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HE system of choice: An emerging landscape of post-neoliberal, technocentric and socio-ecological conceptualisations of learning

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Abstract

The marketisation of education, coupled with a globalised economy of provision, was supercharged by the adoption of learning technology following the COVID-19 pandemic. This has led to changes which have increased the potential for students to have a choice in the pace and place of their learning. What has emerged is the possibility for a diverse, accessible, and economically attractive set of 'learning offers' for globalised students brought about by increased competition between providers with implications for sustainable education. In critique of this new landscape, the project on which this paper reports used Soft Systems Methodology to explore an identified 'problematical situation' of factors influencing student choice about HE in the future. Work included a systematic literature review, running focus groups with expert witnesses including undergraduate students, and practitioner analysis using the Theory of Disruptive Innovation. Applying the scenarios developed, this paper presents a proposed 'Higher Education System of Choice' as a provocation for discussion that identifies an emerging landscape of post-neoliberal, technocentric and socio-ecological conceptualisations of learning.

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Introduction

Future gazing is an inherently uncertain business. In this project funded by AdvanceHE in the United Kingdom, we aimed to explore potential future scenarios for higher education (HE) through a student-informed lens of sustainability. A key aspect of the work was to identify student perceptions of the factors that future students would consider when making decisions about which higher education institution (HEI) to study at. We used these perceptions to develop scenarios of possible futures in a market-driven Higher Education sector where students' choices and preferences are essential drivers for changing and positioning institutions' vision, mission, and purpose. The project commenced in January 2021, and as such, everyone involved in the inquiry was fully immersed in the changes to teaching brought about by the COVID-19 pandemic, for example, the social distancing regulations that meant students needed to be taught online as distance learning students.

The paper starts with a background section that discusses sustainable development, making links to higher education institutions' responses to sustainability. In this section, the concept of flexibility and choice is identified as a policy driver in United Kingdom HEIs and some of the enabling arrangements that need to be in place to support this are explored. Next, the paper outlines the theoretical lens of Disruptive Innovation which is used to explain how significant organisational change can come about through technological advances and the development of new business models. Methods used to conduct our inquiry derived from Soft Systems Methodology (SSM) are explained. A presentation of findings with a discussion related to sustainable development issues identifies the key drivers that would inform students' choice of HEI. Lastly, the paper offers its key contribution, a provocation to inform the debate about future higher education institutions' vision, mission, and purpose.

Background

Sustainable development is a wicked problem. It is a complex and difficult-to-define problem for which there is no certainty regarding appropriate solutions (Hensley, 2020). Nevertheless, the United Nations acknowledges sustainable development as one of the key global challenges (Holden et al., 2017; United Nations, 2016) with the widely accepted definition of "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987, p. 54).

The Ladder of Sustainable Development suggests a spectrum of development from treadmill, to weak, to strong, to ideal (Baker, 1997, p. 9), with the most anthropocentric being characterised as treadmill and the most ecocentric being characterised as ideal. Core features of the treadmill include exponential economic growth through global markets, no change to the integration of environmental, social and economic aspects, and intense resource exploitation. Key aspects of weak sustainable development include being market reliant, marginally focused on equity, and some initial moves to local economic self-sufficiency. Critical elements of strong sustainable development include environmentally regulated markets, environmental management and protection, and environmental policy integration across sectors. However, broadening out to ideal sustainable development also includes biodiversity protection with holistic inter-sectoral integration and inter and intra-generational equity as the most ecocentric and biocentric type of development.

The concept of sustainable development is a contestable one with three key critiques. First, sustainable development has various interpretations (Bonnett, 1999, 2002; Fischer et al., 2017; Haque, 2000; Holt & Barkemeyer, 2012; Stables & Scott, 1999). These different interpretations are mainly focused on the level of prioritisation of economic growth compared to the environment and society. This can be due, for instance, to political reasons linked to specific partisan interests.

Secondly, the concept of sustainable development has been critiqued as it does not provide an explicit critical narrative regarding the limits of economic growth (Baker, 1997; Bosselmann, 2001). Instead, the concept of sustainable development leaves open space for the development of conceptual interconnections between economic growth, inequalities, and natural resource usage without providing a normative standard against which to benchmark.

Thirdly, sustainable development was developed in response to the difficulties of integration between socio-environmental and economic aspects in the Global North (Plaatjie, 2013) and as such has been deemed Euro-centric and Global North-centric (Plaatjie, 2013). Furthermore, it has been criticised for not including indigenous cultures' views. However, despite these critiques, sustainable development is the only development model that attempts to integrate environmental, social and economic aspects whilst having international policy significance (Baker, 1997; Estes, 2010; United Nations, 2015). Furthermore, due to the biodiversity and climate crises, it is becoming more urgent than ever to address sustainable development.

Adopted in 2015, the 17 Sustainable Development Goals (SDGs) have been developed through a participatory approach and provide a framework for current and future policy and indicators of sustainable development. However, the SDGs are contested and are not adopted by all countries (Spangenberg, 2017). Arguably, a HEI is uniquely positioned to support sustainable development approaches due to their work with global and local communities (Radinger-Peer & Pflitsch, 2017; Leal Filho et al., 2019). In addition, their capacity for developing epistemological links between theory and practice (Leal Filho et al., 2019) and work across sectors, often with a range of stakeholders such as non-governmental organisations, industry leaders, government, and international agencies (Vargas et al., 2019a) further reinforces this sustainability potential. Ultimately, HEI can use education for transformative learning to nurture skills and knowledge around sustainable development (Leal Filho et al., 2018; Sonetti et al., 2019).

Perhaps unsurprising given their position as places of learning and criticality, many HEI's have to some extent committed to sustainable development (Karatzoglou, 2013; Ramos et al., 2015). Despite this, the integration of sustainable development at a HEI is fragmented (e.g., Farinha et al., 2020; Giesenbauer & Müller-Christ, 2020; Lozano et al., 2015; Moura et al., 2019; Ulmer & Wydra, 2019; Roos et al., 2020; Roos & Guenther, 2020). Holistic approaches would require integration throughout their various activities, including outreach, research, curriculum review, staff development, campus, education, partnerships, collaboration, policy, and teaching and learning (Vargas et al., 2019b).

A shift towards integrative approaches is beginning to emerge (Karatzoglou, 2013; Ramos et al., 2015). This is happening in parallel with other worldwide developments in higher education. For example, in the United Kingdom, emerging national policy focuses on new mechanisms for funding higher education, reducing costs, and improving teaching and learning quality. Globally, the overall rate of student enrolment in tertiary institutions rose from 19% in 2000 to 40% in 2020,

but a more granular examination shows significant disparities with only a 5% growth in Sub-Saharan Africa, but 36% increase in Eastern and South-Eastern Asia. However, the highest rates of enrolment are still to be found in Europe and North America (79%) presenting an overall picture of regional disparities (UNESCO, 2022, p. 9).

The COVID-19 pandemic has not only affected the progression of Sustainable Development Goals (UN, 2020) but also significantly affected learning and teaching practices in higher education. As a result, many institutions are more cognisant of the need to harness the advances in providing innovative and accessible online and hybrid learning opportunities. This has the potential to adapt curriculum delivery models that can, in turn, change the nature of individualised carbon usage, re-contextualising the environmental considerations of an individual studying in higher education. The Royal Anniversary Trust report, Accelerating the UK Tertiary Education Sector towards Net Zero, picks up on this idea, making sector-wide proposals to expedite the changes in ways of working needed to achieve Net Zero (2023). This is to be achieved by reducing travel and transport by staff and students.

Taking environmental sustainability as an example, online learning has promoted the opportunity for tutors to provide content that learners can engage with without the need for travel, meaning less human impact on the natural environment. However, this process has relied on greater use of technology, promoting increased carbon emissions and further consideration of digital poverty (Black et al., 2020).

Post COVID-19, there is a wider acknowledgement that pedagogical approaches will need to move beyond the traditional to provide additional opportunities for community building and collaboration with a re-imagined emphasis on socially just pedagogies based on “care for self, others and the wider world” (Gravett et al., 2021, p. 2). This has implications for how HEIs develop their curriculum to promote accessible opportunities for learners in the context of sustainable education.

Flexibility and Choice

Youth policies, including educationally focused policies in countries such as the UK, New Zealand and Australia have shaped the development of ‘self-responsible neo-liberal citizens’ (France, 2016).

Through some neo-liberal systems, young people are encouraged to think of themselves as creative, flexible and responsible for their own success (Woodman & Wyn, 2015). Therefore, a flexible educational offer provides an ideal fit for the needs of emergent entrepreneurial selves preparing to become citizens of the future (Kelly, 2006).

Despite recognising that there are many forms of neoliberalism (Wacquant, 2012), what is of note in this context is the implication that neo-liberalism has shaped the society of the future through state, market, and citizenship, which impact one another (Wacquant, 2012, p. 71) influencing the trajectories of young people. In turn, this promotes independence and personal responsibility to inform choices; however, these choices are constrained by the individuals’ context and may not be achievable for all. This neoliberal vision appears to overlook the view that young people are agentic, influential, active citizens.

Interoperability

The concept of interoperability (standardised definitions and organisational policy decisions) is central to the desire to develop a more flexible higher education ecosystem as it enables the trust that allows students to port credit between institutions. This approach has been around since the late 19th century in the United States of America's educational system when the principle of credit equating to a volume of learning correlating to hours of study was established (Gerhard, 1955). This makes it possible to take credit gained at one institution and have it recognised and used as part of an award elsewhere.

In the United Kingdom, the Robins Report championed the idea of flexibility and choice for students to transfer between institutions (UK Committee on Higher Education, 1963). The foundations for transfer between institutions were laid in the 1970s as polytechnics adopted credit as a mechanism for developing modular programs alongside the UK Open University, where this approach was central to the principle of part-time study and choice about what and when to study building towards degree qualifications.

Key to this principle of transferring credit between institutions and building towards a qualification without initially embarking upon a named award are the concepts of credit for volume of learning and level as a way of signifying increased sophistication and depth of learning. Enabling frameworks such as the Credit Accumulation and Transfer Scheme in the United Kingdom sought to enable the transfer of credit gained in one university to another. The European Higher Education Area through the Bologna Process is a large-scale initiative including 49 countries that was even more ambitious in its aims to enable learning gained in one country to be recognised elsewhere (European Commission, n.d.) through a mapping of equivalences of credit (volume of study), level, and awards. However, the use of credit accumulation and transfer in the UK is underutilised and progress under the Bologna Process is patchy (DfE, 2017).

Despite the lack of takeup, there continues to be significant political interest in using the established interoperability structures described above to offer more flexible ways into higher education. For example, in the United Kingdom, the government has recently announced a new policy plan focused on a boostings skills for local communities. This policy plan aims to fill skills gaps and raise job prospects by increasing the offer of high-quality higher education at the local level through new funding mechanisms for students (HEFCE, 2021). The intention is to enable students to choose the skills demanded by employers to make them more employable, and over time accumulating small blocks of credit with different providers that can eventually be cashed in for a named award. In addition, there is also a growing interest in what is known as micro-credentials. These short, focused courses tend to be offered online and focus on a specific skill or capability required by employers and contribute to lifelong learning. However, there are no common standards that are needed for portability between institutions and widespread recognition by employers (European Commission, 2022).

The initiatives outlined above could be seen as disrupters to the marketplace by combining new business models and technological developments. This notion of disruption is developed in the following section, which explains the Theory of Disruptive Innovation developed by Bower and Christensen (1996) and its direct application to Higher Education.

Disruptive Innovation

The Theory of Disruptive Innovation is based on an analysis of previous innovations that significantly changed (disrupted) a business sector (Bower & Christensen, 1996). It is useful in this paper's context as it helps explain the conditions required for innovations to occur beyond the incremental, that is, minor changes or sustaining innovations that improve performance over time. The easiest way to explain this is through the often-used example of the digital camera invented by Eastman Kodak Company. Kodak specialised in analogue photography, and although they invented the first rudimentary digital cameras in the mid-1970s, they did not invest sufficient resources to capitalise on the invention. Instead, new entrants to the photographic business sector took up and developed the technology to the extent that it displaced the existing business of Kodak (Lucas & Goh, 2009).

The Theory of Disruptive Innovation explains this phenomenon by stating that for an innovation to be disruptive, it must bring together technological development with a new business model. Additionally, it demonstrates that incumbents in an existing market segment are often unable to take advantage of new technology and business models that would provide a comparable product. This is because internal competition for investment favours existing tried and tested products, with organisations unable to see far enough ahead to invest in the new to improve sufficiently to become a viable product or service.

This phenomenon can be applied to higher education, where innovative approaches to degree provision have been developed using technology and a new business model but needed more investment to become mainstream (Powell et al., 2015). Therefore, if the theory is to be believed, the challenge for current higher education providers is to recognise and respond to innovations that are likely to change the market substantially or if not, new entrants will eventually displace them as they refine and develop alternative ways of learning. However, Powell et al. (2015) argue that due to the homogeneity and slow change of the current higher education sector, there is unlikely to be enough leverage from existing providers to create substantial change. Instead, change is more likely to be generated by a new entrant to the marketplace with different staffing, financial models, organisational models, IT systems and ways of teaching, leading to a disruption of the higher education marketplace.

Staley (2019) rightly points out that the idea that the higher educational sector is ripe for disruption has been predicted by numerous authors, but there is little indication that a cataclysmic event has or is about to occur anytime soon. It is worth noting, though, that higher education is a highly regulated industry in most countries (Capano & Pritoni, 2019; Staley, 2019), so the free-market analysis presented by the Theory of Disruptive Innovation may not play out as predicted by the theory, but nonetheless it is a useful analytical tool. Indeed, Staley notices the idea of Barnett that as higher education systems inexorably adopt marketised models that “the main existential crisis facing universities is a paucity of ideas about what universities can become” (Staley, 2019, p. 12).

Research suggests that successful sustainable innovation must create a competitive advantage whilst benefiting both the environment and society (Carayannis et al., 2017). Secondly, students think that sustainable development and education for sustainable development should be core to their institution’s activities. For instance, in the United Kingdom, longitudinal research from 2010-2023 suggests that about 80% of students would like to see their institutions doing more in terms

of sustainable development, whilst 60% would like to gain more skills and knowledge in this area (SOS-UK, n.d.). Thirdly, biodiversity and climate crises are important drivers to integrate sustainable development in higher education institutions. Therefore, understanding the changes expected by students regarding the future student experience in the context of sustainable development is crucial for the higher education sector.

In seeking to develop sustainably, organisations can make incremental changes that maintain existing systems and structures but improve their overall performance through developing staff capabilities, or they can pursue disruptive changes that radically change the existing business model through implementing new structures and systems in combination with developing staff capabilities (Inigo et al., 2017).

However, it has been argued that disruptive changes instead of incremental changes are required to contribute significantly to sustainable development and the biodiversity and climate change crises (Cillo et al., 2019). Additionally, organisations need to reformulate their business models to create new markets and values for meaningful change. Therefore, disruptive innovation is required to advance towards sustainable development (Cillo et al., 2019; Nasiri et al., 2017).

Method

This inquiry was undertaken at a large higher education institution (c. 40, 000 students) in the Northwest of England. The practitioners undertaking this inquiry worked in a central Educational Development unit within the University. They used stage one of SSM (Checkland & Poulter, 2006) to structure an inquiry to find out about the context and specifics of the identified 'problematical situation': factors influencing student choice about HE in the future.

The inquiry design explained below was part of the successful funding bid and was informed by the requirements of the funders to use a scenario-based approach and provide an analysis informed by PESTEL methodology (CIPD, 2023). This analytical tool is widely used by organisations when they are seeking to make an examination of external factors that will have an impact on their business and it can be adapted and used in a wide range of contexts. In our case, the funders were particularly interested in the political (P), economic (E), Socio-ecological (combining social [S] and environmental [E]), and technological (T) influences of a potential future for Higher Education in 2035, setting aside the legal (L) implications.

This enquiry explored two provocations with expert witness focus groups consisting of 30 undergraduate students and 9 Learning Research Technologists, which led to a refined set of scenarios. The provocations used were:

- Learning is space agnostic, taking place in the workplace, the further education sector and through a proliferation of alternative providers.
- Students learn at a pace and place that suits them, selecting institutions by their reputation and the opportunities they provide but also that chimes with their personal values.

SSM requires the practitioners, the authors of this paper, to find out about the problematical situation which comprises the people, cultures, politics and relationships surrounding the activities and processes that are the subject of the investigation. This is achieved by using a range of

methods and then reflected on what has been found to arrive at an analysis of the situation being studied.

Our inquiry involved four key stages, first a literature review was conducted into the emergent literature on sustainable development, literature around change with a particular focus on HEI and flexibility and choice for students in line with the requirements of the PESTEL analysis.

Secondly, focus groups with undergraduate students took place both in person and online and required students to develop rich pictures (Barbrook-Johnson & Penn, 2022) exploring their views on HE learning in the year 2035. For one example, see Figure 1. These pictures were supplemented with detailed field notes to capture participants' discussions. They were then prompted to describe the pictures produced and elaborate on their thinking in relation to the scenario (Goebel et al., 2019).

Figure 1

Example of Rich Picture

Additionally, a focus group was undertaken with the Learning Research Technology unit at the University involving highly experienced learning technologists, many of whom had decades of experience in their roles which largely involves developing technological solutions for learners. This focus group explored the technological opportunities and challenges of the proposed scenario. Detailed field notes were taken, and the focus group was recorded and later transcribed.

Thirdly, the practitioners analysed transcripts and field notes from the focus groups using Braun and Clarke's six-stage model of thematic analysis. Given the complexity of the conceptual

framework, it was felt that this offered the most flexible and versatile approach to analysing the qualitative data obtained (Braun & Clarke, 2021). This analysis was iterative and supplemented by reviewing the rich pictures respondents had developed. When the SSM practitioners felt they were familiar with the data, they began to generate initial codes, identifying and refining themes collectively and focusing on patterns and meaning through a process of dialogue, review and reflection (Trainor & Bundon, 2021). This was a continuous process which took place over a period of weeks, allowing the SSM practitioners to revisit the data and confirm themes (Braun & Clarke, 2006).

Fourth, the outputs of the focus groups and the literature review were explored in depth by the SSM practitioners to arrive at the PESTEL analysis presented below in the Findings and Discussion and then to arrive at core components of a future student HE experience of choice elaborated as the contribution and conclusions of the paper. Whilst this approach contained some limitations most notably the number of respondents and the use of a single case analysis, it provided several thought-provoking outcomes which enabled a rich and detailed PESTEL.

Findings and Discussion

Political

A desire to reject core neoliberal values emanates very clearly from the research with expert witnesses. Responses surface feelings of anti or post-neoliberal rhetoric and a willingness to re-imagine the future higher education institution as a more democratic and less hierarchical environment.

Through the student focus groups, respondents began to challenge market-led higher education, making comments such as “Access to education should be fair and meritocratic and not dependent upon wealth or status” (student focus group). They also saw higher education institutions of the future as responsible for building communities and helping young people create a sense of identity. Suggesting “league tables are elitist – they should focus on individual biographies, and the space travelled for an individual, whether personal or academic” and “Making education accessible to all 'Allows everyone to succeed’” (student focus group). Other feelings were expressed about the standard of education across different providers, with respondents feeling a standardised 'learning offer' was central to reducing inequalities in student outcomes. “They should make the provision of education the same standard and quality regardless of the educational establishment and geographical context - there should be one standard of education of the same quality, just different types” (student focus group).

Post-neoliberal experiments can only be successful when they manage to deconstruct current neoliberal practices and rationalities.' (Zuidhof, 2015, p. 6). The views of student respondents in the focus groups highlight how students challenge normative thinking in visualising future learning in HE.The data presented shows globalised students are increasingly connected to the issues that will shape society throughout their lives and beyond. Being acutely aware of societal challenges, they continue to make choices that align with their own values about what a higher education institution should be, and the many ways different institutional agendas may shape their experiences.

Economic

The student focus groups also recognised that costs are and will continue to be a significant barrier to accessing HE and that technology provided opportunities to reduce or even eliminate these as a barrier. They also recognised that those providers perceived as having a better reputation could potentially charge more and that students would be prepared to pay. However, some rightly acknowledged that this would serve to further exacerbate disadvantage and reinforce elitism. Many participants expressed a desire to make the provision of education the same standard and quality regardless of the provider or geographical context. There was also a feeling amongst one focus group that large institutions would become aligned with particular companies or brands developing courses that were bespoke to those employers' needs and integrated within the workplace. They acknowledged this could be more cost-effective for employers who rather than relying on university-generated 'learning offers' (such as higher-level apprenticeships) could themselves “become the main source of learning, making it less expensive to grow their own talent.” (student focus group).

The student focus groups are not explicitly critical towards neoclassical and neoliberal economics. However, their discussion suggests an alignment towards higher education institutions where social transformation towards equality and equity in society is core to decision-making and practices (Giesenbauer & Müller-Christ, 2020).

Socio-ecological

The student focus groups expressed strong views about the importance of environmental considerations in the future of HE. Participants said that a key consideration in deciding to choose a particular HEI was based on to what extent doing so would affect their individual carbon footprint; in considering this, they asked themselves questions like “Can I walk there?', 'will I be expected to travel abroad?” (student focus group). Many also suggested that the higher education institution’s reputation for environmental sustainability was a determining factor in their decision to study there.

While student respondents suggested league tables and the recommendations of friends and family were critical determinants in that choice, they acknowledged the institution's approach to environmental sustainability was a fundamental factor in their decision. In addition, an institution's location was also considered in relation to environmental factors, suggesting “pollution levels and living costs will be higher in cities which has implications for where you would choose to study” (student focus group). Responses also indicated that environmental considerations would become more of a priority to learners in the future and could become a catalyst for the development of a richer sense of ecological identity and form the basis of communities with other like-minded individuals; suggesting that “the university will be eco-friendly and there will be more ecosystems - environmental ecosystems are going to be important in terms of where you are working and where you are studying” (student focus group).

Technological

The expert witnesses (respondents from the Learning Research Technology unit) were optimistic about the potential for technology to have a significant positive impact on the future of teaching and learning but also expressed some caution in identifying concerns around the commodification

of education and the physical distancing of students from institutions reducing their sense of belonging. Nevertheless, without making predictions, several technologies and practices that could potentially transform the experience of HE learners and practitioners in the future were identified (Powell et al., 2022).

Artificial Intelligence, characterised by the student experts as a ‘virtual helper’, was seen as providing the opportunity to respond to the needs of learners in a personalised and responsive way, perhaps through augmented and virtual reality immersed in the ‘metaverse’. Although this inquiry was undertaken before the recent rapid development of Generative Artificial Intelligence, it illustrates just how powerful this technology is becoming and the impact it can have on education (QAA, 2023). A key advantage of developments like these is that they can be provided without the resource costs that human interventions bring with them. This could free up staff time to focus on high-value activities such as building nurturing relationships.

Other technological developments identified by the expert witnesses included Blockchain technology, which is built on the back of crypto currencies. This technology could be used to record and share a wide range of student learning, including formal qualifications and other achievements as a means of developing an individual's personal brand. This technology could make a workable approach to capture a rounded picture of an individual's development from the mid-2000s but has had only patchy adoption in part due to technological limitations.

Drawing the suggested developments together, what stands out is how significantly enhanced flexibility could offer a truly personalised learning experience meeting the needs of individual students across a broad range of contexts, seamlessly integrating digital and analogue modes of learning, breaking down geographical boundaries, inequalities of opportunity in diverse and inclusive learning communities. One respondent even went so far as to suggest online learning will be a much better offer with 'on-demand learning' “Just like Netflix, lecturers are on the screen with a choice of what to engage with” (student focus group).

Examining this through the lens of disruptive innovation, technological developments provide the opportunity for new entrants into higher education or for existing providers to significantly change their offer.

Synthesising the findings and discussion above, students balance their practical needs for employability with their view about the experience of learning they can expect and the societal, economic, and ecological impact they believe their place of study will have locally, regionally, nationally, and globally. A learner's perceived 'consumerist ethic' also affects quality, standards, and reputation regarding education and skills acquisition. This makes the calibre and mission of the institution a key consideration in their choice as students seek to co-brand themselves with the provider of their learning. This underlying growth in demand for affordable higher education indicates an increase in providers. Yet, it shifts significant power into students' hands as technology frees access, promoting the easy sharing of rich digital transcripts of student achievements, and allowing for the reputation of providers to be readily shared.

Taking the analysis provided above, we have developed a typology of potential future higher education institutions that would appeal to students and, at the same time, are grounded in realistic technological developments, and this is presented below as a Higher Education System of Choice in sustainable development.

A Higher Education System of Choice

The higher education system of choice developed through this study, as shown in Figure 2 below, suggests three main future student experience scenarios related to the SDGs.

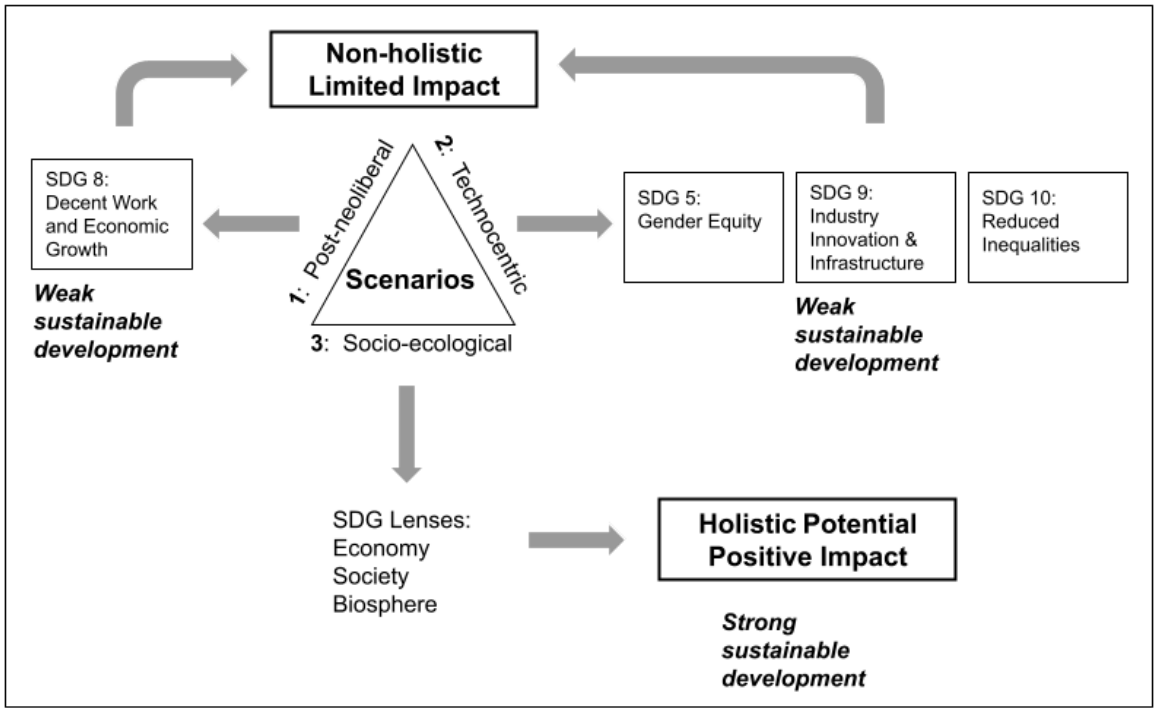
Scenario 1, Post-neoliberal, is focused on SDG8 but has no explicit focus on other SDGs. This means weak sustainable development (i.e., in the ladder of sustainable development) (Baker, 1977; see background section).

Scenario 2, technocentric, can contribute to SDGs 5,9, and 10. Although the social benefits in this scenario are explicit, there is still no holistic approach, including environmental, social and economic aspects. Therefore, this scenario suggests weak sustainable development.

Scenario 3, socio-ecological can contribute to sustainable development and potentially positively impact the SDGs. This could mean strong, sustainable development.

Figure 2

Future Student Experiences Scenarios Related to SGDs



However, high levels of innovation in higher education are essential to developing strong sustainable development (Giesenbauer & Müller-Christ, 2020). High levels of innovation in sustainable development require higher education institutions to be open organisations and interact with complex systems of relevant organisations and structures and processes (both internal and external) to create valuable products and services (Cillo et al., 2019). This creates a range of governance challenges but also helps organisations' resilience through understanding future stakeholder needs and directions of disruptive innovation (Cillo et al., 2019).

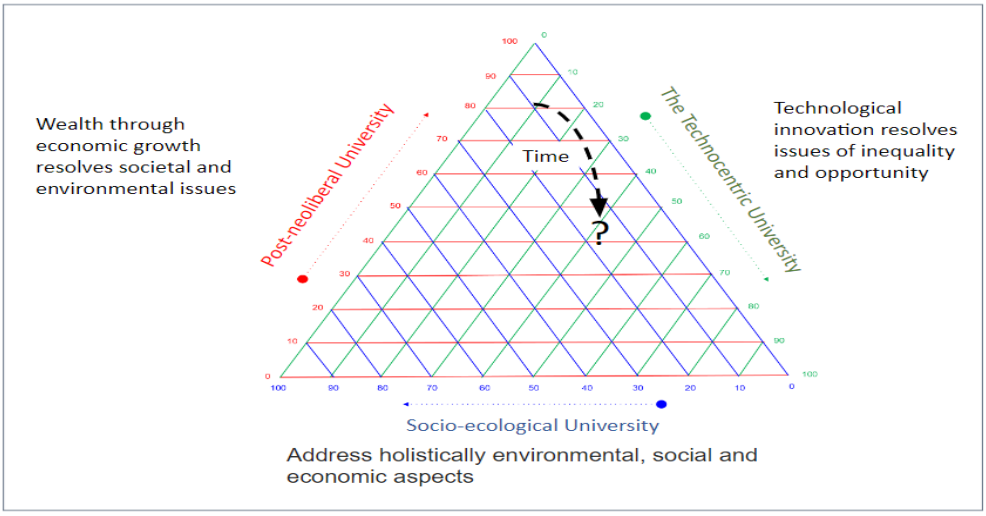
In synthesis, higher education institutions where sustainable development is a strategic part of the core activities, are rare but they are emerging. Students are showing interest in social and

environmental aspects at the core of their student experience, including reducing carbon footprint, increasing campus biodiversity, and focusing on equality, diversity, inclusion and wellbeing. Therefore, decision-makers at higher education institutions may wish to explore the positive and negative aspects of the potential of disruptive innovation as a tool to examine sustainable development. Further research is needed to connect perspectives on future student experience, the SDGs and the Ladder of sustainable development in different contexts to start to develop an understanding of the wider societal shifts in attitudes.

We have developed provocation to help institutions explore the findings and analysis presented above using a triangular graph. In Figure 3, the higher education triangle is suggested as a rhetorical device not a scientifically valid graphical presentation of findings.

Figure 3

Higher Education Triangle



We propose that the higher education triangle can be used as a tool for analysis and reflection to understand the nature of existing institutions or to design something new by reflecting on the extent to which an institution is represented by the three dimensions we have identified; post-neoliberal, technocentric, and socio-ecological. For example, by aiding participatory approaches bridging different stakeholder groups such as senior administrators, academic and professional services staff and students in providing a common vocabulary and concepts to explore sustainability issues and the contribution made by an institution. Using the triangle to help reflect on an institution would enable an identification of the current situation as a basis of a conversation about the future, which is in what direction an institution should develop itself. This could be achieved through an exploration of institutional vision, mission, and purpose statements that are the building blocks of what an institution claims its students will gain through their study beyond their subject or discipline. Analysing these in terms of the triangle could form the basis of sustainable development policy integration as an agreed common goal across an institution.

Conflict of Interest

The author(s) disclose that they have no actual or perceived conflicts of interest. The authors disclose that they have received funding from the Advance HE funding program Future Student Experience Project, grant number GEN 1321 for research in this manuscript. The authors have produced this manuscript without artificial intelligence support.

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