sustainability through availability, affordability, and flexibility, it paradoxically also turns out to challenge the implementation of SDG 4 in regions with challenging geography and critical political situations. In fact, this unevenness in the spread of OHE across regions is capitalised on by the recent Futures of Education report by UNESCO (2021). It ushers us to rethink the concept of sustainability in the context of OHE.

In the present paper, we throw light on the northernmost Union Territories of India i.e., Jammu & Kashmir (J&K) and Ladakh, sprawling with hard terrains, extreme weather conditions, and political instabilities where ‘emergency online learning’ during the pandemic period aggravated the social and educational crisis, rendering the implementation of SDG 4 not easy. It was due to resurfacing of the three levels of digital divides espoused by Wei et al. (2011), i.e., digital access divide, digital capability divide, and digital outcome divide.

We note that in the changing modalities of HE due to the pandemic, it becomes important to revisit the term “sustainability” in OHE. We build on the concept of sustainability as envisaged by SDG 4 and attempt to redefine it in the changing OHE landscape. To achieve this, the study locates itself during the Covid-19 phase and uses quantitative data from more than 3000 learners across thirty-two case study HE institutions in J&K and Ladakh, India. The qualitative data is collected from over 100 qualitative focus-group discussions with the learners. The study uses a sequential explanatory mixed-methods case-study approach and is informed by the Community of Inquiry (CoI) framework (Vaughan et al., 2013). The data is analysed using frequencies, chi-square tests, and content analysis.

We identify the importance of context playing a major role in the three levels of the digital divide impacting online teaching-learning, as informed by the CoI framework. The analysis suggests that the prevalent definition of SDG 4 requires the incorporation of the learning outcome of students to address the digital outcome divide, which calls for special attention in online spaces. While the digital access divide continues to be a necessary condition for the digital outcome divide, the study argues that it is not a sufficient condition. Certain other factors largely impacting the digital outcome divide include students’ readiness, institutional support, and teachers’ preparation. We conclude that in the absence of a heuristically defined working definition of ‘sustainability’ in HE, it becomes rather difficult to bridge the contours impacting the effectiveness of OHE. Consequently, we suggest broadening the scope of ‘sustainability’ championed by SDG 4 by including the aspects related to learning outcomes.

Measuring Financial Literacy of Post-Secondary Students Enrolled in Fort McMurray – A Pilot Study

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The importance of financial literacy has been widely acknowledged. From a macroeconomic perspective, Batsaikhan and Demertzis (2018) stressed that poor financial literacy reduces economic growth. Furthermore, Durodola et al. (2017) explained that poor financial literacy negatively influenced the overall welfare of an individual and reduced population growth. Researchers often employ the Organisation for Economic Co-operation and Development (OECD) financial literacy toolkit to measure levels of financial literacy and collect comparable data (OECD, 2022).

Improvements in financial literacy are intertwined and well aligned with several United Nations Sustainable Development Goals (United Nations, n.d.), including likely reduction in:

- individual indebtedness (Goal #1 – no poverty and indirectly to Goal #2 – zero hunger),
- mental and physical health issues (Goal #3 – good health and wellbeing),
- as well as provision of relevant and equitable education (Goal #4 – quality education).

In Canada, researchers also use the OECD toolkit, with an example being Boisclair et al. (2015), who aimed to explain the relationship between financial literacy and retirement planning among Canadians. Canadian financial institutions emphasize the importance of financial literacy, explaining that financial literacy is not about being wealthy but rather financially healthy (Blanchet, 2020). The Financial Consumer Agency of Canada (FCAC) (2021) launched a 5-year national financial literacy strategy in 2021 to reduce barriers in the financial services environment. As a part of the FCAC strategy, the FCAC aims to promote digital financial literacy. Although unrelated, aligned with this priority area, the OECD (2022) updated its financial literacy toolkit to include topics related to digital financial literacy.

This research employs the updated OECD financial literacy toolkit to evaluate the financial literacy of students enrolled at a post-secondary education institution located within Northern Alberta, Canada. Data is collected through online questionnaires from students studying different programs, with some in trades, health, education, or business. Given the diversity of the student population, the research also intends to contrast the financial literacy levels based on demographic profiles, as several researchers (Di Salvatore et al., 2018; Lusardi, 2019) found disparities in financial literacy levels between individuals from different demographic backgrounds.

Although this research is currently limited to a single institution, it is intended as a pilot study, serving as the foundation for a broader community project. Thus, the findings should inform the need to expand this research to allow the researchers at the post-secondary institutions to identify suitable partners to promote Albertans' financial wellbeing.

Organizational Governance of Transnational Partnerships in Higher Education: Study of Sino-foreign Joint Institutes for Sustainability

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Transnational partnerships in Higher Education (TNHE partnerships) pursuing sustainable economic, and sociocultural development have exhibited resilience against the impact of societal uncertainties. As China has experienced fast economic development, an increasing number of universities in western countries aim at setting up TNHE partnerships with Chinese HE institutions. In China, TNHE joint institutes mainly refer to Sino-foreign joint institutes, jointly organized and governed by a Chinese

university as host education provider with a foreign university as home education provider. They are second-tier international institutes attached to Chinese public universities without an independent legal status. An example is the Zhejiang University-University of Edinburgh Institute (ZJE) which is a collaboration in the field of Biomedical Sciences between Zhejiang University of China and the University of Edinburgh, United Kingdom. There are currently 137 such Sino-foreign joint institutes. More are expected to be established in the near future.

The governance of Sino-foreign joint institutes is complex mirroring the historical, geographic, social, political, economic and cultural contexts. The question is how university autonomy and governance as they exist in Western countries fit with, or can be adapted to, conditions in China where governance is more hierarchical and where all decisions are controlled by the state and the Communist party.

This presentation is based on case studies of Sino-foreign joint institutes exploring on one hand, how Sino-UK joint institutes are subject to regulatory interventions by the state and, on the other, dependent of the changing global environment. Studying interrelated stages of policy design from a macro perspective, as well as policy implementation from an institutional perspective, they show how China's TNHE governance reforms influence the decision-making power allocated among different external stakeholders from western universities. Seen from organizational theory, Verhoest et al. (2004)'s typology of multi-dimensional autonomy is adopted as the methodology to contribute to understanding the governance and decision-making in Sino-foreign joint institutes. This research is a systematic attempt to map and investigate TNHE governance and practices as they are perceived, experienced, shaped and mediated by different actors and interests. It offers insights into the workings of TNHE governance and leadership, indicating opportunities for policymakers and practitioners in the TNHE sector to reflect on governance and management at both joint and institutional level.

Higher Education Reform as it relates to the Sustainable Development Goal #14: Life Below Water

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There has been considerable international focus on the Oceans since a declaration was made by the United Nations that the period 2021 - 2030 would be considered the world decade of the oceans with a primary focus of ocean science and sustainable development.

This paper explores Canada's work in responding to this challenge and international implications for international higher education. After the first three years of the UN world declaration, it is apparent that there is significant intersectionality with other sustainable development goals. It is further noted that the expectations in meeting this goal will require universities to reform their thinking on how universities operate; reform their thinking on work with community partners, industry and build relational aspects to our research rather than just our traditional transactional approach.

The focus on higher education reform is multifaceted in that it includes students, industry, research, teaching and learning, and community engagement. A further focus that will be included in this paper is on indigenous ways of learning and knowing as it relates to the oceans.

The United Nations Sustainable Development goals have far-reaching implications when one considers SDG #14 Life Below Water. The intersectionality with other sustainable development goals means that one cannot discuss life below water without discussing the goals of decent work (SDG #8) and no poverty (SDG #1) and global partnerships (SDG #17). Overlapping many of these goals are the common higher education themes of teaching and learning, student development, research, and community engagement.

This paper will explore the challenges and opportunities that confront higher education in a national and international context as we observe and act on the guidance of the sustainable development goals for higher education moving into the future.

Contextual admissions, adjusted offers and university experiences

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Contextual admissions, or adjusted offers, consider the context of an applicant's attainment. This means that Universities may offer a student who has experienced difficult circumstances a lower threshold for entry to a course than a student from a more stable or affluent background. The aim is to allow a broader range of students to access higher education and reduce educational inequalities. This is in line with the Sustainable Development Goal 10 'Reduced Inequalities', promoting appropriate policies to ensure no one is left behind.

To date, there has been some research exploring how stakeholders such as university admissions teams (Cleland et al., 2014) and schoolteachers (Mountford-Zimdars et al., 2018) view the contextual admissions process, but there is limited research exploring student's lived experiences of entering university with an adjusted offer. This is concerning as those with adjusted offers may enter university feeling less confident in their abilities to do well (O'Sullivan et al., 2019) and may also experience psychological challenges such as lower self-efficacy and higher feelings of imposter syndrome (Christie, 2007). This may mean that attempts to reduce inequality in university admissions processes are failing those they purport to help (Croxford et al., 2014).

In this talk we will present findings from our interview study which addressed this gap in the literature by exploring the first-hand experiences of 6-8 university students with adjusted offers from 2 universities. We seek to unravel whether university students with adjusted offers believe their adjusted offer impacted their university experience. The interviews are currently being conducted and analysed using Thematic Analysis. Preliminary analysis suggests that adjusted offers were seen as providing additional opportunities for students, but students felt that the Universities did not really value them as they were seen as more challenging than 'traditional' students. Participants also felt that staff and students would perceive them negatively if they knew that they had been offered a place at university with an adjusted offer, so they were unlikely to discuss this with others. Participants felt most concerned about being at university on an adjusted offer at the beginning of their university career, but these concerns were reduced over time as they received their grades and started to feel that they could cope with university level work and belong in university settings.

This research has empirical value in extending the limited research within this area, but also practical implications, informing policy and support provisions for students with adjusted offers throughout their time at university, to reduce any possible negative outcomes.

Hear the sound of 13.3

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

Does a poised pen have the capacity to inspire and create social change through the performing arts? Throughout history, music has played an important role in telling people's stories and creating social

change. The clarion call of SDG 13.3 is to mitigate climate change by raising awareness. For this to be implemented, possible creative pedagogies need to be harnessed in higher education.

This paper will focus on carbon literacy higher education policy and how harnessing creative pedagogies in higher education can possibly be a solution to teach this subject.

Higher education partnership projects such as 'Pass it on', have engaged students with creative writing and music creation to raise awareness of carbon literacy. How effective is arts-based learning, and is this method of learning encouraged in higher education?

In the public domain, musicians are creating songs about climate change: is higher education learning exchange policy harnessing popular culture as a resource to teach about carbon literacy?

Carbon literacy policy is about creating a shift in thinking to address climate change. Student feedback has highlighted that higher education's focus is often like looking through a car's rear-view mirror; this is a reflection that education is not in tune with issues that students are facing and are concerned about. How is higher education helping students face the world beyond the walls of institutions? Art-based methods, creative writing, music, and the extemporization movement/dance can possibly be a tool to help students reflect on world issues and be better prepared to face the world.

This presentation will also feature some soundtrack samples of music created to raise awareness of climate change, particularly carbon literacy.

Sustaining Indigenous Hebridean Educational Research Methodologies through SDG4 & SDG17

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Institutions of higher education are in the unique position to recognise and sustain (SDG4, 11). Indigenous research methodologies. Methodologies used in educational research, and methods of qualitative enquiry, have existed in Highland and Island (Gàidhealtachd) communities prior to the introduction of accepted institutional research methodologies of the 20th century, or Western methodologies. The identification and use of Hebridean research methods by post-graduate research students will allow for their survival (SDG11, 17).

Building upon the open-access (CC-BY) taught doctorate module on Indigenous research methodology, this presentation will explore sustaining a priori research methods originating in the Western Isles, Gàidhealtachd, particularly oral and narrative forms of enquiry through sustained community systems, such as historical and university partnerships of learning.

This conversation explores, describes, and honours unique research methods originating in the Gàidhealtachd, paralleling Canadian Indigenous and participatory research methods identified and described globally in an effort to recognise and sustain original methods of research in the UK. Hebridean educational research methods value collective voices over individual statements. Sloinneadh and Dùthchas, the connection to land in learning, and the oral tradition of data collection through elders, are a few of the unique ways Indigenous Hebridean research is carried out and valued. This research endeavours to sustain and honour traditional methods of knowing through historic community partnerships of education.

Leading Health Promotion Efforts on Campus

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Higher Education is a critical setting in and through which to promote health and well-being. The Okanagan Charter (2015) provides a promising policy mechanism by which to organize and formulate campus responses to enhance wellbeing and move towards achieving SDG#3: Global Health and Wellbeing. In this session, I will present findings from our study examining how the first 10 signatory campuses approached implementation and evaluation of the Okanagan Charter.

We employed a qualitative case study methodology, investigating experiences of multiple sites, connected by their signing of the Okanagan Charter. The Charter is a health promotion (HP) framework with 3 commitments including generating dialogue and action across networks, guiding action using the principles of HP Universities, and mobilizing action across sectors to embed HP across organizations. Furthermore, there are 2 calls to action regarding embedding HP into campus culture and leading HP action and collaboration locally and globally.

We drew on multiple data sources including campus websites and publicly-available documents. The primary data source was semi-structured interviews, conducted with one to three people from each signatory campus who were most connected to Charter work. Data analysis focused on similarities and differences across campuses.

For campuses that were most successful, key elements were evident. The most prominent theme was that leadership support, including campus champions, was foundational. Leaders' elevation of health promotion was evident through dedicated resources and consistent messaging keeping the focus on health promotion as a campus priority. Additionally, the collaborative leadership model was identified as a crucial structure for coordinating efforts and amplifying impact.

Communication was essential. Leaders communicated key messages across the organization and met periodically throughout the year to consider progress reports on articulated targets and milestones, and to construct additional or revised goals, including in institutional documents (i.e., mission and vision statements, strategic plans). The visibility of the health promotion efforts was very beneficial in garnering support.

Evaluation was absent from most campuses. However, the exemplar campus had set and then communicated goals aligned with their well-articulated strategy. Most goals were measurable using identified metrics.

By highlighting promising practices and connecting work of researchers and practitioners across the country and around the globe, the study can be a building block of a strong foundation for facilitating wellbeing on campuses and moving us closer to achieving SDG 3.

From Muddled Missions to Learning-Centred Institutions

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Higher education institutions are faced with great complexity in their missions as they strive to provide quality education (SDG4). There are contradictory elements: balancing “world-class” research with excellent teaching, ensuring access while pursuing demonstrable quality, and serving local communities while having global impact. None of these tensions is beyond solution, but together they create a multi-dimensional set of missions rather than promoting a clear direction of travel. This discussion suggests a way to align institutional work around the central value of learning, providing a way to bring coherence and a values-driven perspective to university communities.

The missions being pursued within higher education have both multiplied and diverged during the history of the institution. The first universities were unproblematically teaching organizations, an approach that continued until the Newman/Humboldt debates of the mid-19th century. At the current

time, New Public Management expectations of value for money and socially just claims of access for historically excluded groups are challenging the stability of the perspective that universities are exclusive and highly specialised sites of knowledge production and sharing. Another factor is the recent global pandemic, which required higher education to deliver programs in formats that were never previously envisaged and had often not been considered appropriate for higher education. All these influences lead to universities having muddled missions, where improvement along one dimension may come at the inevitable cost of compromise along another.

The discussion is based on the idea of Learning-Centred Leadership (LCL), an approach derived from Senge's (1994) "learning organization." There are five aspects of LCL in higher education:

1. Broad acceptance of learning as a pervasive and multi-dimensional imperative
2. Promotion of an experimental mindset
3. Development of distributed leadership
4. Focus on holistic perspectives
5. Commitment to diversification (St. Clair, 2020)

This paper suggests these five aspects of leadership can be applied across the various aspects of universities' missions, providing a common and effective approach with the potential to tie together responses to the demands upon the institution.

The primary data will be an organizational case study of a medium-sized university and its responses to the pandemic. The institution was forced to adopt LCL (without ever using the term) when it was hit with a series of unique institutional shocks. This experience allows for insights into the viability of LCL as a way to think differently about the meaning of quality education and respond to the demands of contemporary institutional missions—without the muddle.

Beyond the SDGs: Pluralizing Higher Education Futures on a Warming Planet

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Although universities have been called upon to deepen their commitments to sustainability in the context of the intensifying climate and nature emergency (CNE), there is no consensus about what constitutes "sustainability." In this paper, I offer a social cartography of three different approaches to sustainability in higher education, tracing the guiding assumptions, orientations, and implications of each approach. I specifically emphasize decolonial approaches, as these continue to be marginalized in most universities. Decolonial approaches diagnose colonialism and capitalism as the root causes and drivers of the CNE, and suggest that mainstream sustainability efforts, including the UN SDGs, are grounded within the same ontological and epistemological paradigm that has caused the CNE in the first place. Thus, they identify the risk that mainstream sustainability efforts will reproduce "business as usual, but greener." I illustrate the possibilities offered by decolonial approaches to sustainability using the example of a year-long transdisciplinary program at my home institution of UBC, which focused on justice-oriented approaches to the CNE. However, rather than prescribe a single pathway forward for universities, I emphasize the need for students and faculty alike to deepen our capacity for critically informed, complexity-grounded, and dissensus-based conversations about the role of universities in pluralizing possible futures on a warming planet. Based on my collaborative work with the international and intergenerational Gesturing Towards Decolonial Futures research collective, I conclude by asking how we might coordinate more socially and ecologically accountable responses to the CNE across our many social, epistemic, and disciplinary differences.

Climate Justice and the Role of Higher Education in Transformative Change

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Transformative social change is needed to address the climate crisis which is exacerbating social injustices, economic inequities, and health disparities within local communities and around the world. During this time of growing instability and human suffering, this paper and presentation proposes that we collectively **reimagine the role of higher education** in advancing climate justice and promoting societal transformation toward a more just, healthy, and stable future. A commitment to climate justice provides a helpful framework for colleges and universities to leverage their unique position in society and align their many initiatives and programs to contribute to transformative change for the public good.

Given the devastation of worsening climate disruptions around the world and the inability of our governance systems to adequately address the increased suffering, it is time to redefine the role of higher education institutions as change agents for the collective public good. Society needs a movement to shift higher education away from private sector finance and corporate influence toward the public good, so that colleges and universities promote the transformative social innovations that are so desperately needed and stop reinforcing the status quo. At this critical time, those of us who work and learn in higher education have new opportunities to be creative and innovative in how we advance transformative climate justice.

Drawing from decades of international experience in sustainability science, environmental justice, energy transitions, and climate justice policy, this paper offers an inclusive invitation to collectively consider how transformative change happens and to explore the unique potential of higher education.

Nurturing Cultural Warriors' Learning Spirit: Reducing Inequalities through Meaningful Access to Teacher Education at the University of Winnipeg

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This presentation will use a case study approach to demonstrate and discuss how one set of adult and alternative teacher education programs at an inner-city based university in Canada is making a substantial impact related to the United Nations' Strategic Development Goals (SDGs) number four and ten (quality education and reduced inequalities).

SDGs 4 and 10 are particularly important in Canadian higher education in light of the relatively recent findings of the Truth and Reconciliation Commission (TRC), which called attention to the central role that education must play in working toward reconciliation. In particular, call to action number seven aims "to eliminate educational and employment gaps between Aboriginal and non-Aboriginal Canadians" (TRC, 2015, pp. 5-6) and call to action number ten, in part, aims to improve "education attainment levels and success rates ... [and to develop] culturally appropriate curricula" (TRC, 2015, p. 6). While laudable and certainly necessary, these aims cannot and will not be achieved unless the body of professional teachers is comprised of far greater numbers of Indigenous teachers.

As the Honorable Murray Sinclair said, "education is what got us into this mess ... and is key to getting us out of it" (as cited in Jamieson, 2017). This presentation will, therefore, report on the history of three extremely successful teacher education programs that range from 3 to 50 years of service, as well as on the structure, the andragogical and philosophical bases, and the institutional, organizational, and leadership approaches that support program delivery. In addition, the case study findings will be contextualized with data that helps to understand the programs' impacts in relation to local needs and with recent census-based data related to, among other matters, educational attainment in Canada.

Empower to grow through Higher Education

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IU International University of Applied Sciences (IU) was founded in 1998 and has recorded more than 100,000 enrolled students until today. IU offers 257 Bachelor's and Master's programmes in total, 73 of which are in English. In 2021, more than 3,000 graduates left the university with a Bachelor's, Master's or MBA degree (IU Group ESG Report 2021/2022).

IU is member of the UN Global Compact and its higher education initiative. The principles of these two initiatives are therefore the key factors which define the sustainability approach of the university. In the light of this, the university has defined several key areas in which it is working to achieve the Sustainable Development Goals of the United Nations. Social aspects play a prominent role and are consistently pursued in the three key areas of students, employees and community (IU Group ESG Report 2021/2022).

This paper focuses on the key area of students and sets out the starting points for implementing the university's mission "Everybody can access education to grow" in relation to the pursuit of the Sustainable Development Goals. It is shown that in addition to Goal 4, other goals such as Gender Equality (Goal 5), Decent work and economic growth (Goal 9) or Reduced inequalities (Goal 10) can also be at the core of higher education. Taking into account current and specific source and data material from the field of higher education policy discussion as well as higher education data the following aspects will be addressed:

1. Opening up access to higher education for non-traditional students from the region of Germany, Austria and Switzerland as well as possibilities for the recognition of prior learning achievements and its crediting towards the degree programmes.
2. Facilitating access to higher education for students facing barriers such as, for example, international students who previously had no access to higher education due to income barriers, people with disabilities or single parents.
3. Promoting female students with specific support services.
4. Support systems needed to ensure success of non-traditional students (both within the IU ecosystem and beyond)
5. Implications for academic teaching in dealing with heterogeneous target groups and their needs.

As a result, this paper illustrates close and multiple relationships between higher education and the achievement of the Sustainable Development Goals. However, for the necessary trans sectoral and transdisciplinary effort, the development, consistent implementation and evaluation of a sustainability-oriented strategy is key.

Teaching Civics for Sustainability in post-authoritarian order - the challenges of developing progressive citizenship in new democracies

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Civics courses have (a not so) latent significance – they are supposed to train new cohorts of citizens to engage in multiple public roles in (democratic) society. How it is done depends on a multitude of factors: teachers' performance and program content are among the most important. In new democracies (such as Poland) civic content of educational curricula acquire particular significance: they must lay foundation for new forms of relationship between humans and their environment in a much broader sense of the word than previously was the case in the authoritarian state dominated order.

In new democracies defining development is a lot more than talking about economic or political formulas. Ideas of sustainable development belong in a package of ideas which may anchor people in the progressive world order, yet they meet resistance from the traditionalists and conservatives who define order in terms of national sovereignty. Higher education institutions in their social science and management programs have a particular role in laying foundations for these SDGs (in combination): (16) Peace and Justice Strong Institutions; (4) Quality Education; (5) Gender Equality, (10) Reduced Inequality, (11) Sustainable Cities and Communities. Ossification of institutional structures need not be dismissed as another factor. Thus, sustainability becomes “politically weaponized.” Through the study of curricula, textbooks, government policies and public discourse this paper addresses the complexity of the problem of civic education in new democracies. It sees sustainable development as a concept wrestling with pressures coming from different ideologies, institutions, actors, and visions of the future. It should be seen as a contribution to discussions about the political nature of sustainability, and a good steppingstone to collaborative research inviting contributions from diverse political settings.

Promoting Sustainable Development Goals in Higher Education: Advancing Competency-Based Education and the Implementation of Rubrics in Japan

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In recent years, Japan has been facing a declining birth-rate, leading to a decrease in population and a loss of workforce, which have become essential social issues. Consequently, reform in higher education is much needed, and the promotion of lifelong learning is gaining attention. Furthermore, it is essential to have equal educational opportunities and competency-based education to achieve Sustainable Development Goals (SDGs). This study focuses on introducing competency in higher education and lifelong learning, and the use of rubrics (namely, frameworks that set out criteria and standards for distinct levels of performance and descriptions of what performance would look like at each level) as an evaluation method in the context of the Japan's achievement of the SDGs within its higher education system.

Competency-based education emphasises knowledge, skills, motivation, attitude, and values, and aims to nurture learners who can adapt to societal changes. Additionally, lifelong learning aims to mitigate the impact of the declining birth-rate and improve the quality of the workforce by creating an environment in which people can continue to learn throughout their lives. Moreover, the introduction of rubrics is considered to enhance educational quality as they objectively and comprehensively evaluate learners' performance and provide valuable feedback to educators.

In 2022, the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) reported the results of questionnaires surveying the state of educational content reform in all Japanese

national, public, and private universities (795 universities). MEXT reported receiving responses from 97% (775) universities in the report. Most Japanese universities provide syllabi to students. However, by contrast, the percentage of universities explicitly stating the grading criteria for all subjects using rubrics at the undergraduate level was only 6.1% (46 institutions) in 2020. Furthermore, the percentage of universities explicitly stating the grading criteria for certain subjects using rubrics increased from 16% (117 institutions) in 2016 to 30% (224 institutions) in 2020 but remains low. This indicates that adopting rubrics as a grading criterion in Japanese universities though ongoing, is arduous.

In higher education, we found that faculty members' inability to create rubrics when developing their syllabi leads to the absence of explicitly stated expectation. To address this issue, we proposed a two-step approach for introducing rubrics across all subjects. First, we introduced a reference rubric (R2) derived from the common learning outcomes established in the diploma policy to guide faculty members in creating their syllabi. In the second stage, faculty members created rubrics for the learning outcomes that they set individually. We report successful implementation of this approach at a university where we introduced rubrics for all subjects.

We consider that a key step in the facilitation of the SDGs in Japanese Higher Education is contingent in part on nationwide reform of the curriculum to one that defines explicit criteria, standards, and expectations, which our approach can inform.

Predictive Learning Analytics: A Contemporary Students Retention Framework in the U.S. Higher Education System.

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This paper relates to increasing awareness of how to enhance educational outcomes for underrepresented, low-income, and racial/ethnic minority students in the US. Black female and male students who enrol in college often accrue financial debt to pay for tuition and other expenses, and non-completion of a degree places them at risk of debt due to their inability to procure gainful employment after withdrawal. Moreover, non-completion of college degrees can adversely impact individuals' subjective sense of accomplishment and financial contribution to their local communities and society. With Predictive Learning Analytics, higher education has entered a new era in which the use of technology and information could play a vital role in the success and completion of degrees for students regardless of their sociodemographic characteristics.

This study is aligned with three components of the United Nations Sustainable Development Goals 2030 targets: 4.4, 5.8, and 10.2:

1. **SDG 4: Quality Education**

Target 4.4: By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs, and entrepreneurship.

2. **SDG 5: Gender Equality**

Target 5.8: Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women.

3. **SDG 10: Reduce Inequalities**

Target 10.2: By 2030, empower and promote the social, economic, and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion, or economic or another status.

Retention of university and college students is an essential issue in education. The retention and attrition rate issues in U.S. colleges and universities is well documented. Although access to higher education is

increasingly available, many students do not complete their degrees. Most research on retention rate issues focus on students' psychological, interactional, and economic aspects and associated retention rate with students' lack of intellectual capacity, ability, personality, and motivation. In recent years, several institutions have started adopting Predictive Learning Analytics (PLA) using advanced computational techniques (e.g., Bayesian modelling, cluster analysis, predictive modelling) to identify which students will pass a course and which are at risk. Yet, little evidence exists about their wide adoption in higher education. PLA is defined as "the statistical analysis of historical and current data derived from learners and the learning process to create models that allow for predictions that improve the learning environment within which it occurs" (Ecar-Analytics, 2015). This is despite the ability of HEIs to gather and analyse and distribute the results of large volumes of data centrally and consistently and quickly, and thereby provide proactive measures that can improve student performance.

In the present study, we advance the understanding of PLA as an educational model in the state of Florida. We examine and analyse whether PLA programming could lead to an increased retention rate of minority students based on a sample of 300 Black female and male students in Florida public universities. PLA uses various statistical and analytical techniques to help predict future events or behaviours within a specific group of students. Our framing is around how university leaders build and use these models and what values and beliefs explicitly or implicitly inform their development.

Inclusive Mentoring as a Sustainable Development Tool for Higher Education: Student Perspectives of a DEI Mentoring Program at a Public College

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While it is universally accepted that relationships between faculty and students promote positive educational outcomes; moreover, these relationships must be examined further to promote SDG4-Quality Education; identifying why some mentoring relationships work better than others is challenging. Partially, since mentoring is a poorly defined construct, distinctions between mentoring and other critical developmental relationships are rarely made. Further, mentoring is often treated as a behavior in and of itself, albeit with little consistency in how mentoring is or should be performed, translating to inconsistencies in academic research and difficulty establishing consistent connections between mentoring and student outcomes. Past studies call for mentoring to promote student agency, encouraging both deeper student understanding of the benefits of these relationships and incentivizing faculty to support student interaction. However, limitations in extant literature make this challenging to implement.

Our proposal aims to add texture to understanding mentoring relationships by focusing on a mentoring program at our college explicitly designed to serve diverse students from historically underrepresented and underserved populations. By focusing on this specific program, we see mentoring as transformative practice and a sustainable development tool for higher education with its role in supporting student diversity, which aligns with SDG10-Reduced Inequalities and SDG5-Gender Equality. Moreover, since first-generation students and those from a low SES are marginalized in academia, this program also addresses SDG1-No Poverty.

This mentoring program is now in its third year at the college, and we are conducting one-on-one interviews with students who were part of the first two years' cohorts. We will examine the quality of "developmental interactions" between students and their faculty mentors, focusing on specific behaviors and activities in which they engaged, and show how what happens within these relationships can relate to student experiences and outcomes through the development of agency and purpose. In doing so, we are addressing SDG16-Peace, Justice and Strong Institutions, especially with target 16.6 calling for developing "effective, accountable and transparent institutions," and target 16.7 – ensuring "responsive,

inclusive, participatory and representative decision-making at all levels." Close examination of student personal narratives can foster an understanding of how mentors may facilitate targeted student outcomes within their mentoring relationships, focusing specifically on agentic outcomes promoting student success. We wish to utilize what we learn from our research to reflect on and strengthen the mentoring program at our institution. Ultimately, we want this work to guide those who wish to establish (or reimagine) a mentoring system at their colleges/universities.

The Constitutional Right to HE education in Mexico in the context of the SDGs: progressive rights, old rhetoric, inconsistent policies

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Between 2018 and 2021 Mexico approved a Constitutional Reform that forces the Federal State to provide HE to any person who demands it. The new "Right to HE" in this country of 126 million inhabitants, member of the OECD, and where currently only 4.5 of 10 have access to HE includes several law modifications and of course has multiple educational, economic and political implications, and emerges in a complex socio-political context where inequality, low income jobs and political polarization are extensive. This paper addresses some of those challenges focusing on the tensions between new rights, education and social policies, and old progress rhetoric. More specifically the presentation will address the way in which in Mexico the HE reform and policies have tried to attend the problems above listed while chasing -at least discursively- two goals of the 2030 agenda: 4 Quality Education (Target 4.3: Equal access to affordable technical, vocational and higher education) and 8: Decent work and economic growth (Target 8.6 Substantially reduce the proportion of youth not in employment, education or training). The paper is divided into two sections. The first one explores the context: there is a global movement to widen access to HE, while the professions and the labour "markets" are continuously changing; there is an environmental crisis which still seems to be of secondary relevance when it comes to the policy design and implementation processes and there is also a sustained inequality gap across the world where the conditions of employment are precarious even for those with HE titles.

At the regional scale, several countries in Latin America claim to be determined to remove the so-called neoliberal inheritance in HE. The second part of the paper focuses on Mexico: since 2018 the country is being governed by a self-denominated left-movement that has promoted reforms and policies, some of which are contradictory in design, scope and implementation. While the education reform seems to be progressive in nature by universalizing access, recognising indigenous knowledge and proclaiming a wider access to different demographic groups, the implementation process is contradictory, for instance: there is a shortage of budget, there are political pressure directed to new and old well-established public and private HE institutions, there are new institution with poor infrastructure and worst condition of educability. There is also a huge provision of different types "scholarships" (grants, aids) to HE students and even graduates -labouring or unemployed. This policy is producing different effects in the education system and labour-market sectors, and just now is difficult to assess the rates of unemployment and the quality of work among the young population. The paper will show how the reform and policies are based on an old rhetoric where the education functions are part of a *needed progress* based on notions such as ecological exploitation, mega-national projects or industrialization. Despite the active subscription of the SDGs by the Mexican government, the current HE reform does not introduce new policies or programs to make the right to education effective because in fact many of the new spots in old and new institutions lack real conditions of quality and equity, and are not articulated to other action in the labour market. The paper is written using concepts of discourse theory and political analysis, and historical sociology of HE. The data consists mainly in public documents and information that has been analysed using Atlas.ti and grounded coding.

Discriminatory Expectations for Student Achievement: The Devil is in the Details

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The SDGs suggest that equality and quality of education are key values for society. The case of existing knowledge inequality breaches both these values. Knowledge inequality is sticky because educational levels between generations exhibit close connections with transmission from generation to generation. But knowledge inequality is not only inequality that generates aftermaths in terms of professions and incomes. It is an inequality in terms of what is known and what can be invented to progress and accumulate further wealth and prosperity especially across countries. Thus, knowledge inequality on different levels – from individual to country level – ensnarls the lower income strata of society in an impenetrable mesh of sticky swamps on the way to self-salvation through education towards better quality of life and more equitable living.

In economics, the sticky intergenerational mobility at individual and local level as a product of cultural bias is termed Bourdieu-type bias (see Tubadji 2012, 2013; Tubadji et al. 2021). Bourdieu-type discrimination defines teachers' cultural bias, namely evaluating students' talent driven by the social prestige of the parent. Parental social prestige is suggested by Bourdieu to be associated with parental cultural (including linguistic) identity. The Bourdieu bias towards Welsh-speakers was previously documented for Wales in the early 20th century, a period known as *Welsh Not*. The current paper inquires whether the same cultural discrimination mechanism is still at stake in the UK as whole, a century later. We use data from the National Child Development Study (NCDS) (1958 – 2013) which traces individuals along their lifetime and contains indicators about linguistic identity of the parent, parental occupation and school-to-work transition. Notably, NCDS has also self-reported teachers' expectations about students' achievement in school-to-work transition as well as students' aspirations for the transition. Using a plethora of econometric approaches, we find confirmation that students' Welsh linguistic identity is associated with a mismatch of students' school-to-work transition aspirations and teachers' expectations in this regard. We interpret this as evidence for cultural bias based on social distinction as suggested by Bourdieu's cultural capital theory and McGee's (2021) theory of interiorisation of stigma.

Universities' missions and the institutional logics in meeting SDGs

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Universities' missions may refer to core values, goals, and purposes guiding actions and decision-making processes. Traditionally, university missions have restricted themselves to teaching and research, and, though not universal, to third missions such as service and community engagement. These missions echo the institution's priorities, often reflected in the university's organisational structure, funding, and resource allocations. However, universities are institutions that operate with a certain logic. Global challenges, as summarised in SDGs, ask for universities to operate as glocal linking hubs for the search for solutions through university missions.

This study looks at how institutional logic impacts the operationalisation of university missions in meeting Sustainable Development Goals (SDGs). The focus is on Goals 1 and 17. The premise of this study is that, while universities have their missions solidly written down, institutional logic determines which priorities can be attended to. The question is: how does institutional logic impact university missions in delivering on SDGs?

Universities operate in broader socio-political and economic contexts. These contexts can enhance or constrain universities in achieving SDGs. Institutional logic suggests that actions within institutions are shaped by a logic that determines how practices are undertaken and decisions are made. This perspective is part of the institutional theory as advanced by Meyer and Rowan (1977) and DiMaggio & Powell (1983). This institutional logic focuses on the roles of social, political, and economic systems in which organisations operate and gain legitimacy. Institutional constituents, such as the state, professions, interest groups, public opinion, and family, can exert pressure and expectations on organisations. Universities as institutions operate within these frameworks, and thus, their strategies and structures are centred on the institutional logic prevailing in the broader society around them.

The discussion in this paper is centred on universities in the Global South at UCC – University of Cape Coast (Ghana) and UKZN – Kwa Zulu Natal (South Africa). Both universities have developed using different logic. In 2004, UKZN emerged as a new, merged university after the apartheid era and has focused its community engagement on alleviating poverty through the building of just, resilient communities. In 1962, UCC started as a counterweight to colonial institutions in Ghana and was tasked with the development of teachers' education to cater for Ghana's development needs. A selection of projects are examples of how universities may use their missions to eradicate poverty and contribute to partnerships for development for communities around them, fulfilling Goal 1 – poverty eradication, and Goal 17 – partnerships for the SDGs. Both universities have sought ways of linking capabilities that help communities develop, by improving the economy or enhancing justice. In doing so, these universities have coined training programmes, linked communities with other stakeholders, created conversational spaces for community members and acted as guarantors for communities when working with formal institutions such as banks, other universities, and governments.

SDG4 and access to higher education: An examination of public policy approaches to university access in Sri Lanka.

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The study examines SDG4 objectives for access to higher education, as applied to the national context of Sri Lanka, with a particular focus on university education. A key goal of SDG4 and the broader international framework, *inter alia*, is equal access to higher education for all, and the provision of inclusive, equitable and quality education. Beginning with a sketch of the broader issues for higher education of the relevant SDG targets, this qualitative study draws on documentary analysis, semi-structured interviews, and public international law to examine the distinctive Sri Lankan experience of facilitating access to university education in light of SDG4. Against the background of key features of the Sri Lankan education system, particularly higher education, the study explores major national policies with a view to: identifying progress made against international commitments; and reflecting on some policy successes and opportunities for further reform to support the realisation of SDG4 objectives for educational access. Of relevance is that Sri Lanka has maintained a free university education system, despite the provision of sufficient and equitable access to university education remaining an ongoing endeavour. Key challenges and opportunities remain with respect to improving participation and the educational experience, including for historically disadvantaged groups such as those from rural areas.

Reforming Higher Education in South Africa by addressing gender inequalities

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Gender equality implies that different genders have equal responsibilities and opportunities in society. Gender equality is one of the key targets of the SDGs. It is a universal problem affecting mainly women and girls. Higher Education (HE) can contribute to the Sustainable Development Goals (SDGs) by creating healthy and socially just conditions for their staff and students.

Gender equality is, amongst others, related to SDG 5, addressing gender equality and empowering women; SDG 1 (poverty alleviation); SDG 2 (zero hunger); SDG 3 (well-being and good health); SDG 4 (quality education), SDG 6 (clean water and sanitation), SDG 8 (decent work and economic growth), and SDG 10 (reduced inequalities). Achieving gender equality is therefore essential for building a sustainable, inclusive, and equitable world.

South Africa has implemented several policies and reforms to reform its Higher Education (HE) – amongst others the National Plan for Higher Education, aimed at addressing historical inequalities and disparities in its HE system. The National Qualifications Framework, amongst others, promotes the development of a more diverse and flexible HE system. These policies and reforms are essential for creating a more inclusive, equitable, and high-quality HE system in South Africa, which is critical for the country's development and future prosperity. However, there are still major challenges facing HE in South Africa regarding gender equality.

In the South African context culture and traditions still affect gender perceptions and roles. Persisting stereotypical generalizations include beliefs that women are inferior to men.

The COVID-19 pandemic exasperated some gender inequalities. Women were more likely to report employment loss than men; they forged work to care for others; experienced increased gender-based violence; and a decline in scholarly productivity during the pandemic. This may be accounted to how female academics were managing work while negotiating childcare, homeschooling, domestic and other duties.

A focus group discussion was used to obtain in-depth narrative descriptions of the experiences of women working at HEIs in South Africa. The main themes which emerged were a band of brothers' mentality; feeling voiceless in the presence of male colleagues; difficulty managing professional and family life; being treated as unequal and unfit; and harassment. The gender and development theory underpinning this study suggests that real economic and social development cannot take place in the presence of gender inequalities. It is thus imperative for the reform of HE that gender equality be prioritized and re-imagined.

Can HE offer the learning we need to face the Climate Crisis?

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Higher Education (HE) often defines itself in relation to other educational provision through an emphasis on the development of criticality and independent thought. Such qualities have never been more necessary. As the Sustainable Development Goals make clear, humanity needs to grapple with a range of issues such as the climate crisis, endemic poverty and inequalities, and geopolitical instability, that require the kind of critical and creative thinking that allows for judgements to be made about the reliability of information and the agendas that underlie particular narratives. They also require capacities to: think through the consequences of different courses of action in complex, non-linear systems; imagine alternative futures and solutions; and decide on which courses of action to take.

Although there are many (super) complex problems to choose from, learning how to solve issues related to the Climate Crisis is perhaps the most crucial. After all, we can only have sustainable development and social justice in a world where the climatic conditions conducive to human life continue to exist. Decisions about climate positive action are complex, requiring a critical perspective that allows the weighing up of competing demands, the tracing of consequences and the ability to make judgements in the face of uncertainty. There is thus an urgent need for accessible, contextualised and critically-driven education that enables decision-makers in a range of organisations and across all sectors to take climate positive action.

This paper examines the development and impact of a short Continuous Professional Development (CPD) course created in response to this need and offered to business executives and entrepreneurs in Scotland. The course aims to develop transformational agency in relation to the Climate Crisis and to prepare participants to address this wicked challenge in our super complex world. Typically, universities offer CPD-focused courses either as MOOCs or as stand-alone courses and micro credentials. While these may help to make universities more open, allowing people to engage with them in more fluid, flexible and personalised ways, it may be hard to imbue them with the deep criticality that we argue is so urgently needed. The course described here was designed to encourage critical reflection and analysis through a range of 'Pause for Thought' exercises, self-paced blended learning, and student-led assessment topics. Phenomenographic analysis of texts generated by students in these activities suggest that participants were able to exercise real, although somewhat limited, criticality and creative thought. The analysis presented gives reasons to be optimistic that HE can offer flexible, practice-centred but critical learning that develops the skills required to address super complex challenges including climate change.

Progress and prospect of Digital Transformation of higher education in China - A Multi-case Study Based on Bibliometric and CIPP Models

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SDG4 calls for ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all. With the development of economy and society, modes of education are constantly innovated, and responding to the realistic demand of sustainable development in the digital era has become the core task of higher education development in China and even the world. The Chinese government attaches great importance to the development of digital education. In recent years, it has issued guiding documents such as the Limitless Possibilities: Report on the Development of Digitalization of Higher Education in the World and China's Education Modernization 2035 and carried out specific practices such as the National Strategic Action on Digitalization of Education. This paper makes a comparative analysis of the theoretical research and practical exploration of the digital transformation of higher education in China. In terms of theoretical analysis, this paper takes the literature related to digitization of higher education from 2008 to 2023 collected in CNKI Database as the research object.

In order to ensure that the original data are comprehensive, accurate and highly interpretable, this paper uses the Chinese Social Sciences Citation Index (CSSCI) and the Chinese Core journals of Peking University as the data sources. With the keywords of "digitization of higher education", "digitization of colleges and universities" and "university digitization", this paper uses bibliometric method and knowledge graph technology to make a detailed analysis of the overall situation, evolution characteristics and frontier hot spots of higher education digitization research field in China in the past fifteen years. In terms of practical analysis, four representative public institutions of higher education, including Tsinghua University, Wuhan University of Technology, Southern University of Science and Technology and Nanjing University of Finance and Economics, are selected, covering "double first-

class" universities and non-" double first-class "universities. CIPP model is adopted to conduct case analysis in four aspects: Context, Input, Process and Product. Summarize the practical experience of China's higher education in the field of digital transformation. The research shows that there are abundant theoretical research results on the digital transformation of higher education in China, and the digital transformation practices of universities have their own characteristics, but the essence is to realize the high-quality development of higher education, and they all take educational equity and educational modernization as the core values.

Academic Freedom and University Autonomy in the Era of SDGs: The Case of Japan

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The SDGs have had a profound influence on governments, universities, businesses, and local communities in all parts of the world as a guide for action. Universities on the one hand are not only one of the main actors in the realization of the SDGs, but also have the responsibility of fostering human resources, and researching and developing the knowledge and technologies necessary to realize the SDGs. On the other hand, in order for universities to remain universities, they must have academic freedom and university autonomy based on their fundamental characteristic of collegial autonomy, which has been nurtured over the past several hundred years.

We must devise a way to harmonize these two matters. If universities become subordinate to the state and society, it will be difficult for them to develop superior knowledge and technology and foster the next generation of outstanding human resources, and as a result, it will be impossible for them to respond to the SDGs as society demands.

What should universities be like in these difficult times? The purpose of this paper is to describe and analyze in detail the situation in Japan in recent years from the perspective of how to harmonize academic freedom and university autonomy with the demands of the state and society, so that researchers and policy makers in other countries can compare the situation with their own countries and gain new knowledge.

Examples of what has been happening in Japan in recent years will be described and analysed in this context:

1. Selective resource allocation policies for universities
 2. University governance reform from consensus among professors to strengthening the president's authority
 3. Increased government involvement in quality assurance of university education and research
 4. Policy formation that favors science, technology, and innovation policies over educational policies, including liberal arts policies
 5. Shift in leadership of university policy from the Ministry of Education, Culture, Sports, Science and Technology (MEXT) to Cabinet Office directly under the Prime Minister
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Reforming International Higher Education through Transformational Leadership

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The evolution of the educational reform and internationalization of higher education is happening at a rapid pace, which is worthy of attention. Internationalization policies promoting global education perspectives are drawing international students for an integrated, collaborative educational platform and a safe academic to professional shift all over the world.

In alignment with the UN Sustainable Development Goals (SDGs), literature shows the significant role of leadership in educational reform in uplifting and implementing these goals further. The UN 2030 Agenda and the Sustainable Development Goals (SDGs) are an unprecedented step forward. They are international educational goals and apply to all countries and represent universal goals and targets that articulate the need and opportunity for the global community to build a sustainable and desirable future in an increasingly interconnected world. ‘Leadership’ ‘international education’ and ‘educational reform’ are not often connected as a focus of research, although each independently is part of a wide field of inquiry.

After an in-depth review of the relevant literature, concepts, and policy documents regarding the UN sustainable educational goals, international education and leadership in organizations, researchers shared that the strategic and operational processes connected to the internationalization and sustainable education models and practices line up with transformational leadership. The purpose of this presentation is to identify and discuss relevant research insights about the changing environments of international higher education, in relation to the UN’s sustainable educational goals based on the conceptual framework of transformational leadership in this dynamic period of educational reform. The literature reviewed successfully highlights the specific approaches of transformational leadership found in research to contribute to changing dynamics of international educational reform. Transformational leadership is essential within higher education so that adaptation to the sustainable educational goals can be completed to meet the constantly changing economic and academic environment worldwide.

The highlights of this presentation would guide future researchers, leaders, and policy makers in higher education in adapting to the dynamic educational systems in this era of reform, uplifting the Sustainable Development Goals, as defined by the United Nations.

Ensuring quality higher education in Ukraine in times of war

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Among the seventeen Sustainable Development Goals (SDGs) approved by the United Nations General Assembly, at least two are now being seriously challenged in Ukraine by Russia’s barbaric full-scale military invasion and the war. These are quality education (SDG 4), which focuses on education and aims to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”, and partnership for the goals (SDG 17), designed to “strengthen the means of implementation and revitalize the global partnership for sustainable development”. Ensuring high quality of education and lifelong learning opportunities for all, and maintaining partnerships developed through many years of cooperation, is particularly difficult.

This study, supported by the Fellowship of the British Academy and Cara (Council for At-Risk Academics), examines the issues of the quality of higher education in Ukraine in the conditions of Russia’s ongoing military aggression from the perspective of stated goals of sustainable development, the role of partnerships for achieving goals in maintaining and ensuring this quality, and further development of professional and personal skills of students necessary for raising national economy and civil society in the post-war period.

The study analyses the long-term plans of Ukrainian government for the post-war period, aimed towards restoration and development of the infrastructure of higher education institutions destroyed by Russia’s armed aggression; restoration of the staff of educational institutions due to a significant outflow of competitive scientific and pedagogical professionals abroad or to other regions of the country; implementation of programs of psychological rehabilitation and adaptation for participants of the

educational process; intensification of the higher education internationalization in Ukraine, deepening of integration of Ukrainian higher education into the European higher education and scientific space; attracting the international technical assistance and increase the number of international educational and scientific cooperation projects; restoration of broken and formation of new educational and scientific partnerships.

Emphasis is made on the issues of ensuring availability, continuity and equal access to quality higher education in the regions of Ukraine, depending on their specific security situation; ensuring the sustainability of education for all, including those who were forcibly displaced during the war within Ukraine or abroad; improvement of online education and academic mobility within the country; organization of work of displacement Ukrainian higher education institutions; partnership programs with partner universities.

Implications, Paradoxes and Paradigm Transformation of Governance to Promote Edge-cutting Interdisciplinary Research

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With the trends of globalization and internationalization, many countries such as the UK, Germany, France, Switzerland, USA, and even China have launched packages of strategies or funding projects to spawn interdisciplinary research. Global challenges require an interdisciplinary approach, international collaboration adds another level of complexity, it also opens doors to new knowledge, it is a source of mutual stimulation. While different disciplines have different approaches, their own “cultures and languages”, how can researchers navigate the challenges of interdisciplinary research?

If the approach works, how can we promote the transformation from multidisciplinary research collaboration to interdisciplinary research, even transdisciplinary research? How do researchers balance the conflicts between further monodisciplinary knowledge production and the new orientation of interdisciplinary research for problem-solving or social practice? Does a proper system exist of governance or strategy to promote the edge-cutting interdisciplinary research that emerges? Or is there a paradox between governance systems and interdisciplinary research development? What is social space to spawn this research?

According to these questions, I have collected data (interviews and document analyses) and coded these based on Susan. L. Robertson’s (2013) model of state, for-profit/not-for-profit market, community, individual, with the dimensions of global, national and sub-national. I take Oxford (UK), Cambridge (UK), ENS group (France), Harvard (USA), ECNU(China) as case studies to compare.

To conclude, interdisciplinary research needs more institutional platform support but with academic self-rule to spawn, the over-refined management model or governance mechanism are not conducive to the incubation and development of interdisciplinary edge-cutting research. It’s vital to identify interdisciplinary transformation paradoxes typically for the governance of institutional and organizational level.

Pro-environment Behaviors of Vocational College Students in China

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This paper examines the pro-environment behaviors of vocational college students before the backdrop of China's recent "green development" policies. China is a country with a separate system of higher education institutions, in which student enrollment in vocational colleges is almost parallel to that in regular four-year colleges. As vocational education prepares an important part of the future labor force, the pro-environment behavior of students in vocational colleges has an important impact on the transformation toward a green economy and sustainable development. More specifically, this paper addresses SDG 4 (quality education) as well as a range of other SDGs, for example, SDG # 8 (decent work and economic growth), SDG # 9 (industry, innovation, and infrastructure), SDG # 11 (sustainable cities and communities), SDG # 12 (responsible consumption and production), and SDG # 13 (climate action).

Our study surveyed 1,034 students from six vocational colleges in Hunan Province. The study specifically examines the question of environmental attitude-behavior linkage through the perspective of environmental value orientations. Students' attitudes toward environmental protection were analyzed using factor analysis and cluster analysis to identify "anthropocentric" and "ecocentric" students, and the differences of their respective pro-environment behaviors were further examined by using T-test. The interpretation of statistical findings also draws upon qualitative interview data collected during site visits.

We found significant differences in the pro-environment behaviors of "anthropocentric" and "ecocentric" vocational college students, which are most obvious when it comes to energy conservation. However, both types of students are not actively involved in change-oriented behaviors. The paper interprets the findings in light of institutional features of vocational education in China and identifies an innate connection between sustainability education and traditional focus on frugality in vocational education. We argue that environmental education in Chinese vocational college needs a paradigm change.

In summary, we address the classical question of attitude-behavior linkage through the perspective of environmental value orientations. The findings have broad implications on policies and practice related to education for sustainable development (ESD) in higher education.

How UK Universities Define and Enact Sustainability – A Systematic Review

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Given the increasing importance of sustainability on the global agenda, UK universities are actively integrating the Sustainable Development Goals (SDGs) into their strategic missions, campus infrastructure, curricula, etc (Filho et al., 2019; Hallinger & Chatpinyakoo, 2019). On one hand, the development of SDGs in leading UK universities provides a 'living lab' to explore the possibility of integrating sustainability into education. On the other hand, sustainability has emerged as an alternative way to attract high-quality students and increase international popularity, such as rankings in different league tables (Findler et al., 2019). This paper aims to explore the definitions of sustainability and approaches to SDGs in UK higher education institutions. Specifically, it investigates how sustainability is defined and enacted in the strategic documents, sustainability reports, and university missions from 24 official websites of the Russell Group Universities. Through a systematic review, this article aims to: 1) explore the diverse interpretations of sustainability and identify areas of common ground among UK universities; 2) illustrate how universities in the UK are implementing sustainable development initiatives under the current SDGs agenda; and 3) provide practical and policy implications for advancing sustainability in higher education institutions in the UK.

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