International
Higher Education
Teaching & Learning
Association

Vol. 2 No. 2
November 2024

HETL Frontiers

The aim of the International Higher Education Teaching and Learning Association (referred to as HETL) is to bring together higher education professionals and thought leaders from around the world to dialogue, network, and collaborate on

Innovative strategies in education – transforming developing countries

Message from the President of the International Higher Education Teaching and Learning Association (HETL)

Dear HETL members and global education community,

Education is at the center of social and economic development, and in the fast-changing modern world, it serves as the main agent in the development of nations. "Innovative Strategies in Education: Transforming Developing Countries" provides a timely overview of the role that education plays as a catalyst for sustainable development and human development. This edition explore how educationall systems of developing countries face special burdens. Where many see intractable problems, they see something different - a set of new opportunities for change. This edition shows how new approaches to teaching, learning, and leadership can help tackle the inequality

The explicit focus of strategies on situation-specific needs is important. Rather than offering a blanket approach to problems and nice sounding platitudes, the authors emphasis is on educational models situated within the local cultures, economies, and environments. Strategies that are adaptable and scalable are critical if they are going to work in highly varied contexts. This edition illustrates how important it is to empower local communities and institutions to take ownership of their own journeys of development. Again, education is key to this journey.

Education is life-changing for individuals and society. This edition reinforces this view and it speaks directly to a wide audience of teachers, professors, educational leaders, policymakers, and development workers, pressing upon them an urgent need to work together in collaborative ways towards the building of educational systems that are equitable, inclusive, and sustainable. The most effective changes in learning occur when students, teachers, leaders, and the community work toward towards a shared vision. This shared vision creates a sense of shared responsibility that is key to development.

Finally, the digital era opens up new opportunities for educational development in developing countries. Technology can be a powerful tool, provided that it is used with sound pedagogical strategies and a human-centered educational design. High quality education is not only necessary for the development of developing nations but also to the future success of our world.

Regards

Dr Patrick Blessinger
President, HETL

Message from the Editor of HETL *Frontiers*

Dear HETL members and global education community,

I am pleased to announce the release of the latest edition of HETL Frontiers, which is now in its fourth edition. This magazine endeavors to thoroughly examine emerging trends in higher education development, innovation, sustainability, and the future of education. It encompasses the core functions of higher education, including teaching, research, and service. Esteemed educational leaders and scholars from around the globe have contributed to this edition, including various HETL Country Directors (https://www.hetl.org/country-delegates).

This edition specifically emphasizes innovative strategies in education that are transforming developing countries.

I would like to take this opportunity to express my profound gratitude to Patrick Blessinger for his unwavering leadership and commitment to ensuring that HETL offers valuable insights into numerous aspects of higher education. His initiative has created a platform for colleagues to disseminate their work across various channels. Additionally, I extend my appreciation to the HETL Publicity and Promotions Committee—comprising Sameera Saeed, Taisir Subhi Yamin, Rakel Kavena Shaleyefu, and Mojca Kukanja Gabrijelčič—for their diligence in facilitating the publication of this edition as well as Hari Kamali who assisted with the peer-reviewing.

HETL Frontiers is published biannually, and a call for submissions for the upcoming edition will be disseminated through HETL's communication channels. I trust that you will find this edition as engaging and insightful as we did in its compilation.

We eagerly anticipate your contributions to future editions.

Warm regards

Martina Jordaan

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1. Lifelong Learning: Unlocking Potentials for All

by **Asst. Prof. Dr Sameerah Saeed,** Quality Assurance and Accreditation Office, Ministry of Higher Education and Scientific Research, Kurdistan Region, Iraq, English Language Teaching Department, **Tishk International University**, Erbil, Iraq

Transforming developing countries requires much more than financial support or modern technologies and digital tools. By engaging in lifelong learning, individuals can enhance their knowledge, and personal and professional skills, cultivate critical thinking and innovative problem-solving skills, and more importantly adapt to the changing environment. With higher education institutions promoting lifelong learning practices among the academic community, creating a culture that values and supports ongoing education and drives societal progress and economic development in a continually evolving globe will be more feasible and easier (Yazici & Ayas, 2015; Atchoarena & Hite, 2001). This article emphasizes the necessity of cultivating a culture of lifelong learning in the academic community in developing countries.

Definitions and Importance

Continuous development of knowledge and skills is what underpins the concept of lifelong learning. This continuous development is meant to occur not just during formal education but afterwards. The purpose of lifelong learning is to encourage personal and social development preparing individuals for modern life challenges. In the context of higher education, lifelong learning makes an essential part that should be integrated into the educational systems. It actually should be woven into the fabric of its curriculum, and how an institution operates and prepares its students. The importance of lifelong learning has been stressed by numerous national and international bodies and is increasingly required for the workforce of the future.

Developing Countries

Developing countries are facing several challenges, which are not limited to poverty, illiteracy, internal conflicts, and limited resources. Developing countries are still in the process of achieving economic growth and stability. These countries are at the forefront of dealing with global challenges such as climate change, the scarcity of resources, and the increasing number of people suffering from poverty and hunger. Institutions in developing countries encounter various pressures that threaten their effectiveness and survival. "Such pressures include globalization, a weak or non-existent infrastructure, limited resources, increasing unemployment, the HIV/AIDS pandemic, famine, a "brain drain," and civil conflict including regional and civil wars" (Palepu, 2001, 765).

One of the major challenges faced by developing countries is providing access to education to all citizens. In many developing countries, the education system is not inclusive and is not able to provide equal access to education to all citizens. The problem is not only related to the availability of educational facilities but also to the quality of education and the affordability of educational facilities. These challenging issues can hinder developing countries' institutions from effectively fostering lifelong learning.

How to Cultivate a Culture of Lifelong Learning in Developing Countries

The world is witnessing rapid global changes that require Higher Education Institutions in developing countries to keep pace with these changes and respond to them. Faculty and staff are responsible of this. They can make a difference through developing a culture of lifelong learning and self-development in their institutions. A set of effective strategies, measures and practices can be adopted to enable staff and students to become lifelong learners and to prepare them for the changing job market and its challenges. Possible strategies recommended for HEIs in developing countries may include: (a) building a culture of lifelong learning at the faculty and staff levels; (b) raising awareness of the need of lifelong learning practices among faculty and staff; (c)updating staff and students on the current needs and trends of the job market; (d) providing continuous professional development opportunities for staff and students to develop their skills and competencies; (e) integrating industry practices and requirements into the curriculum; (f) encouraging the use of modern technology in the process of teaching and learning; (g) creating effective learning environments that promote critical, creative and innovative thinking; (h) designing a monitoring and evaluation system that assesses the effectiveness of learning activities. Implementing all or some of these strategies may be challenging. Conducting an initial assessment of the educational system may be needed to identify the existing strengths, available resources and weaknesses and act accordingly. Planning and implementing a strategy for lifelong learning in HEIs can be challenging but it is worth the effort.

To succeed in implementing lifelong learning practices, HEIs in developing countries need to shift from focusing on their own institutional central activities to focusing on community-based activities. Additionally, they need to embrace a more flexible and accessible delivery system that supports sustainable lifelong learning. One effective way to achieve these is to enrich the curriculum with a wide variety of courses that focus on adult learning and skills development.

To sum up, HEIs in developing countries need to foster a culture of lifelong learning in their education system as part of their efforts to prepare students for the future workplace. This is an essential part of their efforts to improve the quality of education and achieve their educational objectives and values. Equipping students with the needed knowledge and skills, transforming into flexible and inclusive learning institutions, increasing the use of technology in education, embracing various teaching and learning approaches, and providing opportunities for continuous learning are critical elements that HEIs in developing countries need to consider for an effective transition.

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2. 'Study in India'-India as Destination for International Higher Education: Understanding Different Dynamics of Emerging Scenario

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Abstract

India is fast emerging as one of the preferred international destinations for higher education among developing nations. The recent reports published by many government agencies, such as the University Grants Commission (UGC), and the Association of Indian Universities (AIU) have revealed this growing phenomenon with substantial statistics. However, India still needs to go far away to utilize her huge potential to attract many more foreign students to enroll in her universities and institutions of higher learning. Examples of Asian competitors such as Malaysia, UAE, Thailand, China, Singapore etc., those have fast emerged as preferred higher education destinations regionally and globally can be the waking up call for India. All these countries have much smaller system than India and can offer far less number of courses on their soil, though many of them have surpassed India in attracting foreign students to their universities. Since 1970s, the Government of India has taken specific initiatives to attract foreign students on Indian soil, though such efforts were restricted to cultural relations to a great extent. However, with the growing challenges from competitors and the emergence of education as a major economic and political influencing factor, subsequent Indian governments have applied business policies and strategies to attract more and more foreign students. The present article has attempted to explain the evolution of government policies addressing different issues to attract foreign nationals to study in India over the period. The very recent 'Study in India' campaign can be the game changer in this regard and only the future will be able to answer it. A small survey has also conducted on 45 students enrolled with three private universities in Bangalore. The survey has clearly indicated that Indian higher education programmes are very much accepted internationally and perceived as superior to many other countries, though she has not been able to attract vast numbers of foreign students from developed countries and that should be taken as a major challenge with immediate effect. The entire study will attempt to introspect the different dynamics of emerging scenarios and will prepare the recommendations accordingly.

Introduction

India has an outflow of $16 billion as about 2.5 hundred thousand Indian students leave for foreign shores to pursue higher education almost every year. At the same time, Indian universities and colleges attract just 49,000 international students, as against the US with nearly 12 hundred thousand students, UK with five lakh and China with about four lakhs. Even France and Australia attract about three hundred thousand foreign students each year (Hindustan Times, 2018). This not only drains valuable foreign currency from India, but India also loses many bright talents from her own soil. A study by Ramalingam (2017), has shown that since,

2000-2010, almost 2.6 million Indian students have left for foreign countries in search of higher education and almost 37% of them have decided not to return to India. The study has further shown that this might have positioned Indians as one of the brightest and best in the international professional scenario, but has also downgraded the image of India as a relatively inferior destination for living and higher education. This trend has definitely effected the image of India globally, when our nation is seriously striving to become one of the most powerful and influential countries in the world, in political, economic and social terms.

Another recent study has further shown that growing number of foreign students even from our neighboring countries such as Bangladesh, Sri Lanka, Nepal, Bhutan etc. are preferring to choose countries like Malaysia, Thailand etc. rather than coming to India and the same study has shown that lack of international acceptance of Indian qualifications and lack of understanding of huge and robust Indian higher education system has been responsible for this tendency (Singh and Hamid, 2016). Even the countries from Africa and Asia, from where majority of the foreign students are landing in India, such as Nigeria, Ethiopia, Kenya, Cameroon, Trinidad and Tobago, Ghana, Sri Lanka etc. are slowly shifting their choices to the other emerging destinations for higher education (Hamid, 2016). Based on this unpleasant situation, few fundamental questions should be immediately addressed. For example, what are the major impediments of India's rise as a preferred global destination for higher education, and what can make India as preferred destination for many higher education programmes not only from relatively backward countries from Africa and Asia, but also from other developing and developed economies of middle east, Europe, East Asia and even from Americas.

Trends of Inflow of International Students in Indian Universities and Institutions of Higher Learning - an Overview

It has been found from the databases provided by the AIU and the UGC, that the Indian universities and colleges or institutions of higher learning started admitting students from almost 90 countries as early as 1988-89. Since then, this number of countries sending students to India kept increasing. A study by Ramanujan (2020) based on the data provided by the Indian higher education regulatory bodies has shown that the students kept coming not only from the developing and underdeveloped nations, but also from the advanced and developed nations such as USA, UK, Canada, Australia, countries of the European Union and Japan. During 1990s, the number of foreign students joining the Indian universities and institutions of higher education increased steadily. However, this trend got stagnated till the first half of 2000 (till 2002). Incidentally, this number started increasing again and during the year 2007-2008, the number reached highest level till then at 21206 (NUEPA occasional paper, 2010).

The inflow of the foreign students however kept increasing and by 2016-2017, the number got doubled at more than 40000. While analyzing the report published by NUEPA (2016), a clear distribution of the students joining Indian universities and higher institutional institutions could be understood. The report clearly shows that since 2005-2006 onwards, the share of foreign students from Asian countries in Indian universities and institutions of higher learning has remained highest. The report further highlighted that the absolute number of inflow of foreign students from Africa though increased, yet their share in total foreign students in India reduced since 1993-94 period. However, since 2009-2010 onwards, this trend has found to be reversed and again the African students' share started increasing. The other countries from Asia and Africa, from where large number of students enrolled with Indian universities and institutions of higher learning during 2000-2009 are China, Japan, South Korea, Jordan, Kuwait, Bahrain, Yemen, Iran, Iraq, Afghanistan, Sri Lanka, Bangladesh, Ethiopia, Kenya, Tanzania, Mauritius, Maldives, Myanmar, Thailand etc.

According to Singh and Hamid (2020), the student enrollment from European countries and America (including Canada and USA) has stagnated since 2010-2020. A typical tendency has however been identified by the Open Doors 2008 reports. The report has shown that though the enrollment of American, Canadian

and European students has not seen any reasonable growth from 2000-2010, yet a significant number of students from those countries have joined Indian universities and higher educational institutions to study non-traditional programmes such as Yoga, Ayurveda, Indian Classical Music and Dance, Indology etc. The recent report by the AIU (2016), has also indicated that out of the top ten countries that contributed maximum number of students to India, four are low-income countries (such as Nepal, Ethiopia, Afghanistan, Kenya0, two are lower middle-income countries (Iran, Sri Lanka) and five are from high-income countries (such as UAE, Saudi Arabia, Bahrain and Oman).

However, the students from the majority of the high-income countries mentioned are NRI children. The report published by AIU (2016) has found several premier Indian universities and institutions of higher learning as the major places of study of foreign students. The same report has further shown that majority of the foreign students enrollment in Indian universities and institutions in disciplines like humanities and arts, followed by Science, Communication and Management and Commerce, Engineering and Technology and medical sciences, etc. In their research, Snehi and Wizarat (2012) have shown that most foreign students in India have enrolled with undergraduate programs, followed by the students from post-graduate and doctoral students. The same study has further revealed that few important reasons, are responsible for selecting India as the destination of higher learning such as quality of higher education, international recognition of Indian degrees, lack of opportunities of higher education in the home countries of the foreign students, relatively lower cost of higher education in India etc. Major obstacles faced by the students as identified by the same research have been found as the absence of adequate student support services at the Indian universities or institutions of higher learning, insufficient scholarship facilities, language barrier, many times lack of faculty support at government institutions, lack of boarding facilities, stringent and complicated banking system etc.

Government and Policy Support- a Brief Overview

On April 28, 2018 a significant policy prerogative was unfolded by the Government of India. It was declared at a mega event at New Delhi and was attended by the Union minister for external affairs, Sushma Swaraj, minister of state for HRD, Satyapal Singh and diplomats from 30 countries, based in New Delhi. Two major declarations were made in this conference and these could be a paradigm shift in the horizon of Indian higher education scenario, if delivered the result , even close to the goals set. It was clearly said that the Government of India set the target to enroll almost 200000 international students by 2023 and for that purpose, a total number of 160 premier universities and institutions (including IITs and IIMs) were identified. The new policy further clarified the government plan of keeping 15000 seats initially for foreign student enrollments and out of these 55% remained completely with heavily discounted seats. To attract meritorious students from foreign countries, the government also declared its plan to offer a complete fee waiver to top 25% of students, followed by 50% fee waiver to the next 25% and 25% fee waiver to next 25% students. This clearly shows the sincerity of the government to initiate a major policy, also named 'Study in India' with immediate effect. The initiative can be found like the admission exercises conducted by the respective governments of Australia, Malaysia, Singapore and Canada. This recent development of aggressive proactiveness can however be considered as a culmination of a long tail of policy initiatives by the government of India to attract the foreign students to enroll with Indian universities and the institutions of higher learning (Hindustan Times, 2018). In 2019, UGC has also come up with a plan to formulate reformative policies to allow premier foreign universities to set up their campuses in India. The purpose was to attract foreign students to India as well as providing the local students opportunities to experience global education.

A small survey has been conducted as part of the present article. A total number of 42 students from five different countries, presently enrolled with three private universities at Bangalore have been surveyed through a structured questionnaire, exclusively designed for the present research. The questionnaire has been made by incorporating six major factors such as quality of higher education, international acceptance

or recognition of Indian qualifications, the superiority of Indian degrees over the degrees offered in the home countries, cost factor, diverse cultural exchange, and uniqueness of the specific programs for selection of India as their preferred academic destination. The students surveyed in the research are enrolled with the programs like *engineering, business management, humanities (economics and sociology), India centric courses (Yoga, Indian classical music etc.), medicine and biological sciences.* Feedback received through questionnaire have been analyzed based on specific questions asked in the questionnaire. The study has shown that the positive perception and credibility of Indian degrees/diplomas still are two major factors that attract foreign nationals to study in India.

Cost is also a factor, but in the present study, it has not emerged as a major factor as many respondents have disagreed on the observation that they opted India for cost-benefit purposes. Since 2020, improved ranking of programmes offered by Indian universities in international ranking and benchmarking such as QS ranking, Times B-School ranking etc. have also significantly contributed in this regard.

Findings and Conclusion

The above discussions have clearly revealed the trends, patterns, pros and cons of foreign students enrollment in the Indian universities and institutions of higher learning. Moreover, by analyzing the policies and strategies adopted by many of the leading foreign destinations of higher learning, it can be understood that the number of foreign students in India cannot be increased only by basic amenities or facilities improvement, but also by improving international standings of the Indian degrees or diplomas in global market. There have been many policy attempts before by the central government to attract more foreign students in India, but none of them have yield beyond small improvements. Time will answer, whether the present 'Study in India' campaign will be a real game changer or will remain a short-term boost as before. Based on the detailed studies conducted by many scholars, including Snehi and Wizarat (2022), following areas of interventions have been identified, that can provide support to improve the situation drastically. These are continuous up-date of policy and strategy, best possible branding campaigns, international student support and collaboration, implementing reaching out globally, infrastructure development, international benchmarking of the Indian programs and curriculum, faculty benchmarking etc. As India has immense potential to market its educational programme abroad, internationalization of higher education in the country in will and spirit at all stakeholder level needs to be implemented with systematic and urgent attention. India can use the cultural soft power to attract many more Indian-origin people with foreign nationalities as China has been successfully doing since last two decades (Ling and Edward, 2020). The overall possibilities are immense and can yield most desirable outcomes through well-coordinated, aggressive and strategically supported initiatives.

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3. Leveraging Technology to Expand Access to Education at All Levels in Africa

What higher education institutions can do to help implement innovative strategies in educational development in developing countries

by **Dr Tendai Douglas Svotwa,** Greenwich Business School, **University of Greenwich**, United Kingdom

Introduction

Africa grapples with a myriad of challenges including hunger, poverty, climate change and inequalities in accessing education at all levels in the education system. Yet, there have been calls as espoused by the United Nations Sustainable Development Goals (UNSDG), especially goal 9, target 9.c to increase the access of Information and Communication Technology (ICT), and usage of the internet to the least developed countries by 2020 (Dzator et al., 2023). Educational institutions across Africa have a responsibility to implement innovative strategies that enhance the development of education, in meeting the sustainable development goal (SDG) identified above, which is also inextricably interwoven with other SDGs such as number 1 (No

poverty), and number 4 (Quality Education). The education system should produce graduates who are informed to make meaningful choices and contributions to various economies on the African continent. Technology can be employed as an enabler of quality education, ultimately enhancing the access of education to everyone in the education sector. On the contrary, most African countries still experience multiple challenges related to the access of the internet, which obviate the realization of education for all. However, despite these challenges, the responsibility of providing equal access to education for every child/student squarely lies with the respective government ministries of education in different African countries. Education is indeed a basic human right that should be accorded to every individual across the globe, regardless of colour, creed, religion and ethnicity.

Leveraging Technology

The employment of technology in higher education institutions (HEIs) can greatly contribute to the enhancement of the educational levels of African students. Digital technologies can be used to capacitate learning in classrooms so that the education sector keeps abreast of the global trends. Previous studies have not produced conclusive results regarding the correlation between the use of technology in education and economic growth. Some studies have found positive outcomes of leveraging technology while others have produced mixed results. Undisputably, technology can be used in universities to capacitate students possess soft skills in technology since the world is now gravitating towards the use of artificial intelligence and robotics, powered by robust information technologies. Resultantly, this prepares students to be very competitive in the job market in the global sphere. Due to globalization, geographical boundaries are blurred, thus increasing the competitive landscape. Nowadays, it is imperative that students be acquainted with soft skills such as innovation, cognitive, interpersonal and problem-solving skills to effectively compete and perform outstandingly in their job responsibilities.

However, the realization of the outcomes of leveraging technology in HEIs is not a walk in the park as there are numerous hurdles that are encountered along the way. The main impediment in the use of technology is the fact that Africa accounts for a meagre 10 % of the global internet consumption (Oduaran, 2019). This could be a result of numerous factors. Firstly, most African states face energy and electricity challenges to an extent that the power available is not adequate to cater for diverse economic needs hence, some countries face electricity shortages, for example, in Southern African states such as Botswana, Eswatini, Malawi, South Africa and Zimbabwe. In such countries, HEIs are constrained in their quest to avail ICTs to all students. In addition, corruption is endemic on the African continent such that energy is not prioritized, hence leveraging technologies in the education sector is a huge challenge. It is ironic that Africa possesses around 30% of the global mineral holdings, yet the levels of poverty are unbearable to an extent that the use of technology is not fully utilized since there are no funds set aside to meet such critical needs. Furthermore, there are some countries which are facing wars, for example, in the Great Lakes region (the Democratic Republic of Congo), and some rebels from Rwanda; instability in Mozambique's oil-rich region; Libya; Saharawi Arab Democratic Republic; Somalia as well as South Sudan's Darfur region. Governments in these countries are allocating a greater chunk of their budgets to their militaries instead of focusing on education. The cultivation of a peaceful learning environment in such countries becomes problematic. In these situations, the call for education for all becomes a pipe dream for as long as Africa faces a plethora of these challenges.

The leveraging of technology in the education sector requires a huge investment in the acquisition of electronic gadgets that can be used by students in the learning process, such as laptops. Due to budgetary constraints and lack of commitment by African countries to invest in ICTs, the continent lags behind in the use of ICTs which ultimately hampers internet penetration, thus negatively impacting learning **opportunities** of students. Considering that Africa has a youthful population globally, the educational needs of students are ignored and negated. Based on the foregoing, leveraging technology by HEIs in curriculum delevelopment

and delivery is a mammoth task, and where access to technology is acute, that compromises the quality of education offered by the HEIs.

Conclusion

For as long as there is no commitment by African governments in the promulgation of friendly policies that enhance the educational needs of its population through the use of technology as an enabler in HEIs, Agenda 2063 could be wishful thinking. Paradoxically, Africa experiences the most sunny hours throughout the year. This could be easily harnessed into a renewable resource: solar, that could be used to generate electricity, thus capacitating the leveraging of technology in the education sector. The world is now propelled by the use of robust technologies in all spheres, including the education sector. Africa stands to reap positive benefits through economic growth resulting from the utilization of technologies in HEIs, which empower students in knowledge acquisition. The knowledge will be easily transferable to the work environment. To conclude, HEIs can play a pivotal role in the attainment of the UNSDGs, by leveraging technologies when they are fully capacitated by various African governments through funding.

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4. The Use of Technology to Widen Access to English Language Teaching Materials

By **Ms Sue Robbins,** Senior Lecturer, Department of Language Studies, **University of Sussex,** United Kingdom

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Introduction

This case study outlines a strategy to leverage open technology to expand access to education and address the challenges faced by learners of English as an International Language in developing countries. It discusses the creation of an Open Educational Resource with the potential to contribute to remedying structural inequalities in the field of English Language Learning and expand access to education in parts of the world where good quality teaching material frequently remains beyond the reach of learners.

Drawing on the values and ethics of Open Education – an approach that includes the open sharing of teaching practices to improve learning, the use of open technologies and a commitment to digital capacity, and the creation of Open Educational Resources shared under open licence to facilitate collaborative and flexible learning – I developed and published an e-textbook for English language learners earlier this year in a small bid to ensure learners in every part of the world have access to high-quality learning material relevant to their needs.

Leveraging Open Technology

Created on the Pressbooks platform and published by the University of Sussex Open Press, *Develop Your English: with the United Nations Sustainable Development Goals* is an interactive e-textbook with a Creative Commons licence, making it free to access. Based on the ethics of open education and the intersection of books and the web, the Pressbooks platform was created by a small team that build software to support new models for book publishing. It is an intuitive platform on which to create professional educational content, and offers instant, easy access with no sign-ups required. It supports a range of browsers and embeds a range of accessibility features that can promote inclusive and equitable education, and its use makes it easy to share content with learners in parts of the world where access to good quality materials is limited.

Alongside the use of an open-source publishing platform I employed the open-source content creation tool H5P – a community project which aims to make it easier for creators to deliver and publish their content, and one which is supported on the Pressbooks platform. The use of H5P allowed me to add engaging, interactive learning tasks and embed automated feedback, allowing students working autonomously or without a teacher to track their own progress.

Addressing the Digital Divide

While promoting inclusive and equitable education, *Develop Your English* also attempts to address the digital divide and promote digital competencies in learners who may have limited access to the internet and/or to digital learning materials. Providing learners with online or blended options can increase the range of possibilities open to them and the various formats in which *Develop Your English* is available create alternative learning modes which can be tailored to local needs based on available resources.

As well as taking the form of an e-textbook to be used online, *Develop Your English* can be downloaded in EPUB format and used offline, while retaining the interactivity – useful for those with a computer, but with unreliable internet connections. In order to accommodate teachers/learners without access to a stable internet connection or with limited access to an internet-connected device, there is also a parallel print version (PDF) with text-based exercises to replace the interactive ones. The print version can be downloaded for use offline and/or printed and used in hard copy (assuming one-time access to a printer). The accompanying audio for the listening exercises can also be downloaded. Making the book available in a range of formats is designed to ensure that everyone can use some version of the book.

Fostering Global Citizenship

Emerging trends in the field of English Language Teaching in Higher Education include an appreciation of ways that the language learning/teaching process provides scope to foster global citizenship. The Education for Sustainable Development approach that underpins *Develop Your English* involves 'integrating a global perspective into the design of teaching materials through a focus on global issues and international themes as well as concepts such as social responsibility, international understanding, and world citizenship' (Cates,

2022, p.1).

The material in *Develop Your English* presents learners with topics and perspectives not commonly found in commercial English Language Teaching materials, focusing on the teaching & learning of sustainable development issues and principles, especially those articulated in the Sustainable Development Goals (SDGs), to create citizens who are equipped with knowledge and skills to promote a healthier environment and survive in a global age. The use of the SDGs as an organizing principle extends knowledge of 21st-century issues and invites learners to reflect on them in their own context and consider those of others.

Communities in the developing world are under-represented in English Language Teaching materials. *Develop Your English* frames topics in ways that encourage a sense of global citizenship and highlight the positive endeavours of those in developing countries. Pre-publication I engaged sixteen University of Sussex international students to review the book, many of whom provided feedback on this aspect of the materials: 'The units represent a diverse range of groups and geographical areas. This inclusivity adds a valuable dimension to the learning experience, offering exposure to a variety of perspectives. It differs from my previous English language learning materials, providing a richer and more globalized context. I really enjoyed how the whole world was represented through the stories, as well as how different accents were used in the podcasts.

Conclusion

Open Educational Practices foreground respect, equality, diversity and inclusion and a commitment to digital capacity, while open publishing gives authors the opportunity to have meaningful impact on knowledge equity and ensure their work can speak to communities across the globe. The publication of *Develop Your English: with the United Nations Sustainable Development Goals* has allowed me to go some way towards addressing equity in a publishing environment where this is rarely a consideration, and by making use of the affordances of open technology I have been able to make a commitment to inclusion and contribute towards remedying structural inequalities in the field of English language learning. These efforts have led to *Develop Your English* being placed as a finalist in the 2024 British Council ELTons Awards in the Excellence in Course Innovation category.

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5. Initiatives for Inclusive Education and Social Responsibility by the University of Nottingham

By **Prof. Dr Chu Shi Wei**, School of Education, Faculty of Arts and Social Sciences, **University of Nottingham**, Malaysia campus

Introduction

The University of Nottingham has campuses in the United Kingdom, Malaysia and China, which strategically positions the higher education institutions to transform developing countries. Inequalities in access to higher education in developing countries have been attributed to contexts related to pre-determined health, social and economic conditions and have resulted in adverse consequences on the social welfare and economy of developing countries (Sánchez and Singh, 2018).

Access to higher education leads to better employment prospects, health and social welfare and economic empowerment (Ilie and Rose, 2016). The number of students with disabilities enrolled in higher education is miniscule compared to the overall enrolment of students in Malaysian Higher Education (Yusmarhaini Yusof et al., 2020). This article aims to provide a mini case study of the University of Nottingham's educational strategies in transforming developing countries through inclusive and equitable quality education and fostering community involvement and social responsibility.

Promoting Inclusive and Equitable Education

The University of Nottingham promotes inclusive and equitable higher education through the admission of students with disabilities and by providing support and accommodation in line with Sustainable Development Goal 4 (Heleta and Toheira, 2021). As part of the university's commitment to students with specific learning differences such as Dyslexia, Attention Deficit Hyperactivity Disorder and Asperger's Syndrome, physical, hearing or visual impairments and long-term medical or mental health conditions, the university "*Provides design assessments that test learning outcomes and are fair, reliable, accessible, authentic and inclusive. Where applicable, and sustainable, students are offered different options for undertaking assessments to promote accessibility and inclusion*" (UK Quality Code for Higher Education, 2024). Inclusive and equitable education is promoted through guidelines, regulations, policies and legislation such as The Disability Discrimination Act 1995, UK, which protects the rights of persons with disabilities.

The University of Nottingham has accessible infrastructure for equitable access to higher education. The design of the university includes accessible lifts, ramps and adjustable tables in specific classrooms for students to access the university's teaching and learning facilities. The Wellbeing and Learning Support Centre which provides Disability Advisory Services, Mental Health Advisory Services and Learning Support provides

services to promote inclusive and equitable education. Each School in the university has a Disability Liaison Office (DLO), which serves as the go-between schools and the Wellbeing and Learning Support Centre to ensure seamless access to services. Physical infrastructure and support services promote inclusive and equitable education.

Programmes for Inclusive Education

Secondly, inclusive and equitable education is also promoted through the education programmes at the University of Nottingham. Curriculum development, which aims to equip teachers for inclusive education, promotes inclusive and equitable education in developing countries. In China, the shortage of teachers trained in inclusive teaching methodologies has led to a disconnect between student needs and instructional delivery (Ji, 2024). Similarly, one of the identified factors that hinder inclusive education in Malaysia is not equipped with sufficient knowledge and appropriate training on special and inclusive education (Noor Hasriza binti Abu Bakar and Mohd Norazmi Nordin, 2024).

Therefore, the education programmes at the University of Nottingham inculcate pedagogical knowledge to equip teachers to teach in inclusive settings. In Malaysia, students are equipped with skills and knowledge of inclusive education through the courses learnt in the Bachelor of Education (TESOL) programme. For instance, the principles of differentiated instruction and Universal Design for Learning (UDL) are taught in the MA Special and Inclusive Education and BEd TESOL programme at UNM. The Education BA at UNUK also aims to develop students' understanding of what inclusion, equality, rights, and justice mean for education, as well as how ideas on inclusion are used in theory, policy and practice. Modules taught in the BA Education programme such as 'Big Ideas in Education: Inclusion, Equalities, Rights and Justice' is to achieve this aim.

Fostering Community Engagement and Social Responsibility

Initiatives by the University of Nottingham for transforming education in developing countries include providing funding for projects which foster community engagement and social responsibility. For example, the University of Nottingham has established the MAD (Make A Difference) Money Fund which provides funding for student-led projects to enable students to make a difference through outreach and community activities in Malaysia. The fund was established to provide financial support for students to initiate projects that have a positive impact on the well-being of others locally, regionally and globally. These projects can be academic, pastoral or extracurricular.

One such initiative is building a greenhouse at a local vernacular school. Students from the School of Education were awarded the MAD money fund. These community outreach projects involve collaboration between students, staff and the community. The University of Nottingham collaborated with the local schools, such as the Tamil Vernacular School, and the local communities, including indigenous communities. The students purchased items to build the greenhouse and planted flowers and vegetables for the Tamil Vernacular School children to explore the growth of plants in a greenhouse. Other initiatives include refurbishment of a library for an indigenous community. The library was repainted and restocked with children's books for children in the indigenous community. The university funding supports students in engaging with the community and builds a sense of social responsibility.

As part of the initiatives for social responsibility, The University of Nottingham has formed a collaboration with OER Africa and The UK National Commission for UNESCO (ISWG) to source open resources produced by UK HEI for use in African education projects. Open resources provided under the Creative Commons License grant access to educational materials at no cost to communities in developing countries. This increases learning opportunities for individuals who are unable to pursue formal qualifications and adds to the

availability of re-useable learning materials such as lecture slides and assessment methodologies for learners and educators worldwide to support curriculum development. Materials can be adapted for local communities in developing countries, and open educational resources support capacity building of education systems in developing countries.

Conclusion

Promoting inclusive and equitable education entails establishing wellbeing and learning support services for students and designing education programmes which develop an understanding of inclusion. Funding for students to carry out community projects creates engagement with the local communities and instils a sense of social responsibility among staff and students. Higher education institutions have the capacity to transform developing countries through student admissions, curriculum development, open resources and funding for community projects.

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6. Innovative Courses Aligned with SDGs in Management Institutions: Challenges and Opportunities

By **Prof. Dr Damini Saini**, **Indian Institute of Management Raipur,** India

Introduction

To facilitate learning, Sintapanon (2009) emphasized the critical importance of fostering innovation in education. In today's volatile, uncertain, complex, and ambiguous (VUCA) world characterized by rapid advancements in information and communication technology, educational innovation must evolve to address these changes and effectively tackle educational challenges (Whattananarong, 2011). It becomes much more apparent when we live in an era where students are highly immersed in technology. On the other hand, we are concerned about climate challenges and sustainability. Moreover, we are trying to attain seventeen sustainable development goals (SDGs) by the United Nations in various ways.

Premier institutions in India, like the Indian Institute of Management Raipur (IIM) and Indian Institutes of Technology (IIT) are prominent in achieving educational goals in developing countries as the professors are given much liberty in creating their courses to make these courses quickly submerged in the students' minds. The instructors are doing a lot of experiments and tests in their courses as well as their teaching methodologies. This includes flipped classrooms, inquiry-based learning, gamification, brainstorming peer teaching, etc. However, one method only works in different courses, as it should be aligned with the objectives and purpose of the course. To cope with this problem, the instructor tries to adopt an approach that fits the best, but this approach often comes with various challenges. This article focuses on the challenges and opportunities associated with these courses, which were identified by talking to professors floating unique courses in business institutions.

While trying to understand this a professor, who is teaching a course based on climate awareness, aligned with SDG 12 and 13, responsible consumption and production, and climate action, respectively. The course allows the instructor to impart unusual but important knowledge to students. Moreover, they develop means and ways to protect the environment by exchanging ideas, sharing recent happenings in the field and class discussions about implementing them into business. According to the instructor, the major challenge is that they usually know about these things. However, with the help of relevant examples, the students are enlightened about climate change, soil fertility degradation and its impact.

Most importantly, some of the students feel the need to help the earth. He further adds that making students aware of planetary health makes them aww. Therefore, to engage them, the instructor must be in touch with the most recent happenings around us, for example, the cyclone in Odissa (an Indian state) and its impact on

the state's economy.

Another course which is having a psychological bent, developed with the idea of creating a worthy life, aligned with SDG 3, good health and well-being. It consists of multiple positive psychological perspectives and concepts. In this kind of subject, the professor has a considerable opportunity to reflect deeply on the participants' experiences and find solutions. The entire course focuses more on strengths and the positive side of life than the weaknesses. It makes students understand various psychological concepts and theories and allows them to implement them in their lives and share their experiences. Though the professor already uses various games, experiential exercises, and reflections in the classes, but not having a dedicated book and cases on the subject becomes challenging for many students. In developing countries, writing books is still a herculean task, and professors are already occupied with multiple responsibilities apart from teaching, which is a challenge here. Another big challenge is that many people need clarity about their authentic selves while polling and surveys, which can direct the output in a different direction. In general, people are smart enough to choose the option that can mould the whole survey in a positive manner.

One of the most popular courses in the institute focuses on sustainability, a topic widely discussed on all levels. These courses emphasize the integration of society and the environment during strategic decisions and aligned towards the social impact on business. These courses' main objective is to increase social awareness among future managers. These are designed to ignite their social thinking and push them beyond their boundaries, such as rural immersion.

There is a huge opportunity to go out of the classroom and have hands-on experience to understand society on the ground level. For this type of courses, they collaborate with the biggest companies in India; they go for rural immersion, where the visiting faculties working with ground issues train the students. There is experiential learning and reflection after the field visits to deepen the understanding. Proper planning is required to avoid class conflicts and academic events. Securing administrative support, a proper budget and sufficient resources are also crucial, as well as coordination with local administrative bodies like the police to ensure the safety and security of students. Furthermore, students need to be prepared for the conditions in the village, such as the nonavailability of proper lavatories and comfortable sleeping arrangements.

Conclusion

The author identifies three major opportunities for the opportunities associated with innovative courses launched. Firstly, the course itself is an opportunity as the instructor is intrinsically motivated to spread the knowledge. Secondly, the profound sense of purpose that comes from contributing towards a significant cause, e.g. SDGs, and most importantly these courses open the avenue to use new teaching methodologies. The major challenges came across most of the innovative courses are given below:

1. Creating a WHY, which can be felt on both sides.
2. Crunch of reading material and cases specially designed for the courses.
3. Seeking support from the institution and administration in case of rural and field visits.
4. Proper planning of the course which includes the visit, etc.
5. Hazy understanding of the authentic self in psychological subjects.

In conclusion, the author believes that addressing the challenges with careful planning, institutional support and a clear sense of purpose can lead to successful and impactful innovative courses.

Confirmation: I confirm that all content is MY original work and does not contain any copyright, intellectual property, or confidentiality infringements.

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7. Implementing Innovative Strategies for Educational Reform in Higher Education- in Developing Countries

By **Prof. Dr Beena Giridharan,** Faculty of Humanities and Health Sciences, **Curtin University Malaysia**

and **Dr Patrick Blessinger,** President of the International **Higher Education Teaching and Learning Association (HETL)**

Introduction

It is prodigiously clear that innovative and transformative strategies are required in higher education, especially in developing countries, to achieve comprehensive educational reform through which scientific success, sustainability, poverty alleviation and equity and inclusion are upheld. In an increasingly fragile world riddled with volatility, uncertainty, complexity, and ambiguity (VUCA) that has been exacerbated by the pandemic and severe climate change, we need to adopt a multi-pronged approach to rethink ways in which higher education can continue to achieve the greater good for society.

As technology has seeped into every facet of our lives, and AI and machine learning have integrated into every conceivable system that mankind relies upon, higher education reform should focus on curricula transformation that moves away from content and incorporate technology and knowledge for the better understanding of social values, health and well-being, embracing diversity at its core, and putting sustainability of the planet and people at the forefront, while building independent learning in graduates, to navigate and nurture in an exceedingly super-complex world. This article will focus on the role of higher education in fostering readiness and skills for the future in developing countries for a better world for all.

Higher Education Challenges

It is evident that Higher education (HE) contributes to the economic development of countries that are both developed and developing, leading to better standards of living. However, the challenges faced in HE in developed countries could be quite dissimilar to those confronting developing nations, although there has been tremendous overall growth in higher education globally. Student mobility is still distinctly in favour of developed nations, such as the United States, Canada, Australia and the UK, to mention a few top student destinations, and with lower participation of diversified student bodies in HE in developing countries, and lower access to technology development, capacity development is quite diminished. An analytical examination of the strategies, methodologies, and practices of higher education internationalization over the past decades, and the readiness of higher education to operate in a complex world, discloses a pattern largely controlled by experts and scholars from more economically advanced nations.

Education is a key driving force of the 2030 Agenda with Higher Education Institutions (HEIs), including universities and colleges worldwide, expected to develop future professionals, active researchers engaged with community creating solutions for local and global challenges, to advance the Sustainable Development Goals (The Role of Higher Education Institutions in the Transformation of Future- Fit Education, 2022). Some of the Sustainable Development Goals (SDGs); *quality education* (SDG no-4) and *reduced inequalities* (SDG-10), are directly linked to some of the challenges facing the higher education sector, which are inequalities in access to HE, lower funding in HE, and disparity between access to information and communication tools in developing nations leading to lower socio-demographic sections of populations having little or no access to educational tools.

Strategies to Advance Higher Education in Developing Countries

Advancing higher education in developing countries involves a multifaceted approach. Governments and private entities need to invest more in higher education to improve infrastructure, provide scholarships, and support research initiatives. Zhang & Cao (2024) argues that the internationalization of higher education is deeply rooted in social, political, economic, and cultural contexts. There is a general concurrence that investing in higher education constructively influences economic development and drives innovation; conversely, this investment also has a wide-ranging impact across other sectors important to social development and equity (Peercy & Svenson, 2017). Internationalisation of higher education had led to the intense adoption of international projects, expansion of international offshore campuses across borders, the establishment of cross-national partnerships, and the burgeoning mobility of scholars and educators, accentuating the dynamism in the sector (Moshtari & Safarpour, 2024). Altbach (2002) exemplifies internationalization as the adoption of explicit strategies and innovative engagements directed toward bringing in line, countries and educational institutions with global trends, which include attracting international students, collaborating with universities, and establishing overseas academic branches.

In order to reduce the inequities in higher education globally, governments should also implement policies that encourage institutional autonomy, academic freedom and better access to higher education in developing countries. Additionally, leveraging technology through the adoption of online learning platforms and digital resources facilitate access to education. HE institutions should adopt quality learning and teaching approaches that are relevant and applicable in future contexts. By adopting well-defined strategies, developing countries can create a more robust and inclusive higher education system that supports national and global development goals.

Conclusion

Over the past two decades, the combined practises of internationalization and institutionalization have been influential in shaping the framework of a global higher education system, with national and societal development as its foundation. Comprehensive educational reform requires close collaborations of governments, industry, academia and technology driven educational approaches encouraging wider access to quality education.

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8. The Importance of Community Expectations in Community and Societal Development

By **Prof. Dr Michael Miller,** Dean, College of Education, Professor, Higher and Adult Education, **University of Memphis**, USA

Globally, there are concerns about the state and ability of people to come together and care for the welfare of others. Despite populist movements that seem to condemn different groups of people, such the anti-immigrant movements, there continues to be a global interest in helping people through philanthropic work. These movements are at times at odds with each other and reflect differences in the global population's behavior. On the one hand, people work hard to help each other, and on the other, they work to restrict their behaviors and freedoms.

Historically, an important part of the population's ability to exist and evolve has been the interaction among people, sharing similar values and ideas about what society means and what should be common across a population's beliefs. This concept suggests that there are similarities of being as well as similarities of practice, and these are often evidenced in the creation of community.

Communities are complex organizations. Whether from the larger perspective of an entire city, town, or village, or at the micro level of a neighborhood, subdivision, or even an apartment building, the idea of community has many elements that give it a value or life of its own. But, as technology has become increasingly common, there are serious concerns about the welfare of our communities and how they hold or bind society together.

The first warnings about technology impacting the community were described in terms of the popularity of television keeping people at home at night instead of engaging with their neighbors and others in civic organizations. Throughout the fast-paced evolution of technology, individuals are increasingly finding their version of community in online worlds. And, with the growing availability of streaming online video, people are drawn into their own worlds with an ability to self-select what they see and hear and with whom they interact, and importantly, what they believe and what they are exposed to as truth.

One of the growing global issues that results from self-selection and isolation is that of different world-views and opinions being restricted and eliminated from an individual's experience. This creation of a silo of beliefs and viewpoints in turn can lead to and reinforce intolerance.

A community development approach grounded in education that has the potential to counter-act this increasing isolation of citizens is through the creation of community expectations. A community, much like a family, has the ability to express unto its members that there are certain expectations of the behaviors of its members, including acceptable actions.

One growing approach to understanding and studying how communities create expectations is the emerging theory of Community Expectancy. This theory embeds multiple agencies that exist and have the ability to influence how an individual grows and matures to become a member of society. Very pronounced in this theory is the role of schools and how they formally and informally place value on different propositions that students experience. The role of teachers, for example, placing expectations for direct entry into the workforce or furthering their education at the postsecondary level can be a part of this. Also, how teachers and administrators interact with students and their families outside of the school can send an important message about the expectations of the students in the future.

Community Expectancy also includes informal interactions including how neighbors and peers place value on different activities, actions, and beliefs. The act of community migration, the process of new neighbors moving into a subdivision from another community or country can impact how a young person views the world. Similarly, neighbors asking questions about going to college or employment can influence how a young person behaves or thinks about themselves. This also includes how community members interact informally in the community and what they choose to talk to a person about, the courtesy they show another person, and even the simple recognition of another person, creating a feeling of welcomeness to others.

The question then becomes whether a community can muster a coordinated effort to create expectations of citizens that share certain values, including tolerance, democratic participation, community engagement, altruism, etc. A prominent place for these types of conversations to occur has to do with the community of adult learners and how formal and informal education interactions build networks of

individuals who can create community expectations.

Adult education providers range from formal bodies such as colleges, universities, secondary schools, churches, and interest groups to informal and sporadic education opportunities that might be sponsored by the local library, clubs, or simply an informal gathering of those with a similar interest to learn about something. Car collectors, for example, often come together informally without a plan or agenda to share advice and stories of repair and renovation, creating micro-communities of shared interests. Sports teams and cultural events can also unite a community around hope for a winning season or appreciation for a natural event, such as the recent eclipse in North America.

Ultimately, educational leaders need to become increasingly aware of their formal and informal actions, recognizing that whether they are school leaders or group discussion facilitators, that young people learn indirectly from their actions and behaviors. When teachers show intolerance for others, simply by their role as a head of a class, young people find validation in those sorts of behaviors. Similarly, if adults in public spaces mock or condemn elitist activities, again, emerging adults can see value and acceptance in such behaviors.

The recognition that the behaviors and actions of adults have an impact on the development of the next generation of societal leaders means that societal norms of intolerance may be institutionalized in society. The result is not only a growing perpetuation of ideology, but the creation of a generation that behaves in a certain way. A cautionary note, however, must be noted in that there is a relativism as to what community norms are appropriate for perpetuation and who gets to create these norms.

Ultimately, a societal evolution is based on the communities that comprise it, and these communities must be increasingly aware of how they transmit normative behaviors to the larger population. A critical actor in this is the formal and informal educational institutions that are generally provided free to the public and as a result, are the clearest and most important avenue for demonstrating and conveying acceptable community values.

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9. Empowering the Periphery: Integrating Outer Space, Arctic, and Antarctic Studies into Higher Education for a More Equitable Future Regarding Developing Countries

by **Prof. Dr Edythe E. Weeks** Professor of Outer Space Development and International Relations at **Webster University Worldwide**

Abstract

This paper proposes a novel approach to empower developing countries through higher education. We argue that integrating studies of space, the Arctic, and the Antarctic into university curricula can equip future leaders with the knowledge and skills to navigate critical issues surrounding these emerging frontiers.

Universities and all educational institutions can act as catalysts for educational development by offering courses focusing on resource distribution, legal frameworks, and sustainability challenges in these regions. This interdisciplinary approach goes beyond traditional STEM education. It fosters critical thinking and prepares students across all disciplines to become informed global citizens and active participants in shaping a more equitable and peaceful future.

This focus aligns with the right to education and the UN's Sustainable Development Goals. By bridging the knowledge gap and fostering inclusivity, we can ensure developing nations have a voice in shaping the future of these regions. The paper explores how this approach can avoid replicating past colonial models and honors the commitments made to developing countries regarding their participation in space exploration and governance. Integrating a critical lens on international cooperation and world peace strengthens the curriculum's transformative potential. Through innovative and interdisciplinary education, universities can empower future generations to build a just, sustainable, and peaceful world for all.

Keywords: global education, space studies, polar studies, critical thinking, international relations

Introduction

The New Frontier of Education - Preparing for a World Beyond Existing Paradigms

The Arctic, Antarctica, and outer space are undergoing a transformation with immense potential for future colonization and development. Outer space colonization and development have been expanding for several decades. In addition, both Polar Regions are experiencing ice melt, which is anticipated to increase access to territories and natural resources. This unfolding drama presents both exciting opportunities and complex challenges for humanity. Unequal access to knowledge about these emerging frontiers could exacerbate existing inequalities. History bears witness to painful past wrongs connected to colonization and development paradigms, and it's crucial we learn from those mistakes.

A Right to a Relevant Education: Future Emergent Paradigms

The United Nations Universal Declaration of Human Rights, Article 26 guarantees everyone's right to education. The future of humanity may extend beyond the known and familiar reaches of Earth, with potential colonization efforts underway in the Arctic, Antarctica, and outer space. These endeavors present exciting possibilities, but also complex challenges. Unequal outcomes and environmental damage have marred past colonization efforts.

The implications of this right in the context of receiving a relevant education must be perceived in light of the articulated plans and unfolding dynamics related to outer space, the Arctic and Antarctica. A relevant education is one that equips individuals with the knowledge, skills, and values necessary to participate fully in society and contribute to sustainable development. This means that education should be tailored to the needs and context of individuals and communities. It should also be relevant to the challenges and opportunities of the 21st century, such as climate change, technological advancements, and globalization.

Global Hierarchies

While a full-scale scramble may not appear to be happening today, the seeds of future competition could be sown if proactive steps aren't taken. The legacy, reflected in the terms "First World," "Second World," and "Third World", may occur again with new winners and new losers. Since we cannot predict who will wind up

on top of the economic and social hierarchy in the unfolding development and colonization paradigms, we all have an equal interest in making sure that equality and economic, environmental and social justice reign supreme in the future.

Throughout history, empires have risen and fallen, leaving behind a trail of magnificent ruins and cautionary tales. This reminds us that even the mightiest empires are not eternal. Higher education institutions can play a crucial role in addressing this challenge by cultivating widespread inclusion and global knowledge within the specialized arenas of space and polar exploration.

Critical Thinking

With basic information we can begin critical thinking during this period of anticipation and preparation before colonization of these regions escalates to completion. More people must be made aware of humanity's venture into a new era of space and polar exploration. The international relations critical theory literature highlights historical instances where similar dynamics triggered wars and fueled colonization across continents.

Since we cannot predict future winners and losers in the unfolding development and social hierarchies, we all have a vested interest in ensuring equality and justice reign supreme – economically, environmentally, and socially. Such an approach can seek to address the root causes of conflict and inequality, rather than simply managing their symptoms. By acknowledging the historical legacies of colonialism, imperialism and development scenarios, we can target achieving the United Nations Sustainable Development Goals and a more equitable and inclusive global order. This approach offers a possible solution for greater understanding and addressing the challenges facing humanity today.

Critical approaches to the study of international relations (IR) provide an interdisciplinary lens to understand these developments. This is because of the potential for opportunity for all, along with the potential for conflict, environmental damage, and unequal power dynamics if these areas are not managed effectively. International relations (IR) and its close companion, diplomacy, might seem like unusual fields of study for understanding space and polar development. After all, these are scientific endeavors, right? Science is certainly crucial. Satellites provide undeniable evidence of melting ice caps. However, science alone can't guarantee peaceful and sustainable development in these new frontiers. This is where IR comes in.

Critical theories in international relations, particularly post-development and postcolonial approaches, offers valuable lessons from past development failures. They highlight past examples where similar dynamics fueled wars and colonization efforts in Africa, North America, and other regions. Learning from these historical missteps, as outlined by critical theorists is crucial to understanding what to say in order to help humanity avoid repeating these patterns - in newly emerging frontiers. We can avoid the negative consequences of past colonization and development practices, by understanding these failures. We can strive for more equitable and sustainable development in the Arctic, Antarctica and outer space. This aligns with critical learning principles, which empower individuals to challenge dominant narratives and work towards a just future.

This Call to Action: Expanding Education for All

This is a call to action for educators and leaders to engage learners in understanding the ongoing dynamics that will shape the future colonization and development of the Arctic, Antarctica, and outer space. These scenarios are already unfolding. Expanding education on these significant issues serves two key purposes: 1)

equality of knowledge and global participation, by teaching more people, we ensure a more equitable distribution of knowledge, enabling broader global participation in shaping this future; and 2) inspiring the next generation, learning about current events in the polar regions and outer space can ignite a passion for exploration fields in a new generation.

Furthermore, incorporating these subjects into curricula allows students across disciplines – from science, technology, engineering and mathematics to the arts, architecture, cultural understanding, biology, sociology, politics, law, filmmaking, and every other subject imaginable – to position themselves at the forefront of these emerging paradigms. Education empowers individuals to tackle the world's problems, as outlined by the international community. Shouldn't higher education foster the development of skill sets crucial for solving future challenges for all people in all nations?

Now is the time for a new approach to education, one that equips future generations with the knowledge and skills necessary to navigate the complexities of colonizing new frontiers. By integrating space, Arctic, and Antarctic studies into the curriculum, universities can empower students to become informed global citizens and responsible leaders. By preparing future generations for the challenges and opportunities of colonizing new frontiers, education can play a vital role in shaping a sustainable and equitable future beyond Earth.

Conclusion

By expanding education on space, Arctic, and Antarctic exploration into their educational systems, developing countries can ensure that their citizens are well-prepared to participate in the future global economy, contribute to sustainable development, and shape a more just and equitable future. Citizens of all nations must have access to the knowledge and skills to participate meaningfully in shaping the future of these regions.

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10. Empowering Education: Harnessing Technology and Use of Artificial Intelligence (AI) for Enhanced Academic Practices

By **Dr. Fareeda Khodabocus**
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Introduction

The rapid rise of Artificial Intelligence (AI) is reshaping industries, transforming public services, and significantly impacting society. AI is now driving innovation, automating processes, enhancing decision-

making, and improving efficiency across a wide range of sectors. It is no longer just a tool for technical fields, it has the potential to revolutionize all fields in finance, healthcare, logistics, transportation, and public administration. Universities play a crucial role in preparing students for the complexities of the modern workforce and it is imperative for them to embed AI literacy, technical proficiency andethical understanding into their educational frameworks to remain relevant and effective. Since the COVID-19 pandemic, the University of Mauritius (UoM) has shifted its teaching and learning to the blended mode and efforts were invested to encourage the university community to embrace increasing use of technology in academic and administrative activities. As AI is rapidly advancing, new challenges are emerging. The University of Mauritius (UoM) aspires to embrace AI-driven advancements by incorporating AI into its curricula, teaching, and research functions sustainably. This article explores how the UoM is strategically aligning with the evolving AI landscape to address the associated challenges. Through a comprehensive approach to AI integration, the institution can foster a learning environment that prepares students for the demands of an increasingly automated and data-driven future.

AI in Teaching and Learning and Ethical AI Education

Currently, the institution is offering two Masters programmes in AI namely in Technology and in Finance. For more than two decades now, it has been offering micro-credentials designed to equip educators with the skills needed to incorporate digital tools in their teaching practices. These ensure teachers can create dynamic and interactive learning environments catering to diverse student learning needs and paces. Lately, micro-credentials have focused on AI, and modules on AI are now being embedded in most curricula. One of the challenges remains to harmonise and encourage the cross-disciplinary use of AI. Depending on the needs, AI Courses cover the fundamentals of AI, machine learning, and data science, together with the societal and ethical implications thus promoting awareness about the misuse. Other platforms like Coursera and edX are being used to offer micro-credentials, standalone modules, or resources tailor-made to customer preferences. Opportunities for forums and debate are being encouraged for academics and students to critically assess the impact of AI in various contexts promoting academic integrity in AI use.

Image created by the author

AI in Research: Enhancing Innovation and Discovery

Leading International institutions have established dedicated AI research labs and centers, fostering innovation and collaboration across disciplines. AI is being used in medical research to analyse large datasets, identify trends in disease progression, and develop predictive models for patient outcomes. This allows researchers to make data-driven decisions that could lead to breakthroughs in treatment and prevention. At the UoM researchers are using AI in information technology and engineering to analyse data, create simulations, and develop new software applications. Globally, universities are investing in AI detection Software to prevent plagiarism. Turnitin is being widely used and the UoM has recently extended its license to detect the extent of use of AI in assignment and research works and regulations have been strengthened for the ethical and responsible use of AI.

Soft Skills Enhancement through AI Education and Collaboration

AI real-world applications and innovation are driven by industry. To ensure that students are equipped with

relevant skills, universities are encouraged to collaborate closely with the private and public sectors. While technical skills are essential, soft skills are equally important. Creativity, problem-solving, and emotional intelligence remain distinct human strengths. As AI tools provide new pathways to analyze and interpret data, critical and problem-solving skills become important. Academics at the UoM have stressed the importance of students being trained to approach problems in multiple ways through problem-based learning, case studies, and collaborative projects that require them to work through complex, real-world challenges. Two scenarios arose during discussions.

One where although academics may be highly knowledgeable and experienced and more focused on broader academic and administrative responsibilities, research students on the other hand can outsmart their supervisors by being more proficient at using modern AI tools and platforms, staying current with new software, programming languages, and methodologies. This gap can foster a dynamic learning environment where students can contribute valuable insights on AI advancements while supervisors provide strategic guidance and theoretical foundations.

The second points to a scenario where students have still not mastered the use and applications of AI. Academics view this as counterintuitive as it fails to help students develop essential skills like logical thinking, effort, and creativity in producing their dissertations. They can provide research work where they struggle to defend the logic and the rationale behind their decisions. Communication therefore becomes a crucial skill as students must be able to explain the AI concepts used, along with their findings, analysis, and recommendations. The university, therefore, encourages viva opportunities for students to practice presenting AI-related topics through assignments, presentations, or group discussions. An impending need to review the assessment methods was raised and highlighting the complexity of this transition, academics recognise that a one-size-fits-all approach will not be effective. Discipline experts are encouraged to collaborate with their professional bodies and networks to leverage the right and just balance in the use and application of AI between the institution, industry, and the economy.

Strategic Approach to Implementation Aligned with ISO/IEC 42001:2023 Standards

Strategically, institutions worldwide are developing policies and guidelines to address their specific AI aims and objectives. The ISO model, especially ISO/IEC 42001:2023, is widely adopted in industries like manufacturing, healthcare, and finance to ensure ethical, transparent, and accountable AI practices. Such standards are approached through documentation, consultancy and training, in a phase-wise manner to help industries mitigate AI-related risks, biases and data breaches thus fostering trust and reliability. For academia, setting up an AI team to look into aligning with these standards requirements can allow Higher Education Institutions like the University of Mauritius to lead in ethical AI application, enhancing research integrity and preparing students with practical, industry-aligned skills. A phased approach – Starting with a foundational policy for ethical AI standards, followed by actionable guidelines for responsible AI usage in assessment and research, including a guideline on how the Turnitin AI detector tool will support academic writing and students' research. Relevant training for faculty and students will reinforce the University's commitment to a responsible AI Culture, benefiting the entire academic community. The documentation for any ISO standards is approved and regularly reviewed to address audit reviews and recommendations and, in this case, to adapt to the rapidly evolving AI landscape, ensuring they remain relevant and effective.

Conclusion

It is essential to understand potential implications. AI can automate repetitive tasks, and be embraced by academics, students, and university administration, however, it cannot replace human skills, emotional intelligence, and adaptability to dealing with complex situations and environments. The UoM finds it crucial

to leverage AI to achieve learning outcomes and ensure that learners are innovative in their respective disciplines in their new workplace and are well-equipped professionally. Research students must be more engaged with the latest technological innovations through hands-on experimentation and exposure to AI tools. This commitment and forward thinking will ensure that graduates are well-equipped to thrive in an AI-driven world ultimately advancing the university's mission to align with global trends in technology.

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11. Innovative Strategies in Educational Development in Developing Countries

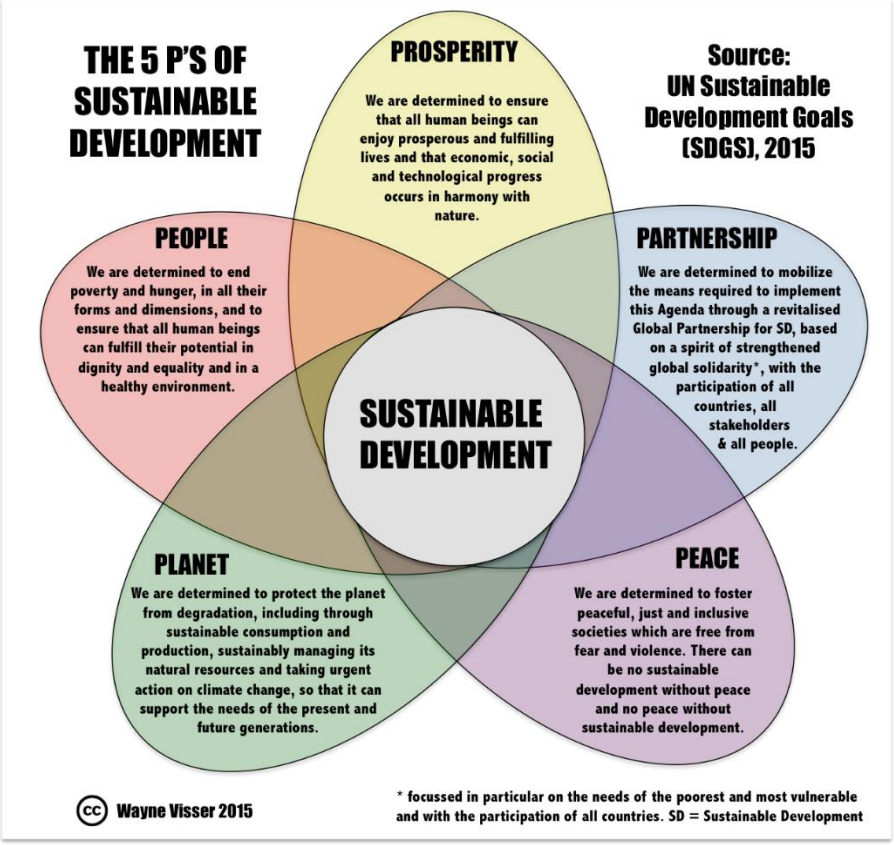
By **Geetanjali Kalsi,** PhD Research Scholar in Education, **Lovely Professional University**, India

Introduction

This article aims to provide an overview of how higher Education Institutions play a pivotal role in fostering innovative strategies that address educational challenges in developing countries. The Brundtland Report (1987) defined sustainable development as "development that meets present needs without compromising the ability of future generations to meet their own needs." Innovative approaches to educational difficulties are crucial in the context of higher education, especially in developing nations, since they promote environmental stewardship and socioeconomic growth. Incorporating Education for Sustainable Development (ESD) into university curricula is one such strategy. Along with raising students' understanding of sustainability, this fosters social responsibility, critical thinking, and problem-solving skills, all of which are in line with the Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda- "Transforming our World".

The creative approaches being used by higher education institutions (HEIs) in developing nations, particularly India, to overcome educational issues are examined in this article. The Brundtland Report (1987) states that "development that meets present needs without compromising the ability of future

generations to meet their own needs" is what is meant by sustainable development. By incorporating Education for Sustainable Development (ESD) into their curricula, HEIs can play a vital role in advancing sustainable practices in this environment. Through the development of skills like critical thinking and problem-solving, which are crucial for sustainability, such projects support the Sustainable Development Goals (SDGs) of the UN, particularly SDG 4 on Quality Education. At Lovely Professional University (LPU), we use ESD principles through multidisciplinary courses, project-based learning, and community participation, assisting students in addressing real-world issues and developing global perspectives. By collaborating with local communities and international partners, our initiatives not only enhance educational quality but also contribute to socio-economic development. Higher education institutions worldwide can adopt similar models, emphasizing contextualized learning and partnerships, to catalyze educational transformation in developing regions. The 5 P's that play a significant role in sustainable development are shown in the figure below.



5 Ps of Sustainable Development, UN Sustainable Development Goals (SDGS), Image from https://www.waynevisser.com/tag/5ps

Three Pillars of Sustainability

Social, economic, and environmental sustainability—are all supported by LPU's strategy. These pillars serve as the cornerstone of ESD, guaranteeing that educational programs are ecologically responsible, economically feasible, and socially inclusive.

United Nations Sustainable Development Goals
Image from https://social.desa.un.org/2030agenda-sdgs

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.

Innovative strategies at our University in India- Lovely Professional University's Comprehensive Framework
A thorough framework has been created at Lovely Professional University (LPU), in Punjab, India, to incorporate sustainable development within the teacher preparation program. The aforementioned comprises of multidisciplinary studies, project-based learning, and community participation, providing students with an exceptional chance to gain real-world experience and global perspectives. Through partnerships with regional and global institutions, these programs advance the standard of education while supporting more general objectives related to socioeconomic development. The approach that LPU has chosen can act as a template for universities around the world, showing how collaborations and contextualised learning can spur educational change in underdeveloped areas.

Lovely Professional University (LPU), Punjab, has been at the forefront of integrating sustainable development into its teacher education curriculum, fostering an environment of innovation and practical engagement. LPU's approach includes incorporating Education for Sustainable Development (ESD) principles into coursework, emphasizing interdisciplinary learning and critical thinking. This is achieved through project-based learning, where teacher candidates work on real-world problems related to sustainability, thereby gaining hands-on experience in implementing sustainable solutions. Furthermore, LPU collaborates with local communities and international organizations to provide experiential learning opportunities, ensuring that future educators are well-equipped to promote sustainable practices in their professional lives. These initiatives are complemented by a robust framework that includes workshops, seminars, and guest lectures from experts in sustainable development, creating a comprehensive learning

ecosystem that aligns with the goals of India's National Education Policy 2020 and the global Sustainable Development Goals (SDGs). This multifaceted strategy not only enhances the quality of education but also prepares teacher candidates to be leaders in sustainability, making a tangible impact in their communities and beyond.

Curriculum Development

1. Integration of SDGs: Incorporate the Sustainable Development Goals, particularly SDG 4 (Quality Education), into the curriculum to ensure students understand the importance of sustainable development.
2. Interdisciplinary Programs: Develop interdisciplinary programs that combine education with technology, sustainability, and social sciences to address complex educational challenges.
3. Local Relevance: Tailor curricula to address local needs and challenges, ensuring that education is relevant and applicable to the community.

Research and Innovation

1. Research Centers: Establish research centers focused on educational innovation and sustainable development, encouraging faculty and students to engage in cutting-edge research.
2. Collaborative Projects: Partner with local and international organizations to conduct research projects that address educational challenges and test innovative solutions.
3. Innovation Hubs: Create innovation hubs or incubators within universities to support the development of educational technologies and new teaching methodologies.

Teacher Training

1. Professional Development: Offer continuous professional development programs for teachers, focusing on innovative teaching methods, digital literacy, and sustainable education practices.
2. Practical Training: Provide hands-on training and internships for student teachers in diverse educational settings, including rural and underserved areas.
3. Mentorship Programs: Develop mentorship programs where experienced educators guide new teachers in implementing innovative strategies in their classrooms.

Technology Integration

1. E-Learning Platforms: Develop and utilize e-learning platforms to provide access to quality education materials and courses, especially in remote or underserved areas.
2. Digital Literacy: Promote digital literacy among students and teachers, equipping them with the skills to use technology effectively in education.
3. Open Educational Resources (OER): Create and distribute open educational resources that are freely accessible and can be adapted to different educational contexts.

Community Engagement

1. Community Projects: Engage students and faculty in community projects that address local educational needs, fostering a sense of responsibility and practical problem-solving skills.
2. Public Lectures and Workshops: Organize public lectures, workshops, and outreach programs to share knowledge and innovations with the broader community.
3. Collaboration with Local Schools: Partner with local schools to pilot innovative educational programs and provide support in implementing new teaching strategies.

Funding and Resource allocation needs to be done effectively, provide scholarships and financial aid to students from disadvantaged backgrounds to ensure equitable access to quality education.

By adopting these strategies, higher education institutions in developing countries can play a transformative role in improving educational outcomes and fostering sustainable development. According to the Sustainable Development Progress Report 2024, the Covid pandemic and other factors led to 23 million more people living in extreme poverty and 123 million more suffering from hunger in 2022 compared to 2019, widening the gap in per capita income growth between the poorest and richest countries. While some health targets have improved, overall progress in global health has slowed since 2015. Progress on education – the foundation upon which so much rests – remains of grave concern, with only 58% of students worldwide achieving minimum proficiency in reading by the end of primary school and one in five young people neither in education, training nor employment. The 2030 Agenda's commitment to achieving gender equality remains a distant objective, with limited progress on achieving gender parity in public life and managerial roles and persistently high levels of violence against women and girls.

SDG 4 (Quality Education) is a key enabler of most other SDGs. Accelerating progress towards, this goal should be prioritized as it will have a catalytic impact on achieving the overall 2030 Agenda. Unfortunately, global progress in education has not been fast enough but optimistic approach needs to be there to tackle the global issues. Only 58% of students worldwide achieved at least the minimum proficiency level in reading at the end of primary schooling in 2019. A large share of countries is moving backwards in learning outcomes at the end of lower secondary school. Improvement in the upper secondary completion rate has slowed since 2015. Some regions, including sub-Saharan Africa, are facing teacher shortages, high student-teacher ratios, and inadequate training and lack of professional development opportunities for teachers.

Conclusion

High-quality education and sustainable development are closely related. Through creative approaches, higher education institutions in developing nations can play a critical role in igniting a shift in education. Universities like LPU are helping to reach global sustainability goals while raising the standard of education at the same time by incorporating the SDGs into curricula, encouraging interdisciplinary learning, and interacting with communities.

As developing countries continue to struggle with issues like poverty, injustice, and environmental degradation, making wise investments in education—especially through creative approaches like those used at LPU—will be essential to creating a future that is more sustainable and equitable future. Education is a human right, a powerful driver of development, and one of the strongest instruments for reducing poverty and improving health, gender equality, peace, and stability. It delivers large, consistent returns in terms of income, and is the most important factor to ensure equity and inclusion. Developing countries have made tremendous progress in getting children into the classroom and more children worldwide are now in school. Making smart and effective investments in people's education is critical for developing the human capital that will end extreme poverty. At the core of this strategy is the need to tackle the learning crisis, put an end to overcome poverty, and help youth acquire the advanced cognitive, socioemotional, technical and digital skills they need to succeed in today's world. To achieve all these things, the policy makers should keep in mind that there should be a balance between Economy and Ecology.

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12. Innovating Education for a Climate-Resilient Future in Developing Countries

by **Prof. Gisele Arruda,** Professor in Circumpolar Studies (Energy, Arctic, Climate Change, Environment and Society), Anvivo Polar Research and **University of the Arctic**

Introduction

The Arctic is considered a developing region, but this cannot be seen as a conventional development process like the one experienced in the south during the last centuries. Due to intrinsic and multidisciplinary complexities with amplified effects at local, regional, and global levels, the proactive engagement of stakeholders demonstrates the relevance of the new dynamics of the North under the lenses of education, work skills, extractive industries, sustainable development, and the well-being of the region's population. Innovating for a climate-resilient future in developing countries will consist of scaling up sustainable infrastructure, investing in disaster management and educating stakeholders about their key role in this climate future scenario.

Innovating For a Climate-Resilient Future

The effects of climate change are already being felt worldwide. Frequent extreme weather that once seemed to apparently affect only developing countries has increased in intensity and extend impacts on nations worldwide. It is not a matter of which country is affected or not. All countries have been experiencing climatic anomalies lately, but some more than others. Studies developed by The Climate Risk Index (CRI) so far revealed that developing countries are particularly affected by the impacts of climate change. According to Eckstein et.al. (2021) eight out of the ten countries most affected by the quantified impacts of extreme weather events in 2021 are low to lower-middle income and five of them are categorised as Least Developed Countries (LDCs). It is important to highlight that the index is part of a big picture, a piece of a more comprehensive evidence about climate-related impacts and vulnerabilities, but it considers extreme events (storms, floods, heatwaves) but does not consider rising-sea levels, glacier melting, ocean warming and acidification nor the analysis of all risks of anthropogenic climate change. The index analysed data from 180 countries, but the index itself provides partial evidence but good initial indication of levels of exposure and vulnerability and that climate change affects people in developing countries disproportionately (Arruda and Johannsdottir,2024). This motivates countries to improve a continuous risk assessment process that should evolve according to scientific scenarios of rising temperatures in order to adopt a preventive approach rather than only react to climatic impacts when the damage is already caused. It is fundamental to prepare for climatic extreme events in the near future.

Vulnerability is a multi-dimensional (micro and macro) concept that relates to risk (Naudé et al., 2009). Climate vulnerability describes the degree to which natural, built, and human systems are at risk of exposure to climate change impacts (IPCC, 2014). The Intergovernmental Panel on Climate Change (IPCC), in its Sixth Assessment Report (IPCC, 2022), revealed that almost 3.6 billion people worldwide are dangerously exposed and vulnerable to climate impacts. The report shows a solid scientific baseline from 34,000 studies and involved 270 authors from 67 countries, and it is unequivocal that impacts of climate change are intensifying as per the rising in global temperatures and so do the present and future risks affecting more specifically resource-poor countries and marginalized communities. The 2022 IPCC report also details which climate adaptation approaches are most effective and feasible, as well as which groups of people and ecosystems are most vulnerable. Despite being felt everywhere, the impacts are disproportional, felt differently in terms of vulnerable countries despite their lower contribution to GHG emissions so far. It means that vulnerable countries and communities are suffering a higher burden of the problem but without the same structure to tackle it.

Leading scientists and education practitioners recognize that designing and implementing a low-carbon and climate-resilient future involves fostering human rights, poverty reduction and equitable models of development. This task, however, goes beyond mitigation and adaptation. Countries are becoming increasingly aware of the devastating social impact and inequalities exacerbated by the health and economic crises and the dangerous combination of climate change. A central topic for economic recovery agenda has been the mobilization of resources and creating fiscal and monetary policies that scale up social protection, support employment and skills, provide sustainable infrastructure and disaster management, reduce poverty, and, adequately, address the needs of the most vulnerable groups.

Scaling Up Sustainable Infrastructure, Disaster Management and Stakeholders' Education

Innovative governance systems and new business models inspired by Education for Sustainable Development (ESD) are at the centre of this process of innovation and change to effectively address these aspects of vulnerability, loss and damage due to climate change and the elements of gender-responsiveness of climate finance for sustainable development, inspired by a more holistic and universal criteria based on the UN Sustainable Development Goals (UNSDGs). Adherence to the SDGs (Arruda, 2019) and policy coherence towards sustainable development helps identifying and managing new adaptive tools, governance mechanisms and long-term negative impacts of current policies by mapping the aligned and non-aligned aspects to create proper recommendations for change. According to the OECD initiatives for Countries' Policy Coherence for Sustainable Development (OECD, 2019) the process for enhancing policy coherence involves crucial building blocks consistent to: the identification of critical interactions for SDGs implementation, strengthening institutional and governance mechanisms (Arruda, 2019; Arruda and Johannsdottir, 2022) evidence monitoring, reporting and evaluation; engagement of stakeholders and partners for impact; policy analysis to inform decision-making; involvement of authorities at different levels; improvement of policy integration; building strong political commitment and leadership; design, implement and communicate long-term strategic vision and ensure governmental convergence through integrated coordination.

ESD is a vision of education based on important premises of compatibility of the human needs to the natural capacity of the planet and solidarity inspiring the notion of citizenship, but these are premises that vary according to the cultural, geographical and economic backgrounds (Arruda, 2019). The main point is to review and change systems and develop pathways towards real and meaningful sustainability through ESD and co-creation of sustainable futures by managing risks, enhancing infrastructure, advancing knowledge and skills to operate a functional green economy. It also requires proper financial mechanisms to form

climate leaders that understand complexity, systems thinking and future thinking. Several real-world challenges in the developing countries will require a new generation of solutions, decision-making and investments in facilities to expand, adapt and integrate the global energy systems infrastructure, scale it up and align it to the climate goals to bring to reality the necessary level of systemic change.

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