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Rethinking Higher Education Models: Towards a New Education Paradigm for the UN 2030 Agenda for Sustainable Development

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Abstract

The United Nations 2030 Agenda unfolded a comprehensive package of Sustainable Development Goals that seek global cooperation, participation, and coordinated efforts to 2030 for the betterment of humanity within the ecological constraints of the planet. However, it has become evident that the agenda is very ambitious and afflicted by a lack of solid governance principles vital to ensuring the successful achievement of the goals and targets. This paper offers critical insights into the pivotal role of higher education in promoting and implementing the goals. We argue that there is a need to raise awareness of the goals and educate relevant stakeholders on how to coordinate their efforts to respond to the complexities associated with achieving sustainability. We find that higher education institutions are poised to play a more relevant and influential role, but to do so, they need to engage in a bold educational transformation process. Given that the achievement of the goals is predicated on collaboration between multiple actors, ranging from governments, businesses, non-governmental organisations, civil society, researchers, academics, and students, specific actions within higher education must focus on the circularity of the education model. Moreover, stakeholders need to work together to address the numerous failures associated with governance if they seek to achieve meaningful change and progress around sustainability issues. Therefore, we argue that HEIs need to rethink and reconsider their educational models to update their leadership role in achieving the 2030 Agenda and beyond.

Keywords: sustainability, governance, HEIs, SDGs, students, educational models, action, and impact.

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Introduction

Based on principles of equity, security, prudence, interconnectivity and comprehensiveness, the United Nations (UN) 2030 Agenda for Sustainable Development charters a societal transformation (Sachs et al., 2019), giving priority to socio-ecological systems. Hence, sustainable development is emerging as a paradigm for human advancement based on social justice and economic vibrancy within environmental limits, with education as an agent for transformation. Access to quality education is identified as one of the Sustainable Development Goals (SDGs) that can enable the achievement of others (Vladimirovaa and Le Blanc, 2015). SDG 4 is premised on educational purposes being realised. In the emerging socio-ecological paradigm, these purposes extend from an economic focus to a broader lens incorporating environmental stewardship and global citizenship (Kioupi and Voulvoulis, 2019). SDG 4.7 mandates higher education institutions to play an essential role in preparing graduates for sustainability leadership through active engagement with the challenges set out by the SDG framework (Behan et al., 2022).

In line with the UNESCO (2021) report, we need to reimagine our futures, where we work together to define a new social contract for education that seeks to rebuild relationships between people and the planet. Our research position in this paper clearly aligns with the UNESCO vision. We argue that a new educational paradigm is needed to help us accelerate change and become advocates and active actors for sustainable development. This reflective paper contributes to the debate by taking a constructively critical perspective on the role of education in meeting the UN 2030 agenda. In addition, we seek to better understand the progress made (and, in some cases, undone) and identify potential challenges higher education institutions (HEIs) face as they navigate the integration of sustainability issues with their educational portfolios. We argue that existing educational models limit students' roles in their educational and geographical context as HEIs do not seem to be exploring the educational impact beyond the institutions' walls. Students are not perceived as active agents of change. Consequently, the educational system fails to equip them with the required skills to confront the current and future challenges of unsustainable economic models and their dependency on existing business models and practices. Therefore,

we argue that a new commitment towards education is needed. Yet, a new vision is not sufficient; it needs to be followed by specific transformations that lead towards educational models that take a *"human centre"* and *"human first"* approach.

The following sections explore the origins of sustainability and the importance of education for sustainability (ESD) as we delve into global economic challenges grounded on an obsolete economic model that requires replacement. The discussions progress with insights into businesses and economic activities and their contribution to sustainability. We offer some reflections to help us rethink and reflect on existing HEIs educational models and the need for new paradigms that enable us to become agents that drive sustainable development. We finally conclude our critical discussion.

The Origins of Sustainable Development

As humanity becomes more aware of Earth's limitations, it faces an ever-delicate balancing act of synergies and trade-offs between its social, economic, and ecological systems (Raworth, 2012). This is reflected in the novel concept of the Anthropocene, an era depicted as one in which affluence, population growth, and technological progress have yielded an extraordinary human capacity to alter global ecosystems. As unchecked socio-economic activity and earth system indicators inflected into exponential growth (Steffen et al., 2015), several seminal profile reports warned of their negative environmental impacts (Meadows et al., 1972). The concept of sustainable development (SD) gained traction following the 1987 Brundtland Report and was consolidated at the 1992 UN Conference on Environment and Development (UNCED), also known as the Earth Summit, which took place in Rio de Janeiro. The Summit can be considered the first international effort towards a more sustainable development pattern. Whilst various candidate definitions of SD exist, its depiction as development that *"meets present needs without compromising the ability of future generations to meet their own needs"* has since become widely accepted, implicit in which intergenerational inequality wields an existential threat (Brundtland, 1987, 292). Yet, as a concept, SD is still difficult to articulate, and its knowledge continues to evolve rapidly in different directions (Kuhlman and Farrington, 2010).

A sensible approach to SD relates to its measurement through compound indices that comprise an array of goals and indicators. In June 2000, the UN endorsed work done on the international development goals (IDGs). More specifically, the then-UN secretary-general, Kofi Annan, enjoyed high levels of influence as his work was framed around moral leadership and, thus, credibility.

Therefore, the secretary-general was pivotal in reframing the world's debate around partnership and the need for a new approach and working agenda. A spirit of collaboration and partnership led to the rise of the Millennium Development Goals (MDGs), which became the central point of reference for the world's ambitions for development and cooperation. However, attention seemed to be biased towards offering a response to issues related to economic development and the failures of existing macroeconomic models. The socio-economic effects of multiple and consecutive crises led to significant damaging effects that left millions of people out of the socio-economic system. The world's less developed economies have been disproportionately affected. In parallel, most advanced economies' economic models and social fundamentals have been shaken due to growing levels of economic imbalances and inequalities that have resulted in increasing social unrest and conflict (Piketty, 2020; McArthur, 2014).

The Millennium Declaration non-quantitative Target 9, which is to *"integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources",* sought to address the depletion of natural resources whilst ignoring socio-economic and political dimensions. In parallel, challenges associated with the development of leadership congruent with promoting, nurturing, and advocating for sustainability principles in a holistic manner, have emerged, leading to a critique of existing business models and their environmental impacts. Consequently, there is a collective but unnecessary perception of Hobson's choice, namely that the world economies face a dilemma in prioritising economic growth or looking after the health of our planet.

In the case of the Millennium Development Goals (MDGs), 8 goals and 21 targets sought to lift the world's poorest countries out of poverty. Subsequently, the more ambitious SDGs identified 17 goals and 169 targets that apply to all countries. The SDGs represent a call to safeguard our planet and deliver security by agreeing to limit natural resource consumption whilst placing poverty elimination at the core of economic development (Lemarchand et al., 2022). Whilst not legally binding, governments are expected to highlight progress in voluntary national reviews (VNRs). Sachs et al. (2019) suggest six societal transformations to achieve the SDGs, the first of which is education, which is considered an enabler for economic growth, poverty reduction, decent employment, and gender equality.

Following the political commitment to Sustainable Development during the Earth Summit in 1992, Education for Sustainable Development (ESD) emerged as a critical area of concern within Higher Education Institutions (HEIs). ESD came onto the global Agenda in October 1990, when the former Tufts President, Jean Mayer, convened the presidents, rectors and chancellors of international

universities to discuss environmental sustainability issues at the European Center in Talloires. Discussions focused on the responsibilities of universities to teach students about environmental sustainability led to the Talloires Declaration (TD), the first official statement made by universities acknowledging their commitment to sustainability (Tufts European Center, 2020).

The TD acknowledged several ecological crises facing humanity and issued a call for action to the world's universities by prescribing ten basic steps for developing sustainability literacy. The importance of these steps reflected a need to integrate sustainability into mainstream pedagogical and operational activities. Accordingly, the TD states articulated an urgent need for action, challenging university leaders to proactively embrace their responsibilities. It called on HEIs to mobilise their resources to pursue strategies to address sustainability challenges and, more importantly, to organise and equip HEIs on how to respond to them. Since then, the number of signatories to the TD has grown continuously, with 520 total signatory institutions from over 50 participant countries as of September 2021 (ULSF, 2022; Steward, 2010).

The Declaration and subsequent summits compelled HEIs to respond to the pivotal sustainability endeavours. As such, the TD is a significant declaration of HEI commitment to *"sustainability initiatives"* (Adlong, 2013; Wright, 2010; Davidson, 2010; De Angelis, 2009). Due to the menace of climate change and the ongoing deterioration of our environment, there is a need to reflect critically and rethink HEI educational models. In particular, there is a need to re-examine their continued legitimacy in an evolving ESD agenda, 30 years after the TD. Undoubtedly, HEIs face challenges as they try to articulate how to best integrate sustainability in the context of action that drives global, regional, national, and local transformation. Furthermore, the TD was formulated more than 30 years ago, and the complexities surrounding sustainability have increased and are now broadly captured by the 2015 UN SDGs. ESD is the product of more than three decades of work with many actors involved in an array of processes, international conferences, summits and meetings within the OECD and the UN.

However, there is no clarity regarding how educational models need to adjust nor to which extent they are challenging existing practices to realign with unfolding sustainability challenges. Indeed, ESD has been criticised for lacking clear objectives apart from the obvious, i.e., it seeks to develop the competencies required to pursue a sustainable future (Leal Filho et al., 2015). Whilst the early attentions of ESD were focused on a separate provision, they have since been redirected towards integrating sustainability in curricula so students can contextualise it to their respective disciplines. Yet, there is a lack of studies mapping this integration (Weiss and Barth, 2019). Now that ESD has been made an explicit target (SDG 4.7), its priority in higher education has been elevated

(Longhurst et al., 2021). On the one hand, SDG 4 is a goal in itself, and on the other, it is also a mechanism for a societal transformation to achieve other SDGs. This dual purpose necessitates a new education model that integrates the SDGs in learning (Rieckmann, 2017). In the next section, we offer further reflections on the importance of education to promote sustainability.

Educating for Sustainability (ESD)

The history of ESD is well-documented, from the Stockholm Conference (1972), which gave rise to the establishment of the UN Environment Programme (UNEP), to the intergovernmental environmental education conferences in Belgrade (1975), Tbilisi (1978) and Moscow (1987), which promoted the notion that environmental education could contribute to sustainable development. By the late 1980's, UNESCO had become quite proactive in integrating environmental education into a broad ESD paradigm (Wu, 2015). The evolution of ESD in higher education also reveals a shift from an exclusively environmental focus to a broader paradigm (Sherren, 2008).

In many respects, the Talloires Declaration (TD) was a success for its time (Adlong, 2013). Still, it largely failed in terms of visibility of the social conditioning and its action purpose, particularly concerning the environmental literacy needed to drive change and materialise actions focused on environmental protection and regeneration. The TD remains unknown in many HEIs around the world, and holistic actions still lag behind. As a result, it has not resulted in sufficient action and progress, as significant resources and commitment have not accompanied it (Lozano et al., 2014). Furthermore, a greater level of urgency needs to be articulated if we wish to achieve meaningful progress. Consequently, there is a need to rethink urgent environmental requirements in a broader context as an integrating element (not separate) to our socio-economic, political, and spiritual worldviews. In addition, the concept of ESD must be revisited to acknowledge the need for an approach that is flexible and dynamic so that it benefits from being updated as time passes. As such, a more comprehensive view that embraces complexity, futures thinking and an action orientation, is needed (Gute, 2020; Adlong 2013). Moreover, a critical issue has emerged with respect to the required mechanisms that will help articulate the need for action from a global and social context that should not be limited only to HEIs students.

Due to the awakening calls for sustainability and the challenges posed by global economic and political dynamics, HEIs were forced to reflect deeply on the need for a transformative shift in their traditional teaching, learning, and research approaches. This transformation became the focus of

UN Decade of Education for Sustainable Development (DESD) in 2005 (Beynaghi, Maknoon, Waas, et al., 2010). The UN DESD provided an opportunity for HEIs worldwide to address sustainability at local, national, regional, and global levels, representing some of the first tentative steps for educational change (Corcoran, Chacko Koshy, 2010). Fast forward to 2015, the 2030 Agenda calls for a radical shift in adopting policies that address broad challenges associated with sustainable development (UNESCO, 2021; UN, 2015; UNITAR, 2016). The agenda stresses the importance of quality education (SDG 4), which emerges as a critical pillar of the United Nations' aspirations and demands a new educational paradigm. We aspire to build a scholarly, knowledgeable society and economy that advocates for knowledge dissemination and accessibility to reduce inequalities between the world's most advanced economies and those in the process of developing. Undoubtedly, the SDGs offer significant inspiration and have contributed to reminding us of the challenges our global society is facing.

However, the UN SDGs have been subject to criticism. In essence, they are perceived as too ambitious and having no priorities. For example, Hickel (2015), the Economist (2015), the Gates Foundation (2018), and the World Economic Forum (2015) pointed out the wide-ranging and too cumbersome goals that are packaged into sound bites that do not address anything. Furthermore, problems associated with governance challenges crucial to their implementation have been flagged. The lack of commitment from our political leaders and the neglect of societal needs, as political and economic agendas are prioritised, translate into a lack of commitment, in a global context, to the UN 2030 Agenda. The 17 goals have 169 targets and too many indicators with little content. Pope Francis laid down challenges to world leaders, asking them to respond to those living in poverty and facing injustice. The SDGs seem to be a *"bureaucratic exercise of drawing up long lists of good proposals"* that are considered too many, have little content, and are unattainable (Vatican, 2015). Overall, the SDGs seem to be surrounded by an ideal vision of the world with few guidelines on how to accomplish and unify them. Moreover, some criticise the SDGs for being far too broad and aspirational for learning purposes (Janoušková et al., 2018).

Some consider the SDGs to be unfeasible or expensive to achieve. They are viewed as a patchwork, as lobby groups pitch for their particular interests at the expense of a collective vision (The Economist, 2015). As a result, critical voices argue that the goals can be considered a missed opportunity and that, as mentioned by Bill and Melinda Gates as early as 2017, *"We are on a course to miss 2030 development goals for health and poverty,"* a reflection that can be extrapolated to the other goals. Hickel (2015) further suggests that they are dangerous because they seem to be developed around a failing economic model of significant contradictions.

Therefore, it is vital to enable individuals and communities to understand the challenges ahead and educate them to become active drivers of change. More importantly, education should aim to provide the skills for activism based on a deep understanding of human activity and its negative impact on the environment and society. As we have already argued, a comprehensive and holistic approach is necessary to ensure progress. The indissoluble and interrelated nature of the seventeen SDGs demands it.

Therefore, it is not enough to limit ourselves to the discussion on the role of education; we need to move further and start taking action to make a significant contribution towards sustainability, translating learning into action. Our conversations, meetings, debates, conferences, and thoughts are not enough; we need specific transformations in higher education that drive change. To help us understand the importance of sustainability, our conversations need to evolve towards a meaningful debate on the value of quality education, which ensures inclusive and equitable lifelong learning opportunities for all in a context that seeks to drive actions for impact (UNESCO, 2021; Martínez and Vilalta, 2021; United Nations, 2019). In the words of Irina Bokova, former director-general of UNESCO,

"Societies everywhere are undergoing deep transformation, and this calls for new forms of education to foster the competencies that societies and economies need, today and tomorrow. This means moving beyond literacy and numeracy, to focus on learning environments and on new approaches to learning for greater justice, social equity, and global solidarity" (Bokova, 2015, p.3).

In addition, the current Director-General of UNESCO, Audrey Azoulay, reflects on the impact of the global health crisis and how it has shown us that education is fragile. At the peak of the COVID-19 pandemic, over 1.6 billion learners were impacted by imposed lockdown measures to prevent the spread of the novel coronavirus, which translated into school closures worldwide. But we cannot forget the power of education to help us develop more equitable societies. At the same time, we need to design, shape, and contribute to transforming our societies, organisations, cultures, communities, and institutions to enable a better future for all (UNESCO, 2021).

As a result, a broader and inclusive approach towards education for sustainability guided by the vision of a new social contract for education can help us further question the UN's very ambitious agenda and its potential success. For instance, we can reflect on how the TD has not managed to make significant progress, how its remit is limited to the context of environmental sustainability, and how it does not integrate the importance of personal, interpersonal, or cultural dimensions of change (Adlong, 2013; Robottom, 1984). We need to reflect further to the extent that a clear action

plan is articulated on how HEIs should integrate a vision for a new social contract for education. With unprecedented global challenges, we must aim, within our education models, to support the development of relationships, protect the planet and engage with technology. We must identify tools that help us respond to the severe doubts emerging regarding the ambitious nature of the agenda proposed by the UN SDGs. It is vital that we acknowledge that environmental problems are not limited to technical aspects, and that we explore implications derived from human nature, cultural issues, ethical considerations, economic and political values. Each one of us is part of a local, national, regional, and global society. So, we must recognise the significance of political and social sciences in helping us make a meaningful contribution to addressing the challenges associated with environmental crises. The International Strategy for Action in the Field of Environmental Education and Training in the 1990s (UNESCO-UNEP, 1988, p. 6, para. 14) states: "*...it falls to EE [environmental education] to supply ... the means of perceiving and understanding the various biological, physical, social, economic and cultural factors which interact in time and space to shape the environment ....".* Hence, we need to go beyond limiting education to the environmental context and engage in efforts to develop quality and inclusive education models that establish appropriate systems for drawing out the common good and for nurturing the best of everyone to create sustainable economic models.

Economic and Business Activities for Sustainability

Scientific evidence demonstrating that human activity is causing significant damage to our planet is undeniable. Economic activities have materialised in negative externalities with adverse spillover effects on society and the environment, endangering the prospects for sustainable economic development. To understand our role in harming the environment, we must consider the concept of the Anthropocene, an idea that has generated a significant level of attention among academics over the past decade (Clutier de Repentigny, 2022; Webster and Mai, 2020).

The Anthropocene denotes,

> *"…the present geological time interval, in which many conditions and processes on Earth are profoundly altered by human impact. This impact has intensified significantly since the onset of industrialisation, taking us out of the Earth System state typical of the Holocene Epoch that post-dates the last glaciation"* (Subcommission on Quaternary Stratigraphy, 2019).

As such, it is paramount to reconsider the role of universities in helping clarify how humans impact their environment and to bring solutions that seek to redress inflicted damage. This requires

educational models to nurture critical and ethical thinking in a multidisciplinary context where teachers, educators, academics, and researchers are essential players in driving the transformation process as facilitators of learning and knowledge generation. Universities can guide the change through teaching and research activities by enabling active learning processes focused on developing the skills required. Diversity and inclusion are vital to helping us protect the environment and ensure peaceful coexistence with nature. In addition, higher education models must enable a process of sense-making and sense-giving regarding the importance of the SDGs. Teaching, learning, and research processes might generate actionable knowledge and strategic drivers of progress framed in transdisciplinary curricula that foster collaboration across diverse disciplines.

At the core of the challenges ahead is the extent to which sustainability can be embedded in relevant policies. Economic, political, and educational leaders should aim to integrate innovation, social inclusion, and respect for the planet, leading to better health, well-being, and economic development prospects. However, since the introduction of the UN Agenda, the SDG's goals have been affected by window-dressing rhetoric, hindering progress and, in some cases, leading to regress (Sachs et al., 2022). In addition, our leaders have failed to acknowledge the urgent need for action. Undoubtedly, it is imperative to embark on a sustainable path that requires all relevant stakeholders' involvement, commitment, and collaboration. Hence, we believe that education has an ever-more urgent role to play. As such, higher education models need to be revisited with a new pedagogical paradigm that embraces the challenges associated with the existing cultural paralysis. Unfortunately, the necessity of sustainable development has not permeated throughout the political, economic, and business classes. Moreover, the outcome is discouraging as there is an evident lack of coordination between relevant economic policies for innovation, social inclusion, and planetary stewardship (Bullmann, 2018). Individual countries' approaches to the SDGs seem to be dominated by indifference rather than actual action, which is worrying considering the seriousness of the challenges. We are immersed in a period of high uncertainty and rapid change that has been exacerbated by the global health crisis and its socio-economic effects. A process of change compounded by the Russian-Ukrainian war and other conflicts, combined with the impact of global warming, are contributing to enhancing and exacerbating poverty and displacements.

Sadly, ongoing conflicts have exposed the dominance of economic and political agendas over social, environmental, and humanitarian ones. It is time to stop, think, reflect, and evaluate our actions and their implications for future generations. In particular, SDG16 takes a prominent role

due to the importance of securing peace, social justice, and prosperity. There is no doubt that the challenges are significant and that we need to find, together, practical solutions to a difficult transition towards sustainable socio-economic and developmental models. Yet, how can we address the emerging complex challenges? Part of the answer lies in re-examining our educational models. Therefore, at the core of societal transformation, we identify the educational sector, particularly the social responsibility of universities, framed on the need to shed light on the challenges and their economic implications. In line with the Sustainable Development Goals (SDGs), these shifts must lead to transformation in how we value natural capital, how we produce and consume, how we distribute values, and how we secure an inclusive, fair, and equal society (UNESCO, 2021; Dodds et al. 2017; Stember, 1991). We need a new developmental model that builds foundations for understanding how humans and nature must interact. In this transformation, academic knowledge can be decisive. Therefore, universities' missions and visions must be coordinated globally, deconstructing their elitist habitus of discrimination, exclusion, and the generator of economic inequalities. Universities must unite to debate a realistic integration and inclusion action plan that works for all. Moreover, we need to create a critical mass of capabilities for mobilising awareness outside universities by forging collaboration between higher education institutions and other organisations.

Whilst the literature shows conflicting views on the feasibility of the SDGs, there is evidence of more positive viewpoints that welcome their vision and aspirations and the high potential of new initiatives that might materialise. According to Kharas (2015) and Kharas et al. (2019) the SDGs can be understood as the North Star guiding new partnerships, which have sprung to implement them. Emerging global, national, and local collaborations now have a sense of orientation in pursuing common goals. For example, the role of peacekeeping, the importance of sustainable development, and environmental concerns each underscore the 2030 Agenda. The nexus between conflict, poverty, and climate change challenges is prominent. As such, we could consider that they might unfold as guiding flags for action. In addition, the need for businesses to partner with governments to achieve change is a major focus of the SDGs. Therefore, the need for HEIs to understand global development's dramatic consequences and impact has been clearly identified.

Historically, the IDGs, MDGs, and SDGs have posed significant challenges, with some of the more important ones relating to countries' individual political and economic agendas. Severe criticisms of them suggest that some view the goals as flawed. They are shaped by conflicting interests, and their implementation faces significant leadership challenges when issues related to economic

growth and corruption are considered (Bexell and Jönsson, 2017). Furthermore, the UN reiterates: *"… that each country has primary responsibility for its own economic and social development and that the role of national policies and development strategies cannot be overemphasised. We will respect each country's policy space and leadership to implement policies for poverty eradication and sustainable development while remaining consistent with relevant international rules and commitments"* (UN, 2015, Transforming Our World, points 41 & 55). In this context, it is vital to acknowledge existing disparities among and within countries. Whilst each country is responsible for its own development, we are not playing on a plain level field. Some countries need more support than others. Awareness of domestic inequalities affecting nations is also needed. Inter alia, there is a need to rethink educational models. HEIs need to take a more active role in helping societies understand the magnitude of the challenges ahead and equip them with the required tools to respond.

Rethinking HEIs Educational Models

To succeed in enabling universities to be vehicles for social transformation, we need to create open and collaborative institutions in which researchers and academics challenge the way we develop educational programmes. Collaborative and global partnerships between universities and the UN are necessary, as well as collaborations between academia and other sectors. Yet, collaborations cannot be framed around economic and business motives that seem to define existing university models. It is imperative to explore the need to shift from transmissive to transformative higher education for sustainable development (Boström et al., 2018) to help us better understand their alignment with the United Nations Institute for Training and Research (UNITAR) mandate. As we reflect on the required changes, we argue that the principles defining Critical Theory and Constructive Alignment (Biggs & Tang, 2015) are our foundational perspective. Constructive Alignment (CA) can be understood as developing teaching and learning activities that are aligned with intended learning outcomes that are adequately assessed (Colding, 2019). Biggs (1996) has been recognised as the developer of the CA-Model, and together with Collis, they worked to develop the SOLO taxonomy for qualitative assessment of learning outcomes focusing on the reinforcement of cognitive learning processes and exploring implications for more complex, interdisciplinary-based university programmes (Biggs and Collis, 1982). Biggs (1996) argues that default educational models based on modes of contemporary teaching are very limited. They lead to students' passivity due to their focus on repeating information and the lack of attention to what the student does, how information is perceived and interpreted, and the actions

taken. We further suggest that universities consider education from a universal approach that integrates transdisciplinary learning to address the complexities of sustainable development.

As part of the transformative learning process, there is a need to bring into context social actions and their reflexive interactions with different fields like politics, economics, and ethics to enable us to develop a constructive critique of higher education dominant models. In line with Boyer (1996) views on HEIs, we advocate for more vigorous educational models that seek to engage with the most pressing social, civic, economic, and moral problems. By implication, academic environments and their educational models would align and reaffirm their historic commitment to what Boyer calls *'scholarship of engagement'* (1996:18). Boyer criticises higher education for aligning to the principles that guide business models. Business models that are associated with purely serving private benefits rather than being understood as a public good. Furthermore, universities and the campus culture emerge as a place where students act as consumers who buy their credentials, an idea that has nurtured the development of a toxic educational environment. Faculty turn towards the fight to get tenured positions while neglecting their teaching and learning duties and shifting their interests to working on issues that do not contribute to addressing our time's most relevant societal challenges is another area of significant concern. The academic focus has turned to achieving promotions and social status within the university walls while neglecting their students and the need to nurture social skills that promote collaboration, cultural integration, and inclusion. We argue that the pedagogy of adult learning and Higher Education needs to be part of the discussions. In order to find effective ways that support the delivery of the Sustainable Development Goals, a new educational paradigm is required. We also need to rethink university teaching and learning processes and their connection to research through the research-informed learning paradigm that permeates from researchers to teachers and learners. Therefore, we argue that Goal 4 - Quality Education, Goal 16 – Peace, Justice, and Strong Institutions, and Goal 17 – Partnerships for the Goals need to be embraced as part of universities' models and framed on early research activities seeking to bring changes for action. The seminal work of Stember (1991); the United Nations Educational, Scientific and Cultural Organization's (UNESCO) report, "Education for Sustainable Development Goals: learning objectives" (UNESCO, 2017); the Global Sustainable Development Report 2019: The Future is Now – Science for Achieving Sustainable Development (UN, 2019); Dodds (2017) in "Negotiating for sustainable development goals" are examples of efforts trying to connect education and the concept of sustainability. A transformational agenda for an insecure world"; Levi and Rothstein (2019) in "Universities must lead on Sustainable Development"; Stieglitz et al. (2018) in "Beyond GDP. Measuring what counts for economic and social performance," and Vetlesen, (2019) in "Cosmologies of the

Anthropocene. Panpshycism, Animism, and the Limits of Posthumanism" and the 2021 UNESCO report "Reimaging Our Futures Together: A new social contract for education, can be considered as a good starting points to reassess the role of HEIs. Significant efforts have been made to create awareness of the urgent need to reform our educational systems and models, but the lack of commitment from governments has led to a situation characterised by the absence of significant progress and meaningful actions.

With this paper, we intend to contribute to the international debate on the need for a new kind of pedagogy that guides education for sustainable development. Educational models should aim to align with the UNESCO (2021) competencies framework promoting core values of integrity, professionalism, respect for diversity and commitment to cultural integration. Higher Education Institutions need to be able to provide learning environments that (i) secure a factual deep knowledge basis within a subject field of study or profession and (ii) equip students and learners with key and critical competencies, such as systems thinking, normative-, transdisciplinary collaboration, and creativity competencies in a solution-orientated manner, with the complexity of the sustainability challenges that we are facing as a global community. Educating for the effective delivery of the SDGs means learning through content with a problem-oriented and constructive alignment approach open to new interactions between globally oriented and locally embedded disciplines specific to adult education pedagogies. At the same, Critical Theory can be used as a driver of change, as the theory works if it meets three criteria: it must be explanatory, practical, and normative at the same time, and as such, it must explain what is wrong with our current reality, it needs to identify actors that will drive change, and it needs to be supported and articulated around clear and explicit norms that enable criticism and achievable, practical goals for social transformation (Stanford Encyclopaedia of Philosophy, 2022).

Furthermore, we argue the need to reflect on enabling multidimensional and multifaceted educational models that acknowledge the complexities of our global economic and political systems. HEIs educational models need to offer insights that help us better understand the need for an agile, adaptive, multidimensional and multifaceted educational framework. According to Kohl et al. (2022), HEIs and their leadership teams have not been able to use their potential to impact and contribute to developing a sustainable future. Thus, HEIs are identified as critical agents for development, either as a way of developing human capacity, increasing skilled individuals for modernisation, or developing both individual and community-level professional capital. But regrettably, existing educational models are not able or capable of responding to our

socio-economic and environmental reality. As such, there is a need to rethink the role played by education. In line with a comment made by Arundhati Roy more than ten years ago,

> *"Somewhere along the way, Capitalism reduced the idea of justice to mean just "human rights," and the idea of dreaming of equality became blasphemous. We are now fighting to tinker with reforming a system that needs to be replaced."* (The Guardian, 2011)

As we reflect on required changes, governance emerges as a fundamental factor to be addressed as part of future educational models. Future generations of workers, members of families, societies, and the overall global business network in the ecosystem need to be aware of the importance of finding mechanisms that enable us to work together so that we can move forward while ensuring that we have appropriate safeguards that protect the global financial system, avoid political and social conflict through violent conflicts affecting countries and their national institutions and governments, and the multi-decadal struggle to take global action to manage environmental degradation derived from economic and business activities that have materialised on significant levels of pollution, increasing greenhouse gas emissions and derived health problems (Patterson, 2015).

Conclusions

Humanity is facing a dramatic and unprecedented deterioration of its environment. In addition, there are opposing arguments surrounding the feasibility of the UN 2030 Agenda, with differing vested interests threatening the achievement of the SDGs. The current magnitude and speed of environmental degradation are unprecedented. Increasing levels of pollution derived from unsustainable business activities and consumption patterns have contributed to the severe depletion of natural resources. The world's inequitable economic development is aggravating poverty, driving a climate crisis, and causing people displacement derived from the intensification of natural disasters associated with climate change. This vicious cycle has reached a dramatic inflexion point where humanity faces an existential threat. Life-supporting ecosystems have been harmed to the extent that there are already profound and irreversible implications for future generations (Rockström et al., 2009).

Therefore, HEIs have a crucial role to play in our societies, as they are critical actors in the development of educational models, the integration of research in the learning process, the informing of policy, and, more importantly, in the dissemination of knowledge. As such, the role of HEIs should not be limited to their students. Their operations need to reach broader spheres of

influence, ranging from communities, business networks, the political class, and our whole society, as we are responsible for creating a system that works for all. Therefore, we argue that existing educational models need to be rewired based on careful reflections on how we should educate our society for sustainability and responsible citizenship. Undoubtedly, HEIs are poised to play a prominent role in our future development, either to help us progress and develop or to keep us anchored on a learning model that is not working and does not provide the required alternatives to navigate our contemporary socio-economic and environmental needs.

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