JODDE Journal of Open, Distance, and Digital Education

Lane, A. (2025). What does open, distance, and digital education contribute to sustainability?. *Journal of Open, Distance, and Digital Education, 2*(1), 1-15. https://doi.org/10.25619/mhsmzj36

Received: 10 April 2025 | Revised: 17 June 2025 | Accepted: 24 June 2025

What does open, distance, and digital education contribute to sustainability?

Andy Lane[1]

[1] The Open University, Milton Keynes, United Kingdom

Correspondence:
Andy Lane | e-mail: andy.lane@open.ac.uk

Abstract

Previous articles in this journal have discussed and dissected the meanings and relevance of open, distance and digital education (ODDE), often in comparison with the more traditional, place based or campus-based education. They have highlighted the connections, similarities and overlapping scope of these terms and their interpretation both now and in the past and even suggested new terms such as designed education. These categorisations seemingly reflect the perspectives of educational providers rather than those being provided for and what type of student is being catered for by the mode of education offered. These articles have also hinted at other dimensions to ODDE such as contributions to the concept of sustainability and to the implementation of the Sustainable Development Goals. This in turn raises issues of what we consider sustainability to cover and how sustainability is instantiated in higher education in general and ODDE in particular. Is a lower carbon footprint the only contribution ODDE can make to environmental sustainability? Does financial sustainability influence environmental sustainability and vice versa? Might social sustainability be another factor that needs to be addressed to support the Sustainable Development Goals? What role do students play in determining sustainability? This article uses key features of systems thinking in practice to explore this territory and begin to propose ways to navigate through a complex and adaptive system of interest.

Keywords

open education; distance education; digital education; sustainability; systems thinking in practice

1 Introduction

There have long been debates about the salient features of open education, distance education and digital education themselves and in relation to what is generally seen as the norm of place based or campus-based education. While such debates happen at all levels of education it has been most pronounced within higher or tertiary education and that is the focus used in this article. In adding to this debate, it is helpful to make clear on what basis any arguments or analysis are based. Ostensibly this article is about the place that sustainability might have in considering the upsides and downsides of open, distance and digital education (ODDE) compared to the alternatives, but it is also about using systems thinking to interrogate the full spectrum of modes of higher education and the main beneficiaries of those modes - students.

In this respect this article uses the key features of systems thinking in practice, as taught by The Open University UK (Reynolds & Howell, 2010), as a framework to aid this interrogation of the complexities of ODDE and higher education:

- understanding inter-relationships
- engaging with multiple perspectives
- reflecting on boundary judgements

This article also draws upon the equally long held debates (Hajian & Kashani, 2021; Ruggerio, 2021) about the framing of sustainability and how that is enacted. Rather than cover all aspects of this debate this article focuses on three often quoted pillars of sustainability:

- environmental sustainability (protecting and managing natural resources, ecosystems, and the environment to ensure their availability for future generations)
- economic sustainability (improving the quality of life, social cohesion, and creating just and resilient societies by addressing issues like equity, access to resources, and human rights)
- social sustainability (sustainable and inclusive economic growth that ensures prosperity without compromising the environment or social well-being).

Systems thinking in practice is also applied to these pillars and their application to ODDE and higher education, which add to the complexity of the overall picture.

2 A systemic approach to understanding higher education

2.1 Reflecting on the boundaries between categories of education

Humans like to categorise the world they interact with as how we think and speak about things affects how we behave towards them (Dryzek, 2022). There is an extensive literature on the processes behind categorisation but for the purposes of this article there are two main theories: 'classical' categorisation and 'similarity-based categorisation' (Taylor, 2003). Classical categorisation focuses on sets of characteristics so that there are clear boundaries between categories and no intermediates. Similarity-based categorisation looks at how similar things are to each other and each category is not necessarily clear cut and any boundary might be drawn in slightly different places by different people.

From the Editorial (Zawacki-Richter et al, 2024) and article by Nichols (2024a) in the inaugural edition of the *Journal of Open, Distance, and Digital Education* it is clear that the weight of opinion is on similarity-based categorisation for considering ODDE alongside place and campus based education and yet there is an underlying tendency to look for distinctive differences between

them to make the categories more classical in approach. This tension is seen in the statement from the Editorial about the Nichols' (2024a) article:

> We do not see eye to eye with him on several issues. First, while we admit that "traditional boundaries are not what they used to be" (p.3), we do not agree that "the' traditional' and 'non-traditional' distinction no longer applies" (p.3). The connotations of the terms "traditional" and "non-traditional" have been evolving in the past decades although their respective fundamental/core features remain essentially unchanged. Therefore, their distinction is relative rather than fixed and absolute. (p. 4)

Nichols (2024a) makes many points but concludes by noting:

> The terms 'open' and 'distance' themselves need to be reset. 'Open' can be considered a vision for education design that seeks to make education opportunities ever more available, inclusive, scalable, and sustainable. 'Distance' might be best replaced by the term 'designed,' which emphasises the importance of educational models as they seek to become more open. (p.14)

This adds yet another term to the debate about categorising modes of education although Nichols (2024b) has also said:

> Designed' recognises that all forms of education are, in some way, deliberately configured and are both enabled and limited by a particular operating model that supports that design. Using the term 'designed' immediately brings a clarification question: designed how? It is that 'how' question that frames important dialogue about educational methods and comparison. (p. 229)

While the 'how' question is important it does not explicitly also look at why a particular mode is used in terms of who decides which methods to use and for whom are the methods aimed at. In other words what is the purpose of the chosen mode of educational provision in terms of which people benefit from it and how much does the purpose influence the methods chosen? In doing so we are shifting the boundary from who designs the model to also include the students who engage with that model, which in turn raises questions of whether the design favours certain students more than others, or increasingly how much are students indirectly or directly involved in the design process.

2.2 Engaging with multiple perspectives on the purposes of education

Access to education is seen as a fundamental human right. This is reflected in Goal 4 - *Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all* - of the Sustainable Development Goals (SDGs) (United Nations, 2025). Amongst the seven targets set for Goal 4 is Target 4.3: *By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university*. This target raises questions as to how well different modes of education are at supporting affordable, equal access opportunities to different sectors of society. We can begin to answer this question by looking at it from the perspectives of the students and the teachers in tertiary education.

Campus-based universities largely teach students who live close to campus, often with family, and commute to their studies, or whose family home is distant and so live on campus or relatively close to the campus in student focussed temporary accommodation and can be considered as boarders. This means that the cost to students, the affordability of the education, is dependent not only on the finances that they can draw upon to pay for their tuition but also on accommodation, travel and subsistence costs. In contrast, distance education students largely live

and study in their own home and have fewer additional travel and subsistence costs to bear. On the face of it distance education looks more affordable to a student and particularly so if that student is disabled and has difficulties utilising a campus or has a job and family to look after and lives in a rural location a long way from any university campus. The basic difference of being based at a campus or rely on a distance education provider is not only an economic or financial factor in student decision making but also a social factor (Lane, 2009; 2013). In other words, students, depending on their own status and where their more permanent home is, have different degrees of freedom when choosing which mode of study they can readily engage with. Equally, the nature of interactions with fellow students and teaching staff are also different and suits some people more than others but may be the only option available. Such factors go a long way to explain the fact that over 20% of The Open University's students in the UK (OUUK) have declared disabilities. So, a central feature of openness is designing modes that provide for as many degrees of freedom as possible for prospective students.

However, the nature and degree of support for, say, disabled students that is built into the design of the open and distance education provision of the OUUK can make it more conducive to successful studying compared to campus-based provision with fewer adjustments being made for disabled students, or where older buildings, extensive campuses with very fixed timetabling can be challenging even for able bodied students (making adjustments for disabled students can often benefit more able students as well). Higher education institutions make choices about who in society they want to study with them given the policies and culture prevalent in the country they are based in. Thus, most universities, of whatever mode, have entry requirements in terms of previous qualifications and grades before a prospective student can register on a particular programme. Equally some universities charge tuition and other fees while in some countries there are no fees as tuition costs are covered by public and/or private funding. Such policies variously open up or close down options for those seeking higher education. To return to the OUUK as an example, it charges tuition fees like other universities in England (but at a lower rate), but it is almost unique in requiring no previous qualifications to gain entry on to an undergraduate programme of study. That requires much attention being paid to the design of the main entry modules as well as to the surrounding tutorial and pastoral support provided to all students who want to make use of them. Furthermore, as well as open entry, the OUUK also runs open degrees where students get to choose which modules they wish to study (within certain constraints) rather than follow a given pathway through mandatory and optional modules for named degrees (Taylor et al., 2021). Providing flexibility in study patterns within ODDE requires heavy up-front fixed costs in producing the educational provision but has low marginal costs in terms of each additional student that registers on a module or programme, and which can lead to large numbers of students (several thousand) on individual presentations as discussed by Lane et al. (2014).

The main point here is that the design choices made by teachers at different higher education providers when constructing their educational provision can increase or constrain the degrees of freedom that students have in being able to successfully afford, access and achieve their goals with that provision (Lane, 2009). Advances in technology, in particular digital technologies have increased the design choices for teachers and the study choices for students. Where once a campus university library had limited copies of certain textbooks for students to borrow there can now be access to much larger numbers of digital copies. Where students were expected to buy expensive commercial textbooks for their programme of study, they may now have access to cheaper, openly licensed textbooks available as open educational resources. Where distance education students had to rely on the postal service to submit assignments and get feedback or travel to site-based tutorials, they can now submit assignments through electronic means, attend

online meetings without having to travel and converse with tutors by email rather than by post or at those tutorials. In this sense the rise of digital technologies has expanded the design choices while at the same time not replacing those used previously. Alternatively, we can view technologies and learning in the way that Dron (2024) does:

> We learn to be technologies as much as we learn to use them, and each use is itself a technology through which we participate both as parts and as creators of nodes in a vast technological connectome of awesome complexity. (p. 1)

2.3 Understanding the interrelationships between drivers of education

The debates around modes of education engendered by this journal also do not readily feature the disciplinary and socio-economic nature of the educational provision and how that influences what is taught, how it is taught and who can access it, as well as the history and roles that underpin how and why higher education institutions do what they do. As noted in SDG 4 target 4.3, equal access is to be provided to technical, vocational and tertiary education. This is seemingly a classical rather than similarity-based categorisation and while different types of institution using different methods of teaching and learning do exist it is also important to note that wider political and professional choices often determine what different institutions can and cannot teach. For example, nursing education is often regulated by governments and/or professional bodies with both setting out requirements for nursing education that can constrain which universities may be able to offer such programmes due to the cost and space needed to offer such provision, as well as proximity to hospitals or other medical establishments. With significant on the job training in hospitals often sitting alongside 'classroom' study it may be thought that distance education could not offer such provision, but the OUUK has been able to do so but equally must engage with many different medical institutions across the country rather than one or two locally. However, it has not been possible to provide medical or veterinary education due to practical and political constraints including the costs of the provision, which itself includes the appropriate teaching staff required. Some of those constraints also include professional bodies that regulate professional practice and will accredit relevant educational programmes. Professional bodies in some countries support ODDE programmes that can lead to professional recognition, such as engineering in the UK, similar bodies in other countries do not (yet). Such differences are often down to differing perceptions of the mode of education (in this case open and distance education) as not being equivalent to campus-based provision due to the social, cultural and political norms in a country that can take a long time to change (Mattour & Kamoun-Chouk, 2024; Pregowska et al., 2021).

Another political constraint can be regulations over minimum face to face tuition hours per week for tertiary education irrespective of mode of education. The Arab Open University has some programmes based upon modules and thus teaching materials developed by the OUUK, but whereas students at the OUUK are not required to have face to face tuition and now have no or very limited face to face tuition through the advent of synchronous digital tuition, students at the Arab Open University are expected to attend 4-8 hours of face-to-face tuition per week in addition to the study time built into the module design(Arab Open University, 2024). Indeed, it should not be forgotten how many universities are either a creation of governments or have their operations strongly influenced by governments and most open universities have been very much state led interventions as described in some detail by Tait (2008). So, just as students may have varying degrees of freedom in relation to what they can study and where they can study, higher education institutions have varying degrees of freedom in what they can teach and by what methods, and which of them are financially viable given the student demand for their offerings. And these degrees of freedom have been enhanced by digital technologies such that more and more

'traditional' campus universities are able to offer some distance learning programmes, either as a separate offering or as an alternative to the fully place based provision, or by enabling part time study alongside full-time study. That is not to say that such developments are always better for students. The overuse of online tutorials as part of full-time campus provision may make students who are 'boarders' wonder why they need to live away from home.

This brief journey around some of the features of higher education in general and ODDE in particular through the lens of systems thinking in practice indicates that categorisation of modes of education involves a spectrum. It also indicates that any categorisation must be viewed in context, taking account of local, national and international influences and drivers. Such influences and drivers are not limited to the modes of educational provision but also the wider role that universities play in society and economy alongside other organisations, including their contribution to sustainability.

3 What has sustainability got to do with higher education?

3.1 Engaging with the boundary judgements and multiple perspectives on sustainability and higher education

Sustainability is another topic where there are contested debates on what it covers (Hajian & Kashani, 2021; Ruggerio, 2021). As with higher education there are differing categories of sustainability in the literature (environmental, economic and social being one categorization) that overlap and interrelate in many ways. In examining how these claimed pillars of sustainability relate to higher education and ODDE it is also necessary to examine the boundary judgements and multiple perspectives involved.

In the two articles from the inaugural edition of JODDE we had Nichols, (2024a, p.13) saying that ODDE is:

> Sustainable, characterised by, one, a low carbon footprint and, two, long-term financial viability while providing a quality, reliable service,

while the Laurillard, (2024, p.1) claims

> The open, distance and online technologies are powerful systems for transforming the value and reach of education. This article considers the extent to which they can be deployed in service of one of the greatest educational challenges we have represented in the UN Sustainable Development Goals (SDG).

Even in these two articles we have a narrower focus on environmental and economic sustainability contrasted with the more expansive role of the SDGs that variously encompass all three pillars. The intent and targets of the SDGs can apply to nation states and organizations alike (Lozano & Barreiro-Gen, 2023) including higher education institutions (De la Poza et al., 2021). One very specific contribution of higher education to sustainability has been through Education for Sustainable Development (ESD) or its counterpart Education for Sustainability (EfS) (Lwin et al., 2024). While sustainability and sustainable development are often used interchangeably in discourses these do represent different perspectives and have different histories, however, for this article is it sufficient to think of then as synonyms.

While ESD has a 50 year or more history (Zhang & Wang, 2022) it is more recently that it gained global recognition beyond the ESD community itself. If we return to SDG 4 we can find target 4.7:

> By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development. (United Nations, 2025)

So, given the overall scope of SDG4, and that sustainable development or sustainability is something that universities are expected to engage with both specifically in their teaching and more generally in their operations, does ODDE provide anything different to place or campus-based- education in terms of both teaching and operations? And is that difference related to environmental, economic and/or social sustainability?

3.2 Reflecting on interrelationships between education as a social activity and higher education institutions as businesses

A recent report from the European Association of Distance Teaching Universities (EADTU) looks in detail at what make a sustainable or green university. To quote from the report (Ubachs et al., 2024):

> A "Green Campus" refers to a Higher Education Institution (HEI) campus that is designed, built, and operated in an environmentally sustainable manner. This can include a variety of initiatives such as energy efficiency, use of renewable energy sources, recycling and waste reduction programs, sustainable transportation options, and conservation of natural resources. Green campuses also often include green spaces, such as gardens and parks, which provide habitat for wildlife and opportunities for outdoor recreation for students, faculty, and staff. (p.2)

This definition seems designed for any university, perhaps even more so for place or campus-based universities and is also focused much more on environmental sustainability, with some reference to social sustainability (outdoor recreation) with nothing explicit on economic sustainability. Yes, ODDE institutions do have (often several) buildings or campuses in different locations where many of their staff work or students come to tutorials, and so the scale of their operational impact may be lower than a traditional campus but is this impact significant? And what role does the teaching and learning model employed play in making a campus (however defined) environmentally (and socially) sustainable?

There are many environmental impacts from the provision of higher education but one that is very prominent is reducing carbon emissions to mitigate climate change. In some countries, such as the UK, government legislation requires Universities to reduce their carbon emissions over time as part of national drive to net zero (JISC, 2008). Much of the focus of activity to reduce carbon emissions has been on the general operations of campuses (including travel), in terms of quantities used, efficiency of buildings and equipment and sources of energy. However, all this effort had only an indirect relationship to the teaching and learning model being used. The first major quantitative study to assess the energy consumption and carbon impacts of campus-based and distance higher education systems was by Roy et al. (2005). Their study found that on average the production and delivery of distance teaching consumed nearly 90% less energy and produced 85% fewer CO_2 emissions than campus-based higher education courses and modules. The much lower impacts of distance learning was found to be mainly due to a major reduction in the amount of student travel, economies of scale in utilization of the campus site, and the elimination of much of the energy consumption associated with students' housing.

With the subsequent increase in online modes of teaching and learning using digital technologies across higher education it was necessary to do an updated study that examined the role of digital technologies in higher education teaching models and their effect on carbon reduction (Caird et al., 2015). As with the earlier study, this later study found that the main sources of carbon impacts were associated with travel, residential energy consumption and campus site operations. However, the use of Information and Communication Technology (ICT) based teaching delivery methods worked as well as traditional distance teaching methods in reducing these sources of energy consumption and therefore achieved significant carbon reductions similar in scale to those found in the earlier study.

This explains the 'low carbon footprint' expounded by Nichols but it is a small benefit given the full set of SDGs and what they cover, such as operational impacts on biodiversity, food consumption, and disposal of solid waste. Equally, new technologies provide new opportunities for there to be rebound effects where savings in energy in one activity may be offset by a rise in energy consumption in another. ICTs do consume energy but so far this is not as great as other activities such as travel or heating buildings or conversely providing air conditioning. Nevertheless, the advent of generative artificial intelligence, including its widespread use in education, could increase rather the decrease energy use in general and within higher education (Selwyn, 2024: Khan et al, 2025). Yet again, design choices by teachers and study choices by students can impact sustainability, although as already noted energy use is but one part of sustainability. Equally, student pro-environmental behaviours go beyond study choices and can play a significant role in how HEIs implement sustainability (Mohammadi, 2023).

3.3 Understanding different approaches to addressing sustainability in higher education

The 17 SDGs have 16 sector goals that cover various economic (such as SDGs 8 Decent Work and Economic Growth and 9 Industry, Innovation and Infrastructure), social (such as SDGs 1 No Poverty and 5 Gender Equality) and environmental (such as 14 Life Below Water and 15 Life On Land) topics that impact sustainability, with many reflecting two or more of these topics such as 13 Climate Action (see Figure 1). While seen as laudable goals there is also much comment on how well nations (e.g. Al-Saidi, 2021) and organisations (e.g. Erin and Bamigboye, 2022) are addressing them. However, there does seem to be broader and deeper engagement with sustainability by HEIs that reflects SDG 17, Partnerships for the goals, as well as organisations wanting to rank and/or rate HEIs against the SDGs or other measures of sustainability. For example, globally there are the Times Higher Education rankings (THE, 2024) - which lists four open universities in its lower ranks, the QS rankings (Quacquarelli Symonds [QS], 2023) which lists only one, and nationally for the UK the People and Planet League (People and Planet, 2025), which includes the OUUK. Each of these organisations uses largely publicly available data and different criteria and with different weightings to create these rankings.

Figure 1: The sustainable development goals (United Nations, 2025)

Ratings and rankings provide an external perspective on the performance of HEIs but there are many ways in which universities themselves are thinking about and addressing sustainability and reflecting the aims of SDG 17, Partnership for the goals, and some are also doing so as part of organised networks that provide guidance and oversight of actions in this area. For instance, in 2017, The Alliance for Sustainability Leadership in Education (formerly the Environmental Association of Universities and Colleges [EAUC]) based in the UK but with international reach, launched the SDG Accord (EAUC, 2017) which both inspires, celebrates and advances the critical role that education has in delivering the SDGs and a commitment by HEIs to do more to deliver the goals and annually report on their progress. This provides a collaborative approach but one in which individual HEIs can influence how they are reporting on progress. More details on sustainability reporting and assessment practices can be found in Mapar and Caeiro (2024).

As an even more specific approach for HEIs, the EAUC also developed the LiFE tool which has provided its many members both in the UK and in other countries with a broad framework to bring together all aspects of the institution in addressing sustainability together in a holistic, whole-institution approach (see Figure 2). This model reflects the fact that there are both inward looking and outward looking dimensions to a green campus centred around environmental sustainability, but with coverage of contributions to social sustainability through partnerships and engagement and economic sustainability (of the HEI if not higher education more generally) through estates and operations. However, it is noticeable that learning and teaching is just one, albeit perhaps a major, aspect of university operations that need to be considered by staff, students and other stakeholders when trying to improve their sustainability (Lane, 2024). It also does not make explicit who are the main stakeholders in the business of an HEI, and particularly the central role of students as the most numerous, if more temporary, members.

Students have two roles they can play in their HEI, as a consumer of its services – primarily its teaching but also various support services and facilities such as catering and waste disposal – and as an activist trying to influence HEI policy and practice (Zarandi et al., 2022). The premise of ESD is about educating students about sustainability (Tomasella et al., 2023) but there are debates

about how to do so, through specific courses or embedding sustainability across the whole curriculum (Wang, et al., 2022). In the UK, at least, it is not enough to leave teaching about sustainable development to such specialist courses and the trend, encouraged by students themselves (SOS-UK, 2025) is to embed teaching on aspects of sustainable development in all programmes of study, reflecting the wide-ranging coverage of the SDGs themselves. Equally, student groups not only try to influence what they are being taught but also influence operational policies and practices, something that is easier to do on a campus-based HEI than an ODDE HEI.

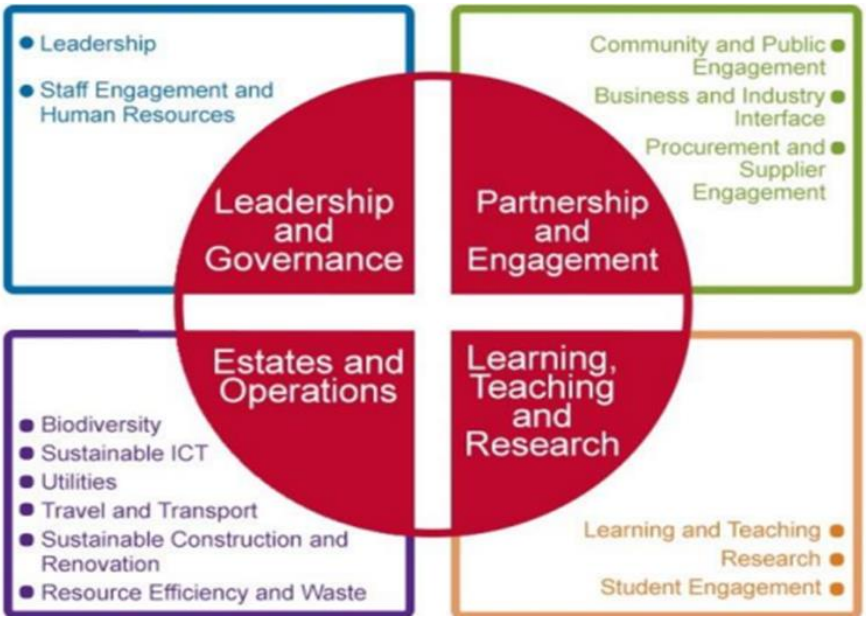

Figure 2: The LiFE Framework for a green campus (Appleton, 2017, p. 2)

So far we have only looked at the operational impacts of different modes of learning and teaching as a contribution to sustainability in which ODDE models offer some limited benefits, but what else might ODDE institutions do differently to place or campus-based institutions to support sustainability in general and the SDGs in particular?

Returning to the earlier discussion about who any teaching model is aimed at then it is likely that ODDE institutions can reach more people with their efforts to promote sustainable development as envisaged in target 4.7 of SDG4. Indeed Laurillard (2024) explained the need for universities to do more and that: "ODDE technologies, especially MOOCs and digital tools, can be deployed successfully to scale up our impact on the radical changes needed in the actions of professionals in all sectors" (p. 1).

In this case the focus is on initial and continuing professional development in all fields, but a similar argument can be made for other groups in society through lifelong learning that does not require attendance at a campus and provides more flexibility in study patterns. Promoting sustainable development/sustainability has long been a focus for specific environmental modules and programmes of study. Whereas environmental programmes at most universities will teach tens of students per annum, the OUUK teaches hundreds per annum. However, the OUUK has its unique open qualifications through which students can choose, within defined regulations, their own profile of modules from across the undergraduate and postgraduate curriculum, raising student numbers to the low thousands per annum. Lastly, the OUUK has many free

courses and other educational resources via its OpenLearn platform. Most of these free courses are derived from credit bearing modules but some free courses and most other short form, rich media educational resources are made especially for OpenLearn or other channels such as YouTube. The annual learner audience for environment related courses and related content on these channels is in the hundreds of thousands. While such large numbers are encouraging it is still an optional offering and not one that reaches all students or indeed all people. Therefore, the approach now is to appropriately embed sustainability in all disciplines to hopefully increase engagement and impact.

4 Concluding reflections

Sustainability is now a very important consideration for all higher education institutions and there are many articles, reports and networks providing information, advice and guidance as to how to address it. But, as noted by Lane (2024, p. 87):

> While this may provide a list of things to consider the fundamental point is that there is no one standard approach to sustainability. Off the peg or tick box approaches can appear attractive on the surface but change can often be just that, on the surface. The key to success is for a university or college to define sustainability for itself and build a unique strategy and structure which reflects its nature, context, and geography. This is particularly true for distance education universities with their mode of teaching, the geographical spread of their students and often their multi campus estate.

The overall message of this article is that rather than labelling a mode of education by some characteristic or other or to define sustainability in a singular way, it is better to describe these modes and the complexity they represent as if they were a system of interest in which the purpose of the system is acknowledged and the consequences that it has for the design of the mode or modes of education employed by any specific institution as they address sustainability.

There are many ways in which such a purpose may be developed and described but one method, derived from systems thinking in practice, is to set out what is called a root definition of a system of interest using a PQR formula: a system to (P), by means of (Q) in order to (R). In other words, this is a what, how, why statement. This creates a much stronger statement of purpose that can include multiple features, but also means that there can be debates on the exact wording used but which at the same time must acknowledge the perspective of its creator(s). Such a root definition attempts to reconcile boundary judgements, acknowledge multiple perspectives and recognize interrelationships. Creating such statements ideally requires many people working together to craft and debate them. To give a flavour of what is possible, the following is just such a statement produced as part of an internal discussion within the OUUK by a network of systems thinkers to define the OUUK (or parts of it since such statements can be used at different levels of activity):

> A system for creating, shaping and sharing knowledge, skills and behaviours amongst diverse, distributed and distant individuals, teams and communities of learners, scholars and other practitioners through open, engaged and technologically enhanced sets of policies, practices and capabilities in order to support advances in social, cultural and environmental justice. (The author's post on internal online forum on July 11, 2023)

Looking back on this statement, which has yet to be followed up on, it says nothing explicitly about sustainability per se but does imply it under the guise of social, cultural and environmental justice, which is about how the activities of the OUUK focus much more on the needs of the people rather than those relating to the operation of the university itself which impinge upon the needs of the planet. It does reflect the idea of designing in its use of creating and shaping and it

also acknowledges that key actors are distributed and distant and that it is open and technologically (digitally?) enhanced. But what is crucial is the focus on the people and their practices and that the latter are not just reduced to those of teaching and learning per se but of a richer set of ways of sharing knowledge.

Lastly, it is also important to remember that dealing with sustainability is a journey and not an event, just as providing education is a journey and not an event. As noted in the inaugural edition of JODDE the scope and nature of ODDE has continued to evolve as technology and technology supported practices evolve. At the same time the context in which universities operate are also changing. ODDE can provide quality education about sustainability at scale, through creating lower carbon emissions and doing so at lower cost compared to equivalent campus-based provision. But that also depends on whether individuals, groups, organisations, and governments are willing and able to take advantage of these benefits in an organised way rather than expecting to happen organically. This article has downplayed the role of ODDE in how higher education institutions are collectively addressing sustainability, but perhaps open universities can react to the call by Olcott (2024) in this journal and add environmental to social justice:

> Open universities have opened the doors to HE for millions of underserved, marginalized and socially excluded citizens across the globe. Moreover, open universities, like most universities in free societies, have been the gatekeepers of democratic ideals and social justice. One of the remarkable legacies of open universities has been their willingness to not only engage with controversial and politically volatile issues but to seek solutions, fight injustices, and search for new ways to serve the majority. (p. 14).

References

Al-Saidi, M. (2021). Cooperation or competition? State environmental relations and the SDGs agenda in the Gulf Cooperation Council (GCC) region. *Environmental Development, 37*, 100581. https://doi.org/10.1016/j.envdev.2020.100581

Appleton, E. (2017). *Next generation sustainability strategy and structure: Whole-institution approaches to sustainability in universities and colleges*. https://www.iau-hesd.net/sites/default/files/documents/next_generation_strategy_and_structure_report_1_1.pdf

Arab Open University. (2024). *Student prospectus 2024-25*. https://www.arabou.edu.kw/students/guide/Documents/Student%20Prospectus%202024-2025.pdf

Caird, S., Lane, A., Swithenby, E., Roy, R., & Potter, S. (2015). Design of higher education teaching models and carbon impacts. *International Journal of Sustainability in Higher Education, 16*(1), 96-111, http://dx.doi.org/10.1108/IJSHE-06-2013-0065

De la Poza, E., Merello, P., Barberá, A., & Celani, A. (2021). Universities' reporting on SDGs: Using the impact rankings to model and measure their contribution to sustainability. *Sustainability, 13*(4), 2038. https://doi.org/10.3390/su13042038

Dron, J. (2024). Learning: A technological perspective. *Journal of Open, Distance, and Digital Education, 1*(2), 1-16, https://doi.org/10.25619/dpvg4687

Dryzek, J. S. (2022). *The politics of the earth: Environmental discourses*. Oxford University Press. ISBN: 9780198851745

Environmental Association of Universities and Colleges. (2017). *The SDG Accord*. https://www.sustainabilityexchange.ac.uk/the_sdg_accord

Erin, O. A., & Bamigboye, O. A. (2022). Evaluation and analysis of SDG reporting: evidence from Africa. *Journal of Accounting & Organizational Change, 18*(3), 369-396.

Hajian, M., & Kashani, S. J. (2021). Evolution of the concept of sustainability. From Brundtland Report to sustainable development goals. In *Sustainable resource management* (pp. 1-24). Elsevier.

JISC (2008). *How does the Climate Change Act 2008 affect colleges and universities?. JISC Legal. https://www.sustainabilityexchange.ac.uk/how-does-the-climate-change-act-2008-affect-colleg#:~:text=the%20FAQ%20below.-%20,How%20does%20the%20Climate%20Change%20Act%202008%20affect%20colleges%20and,national%20targets%20for%20carbon%20reduction*.

Khan, S., Mazhar, T., Shahzad, T., Khan, M. A., Rehman, A. U., Saeed, M. M., & Hamam, H. (2025). Harnessing AI for sustainable higher education: ethical considerations, operational efficiency, and future directions. *Discover Sustainability, 6*(1), 23. https://doi.org/10.1007/s43621-025-00809-6

Lane, A. (2009). The impact of openness on bridging educational digital divides. *International Review of Research in Open and Distributed Learning, 10*(5). https://doi.org/10.19173/irrodl.v10i5.637

Lane, A. (2013). The social and economic impacts of open education. In Meiszner, A. & Squires, L. (Eds.), *Openness and Education* (pp. 137-172). Emerald Group Publishing Limited. https://doi.org/10.1108/S2051-2295(2013)0000000006

Lane, A. (2024). Division of Tasks and Responsibilities. In G. Ubachs, S. Kataja-aho, C. H. Aydin, A. Bozkurt, A. Lane, M. Mapar, S. Caeiro, L. Jensen-Lampiri, A. Karhunen, U. Helimo, S. Becker-Schröer, A. Gerstenmeier, & A. Goupilleau (Eds.), *Green Campus Initiatives in Online and Distance Higher Education,* (pp. 85-92). European Association of Distance Teaching Universities. https://doi.org/10.5281/zenodo.13944881

Lane, A., Caird, S. & Weller, M. (2014). The potential social, economic and environmental benefits of MOOCs: operational and historical comparisons with a massive 'closed online' course, *Open Praxis, 6*(2), 115-123, https://doi.org/10.5944/openpraxis.6.2.113

Laurillard, D. (2024). The power of ODDE: Is it equal to the challenges of the SDGs? *Journal of Open, Distance, and Digital Education, 1*(1), 1-16, https://doi.org/10.25619/dl6dch74

Lozano, R., & Barreiro-Gen, M. (2023). Organisations' contributions to sustainability. An analysis of impacts on the sustainable development goals. *Business Strategy and the Environment, 32*(6), 3371-3382. https://doi.org/10.1002/bse.3305

Lwin, B., Lane, A., & Slater, R. (2024). Contextualising the principles, policies and practices needed to implement education for sustainable development into HEIs in Myanmar. In *The Southeast Asian Conference on Education 2024: Official Conference Proceedings* (pp. 189-201). The International Academic Forum (IAFOR). https://papers.iafor.org/submission76409/

Mapar, M. & Caeiro, S. (2024). Assessment and reporting. In G. Ubachs, S. Kataja-aho, C. H. Aydin, A. Bozkurt, A. Lane, M. Mapar, S. Caeiro, L. Jensen-Lampiri, A. Karhunen, U. Helimo, S. Becker-Schröer, A. Gerstenmeier, & A. Goupilleau (Eds.), *Green Campus Initiatives in Online and Distance Higher Education,* (pp. 65-73). European Association of Distance Teaching Universities. https://doi.org/10.5281/zenodo.13944881

Mattour, N., & Kamoun-Chouk, S. (2024, May). Exploring the Dynamics of Cultural Influence on Distance Learning Technology Acceptance: Evidence from the MENA Region. In *International Workshop on Learning Technology for Education Challenges* (pp. 110-139). Cham: Springer Nature Switzerland.

Mohammadi, Y., Monavvarifard, F., Salehi, L., Movahedi, R., Karimi, S., & Liobikienė, G. (2023). Explaining the sustainability of universities through the contribution of students' pro-environmental behavior and the management system. *Sustainability*, *15*(2), 1562.

Nichols, M. (2024a). What's in a name? Wrestling with 'ODDE'. *Journal of Open, Distance, and Digital Education*, *1*(1), 1-16, https://doi.org/10.25619/fd6dch73

Nichols, M. (2024b). We need to talk about how we talk about what we talk about: Revisiting ODL. *Asian Journal of Distance Education, 19*(1). https://www.asianjde.com/ojs/index.php/AsianJDE/article/view/786

People and Planet (2025, February 10). *The 2024/25 People & Planet University League*. https://peopleandplanet.org/university-league

Pregowska, A., Masztalerz, K., Garlińska, M., & Osial, M. (2021). A worldwide journey through distance education—from the post office to virtual, augmented and mixed realities, and education during the COVID-19 pandemic. *Education Sciences*, *11*(3), 118.

Quacquarelly Symonds. (2023). *QS World University Rankings: Sustainable Development Goals*. https://www.topuniversities.com/university-rankings/world-university-rankings/sustainable-development-goals

Reynolds, M. & Holwell, S. (Eds.) (2010). *Systems approaches to managing change: A practical guide*. Springer.

Roy, R. Potter, S. Yarrow, K and Smith, M. (2005). *Factor 10 Visions Project: Towards Sustainable Higher Education: Environmental impacts of campus-based and distance higher education systems*, Final Report DIG-08, Design Innovation Group, The Open University UK. https://doi.org/10.21954/ou.ro.00009b47

Ruggerio, C. A. (2021). Sustainability and sustainable development: A review of principles and definitions. *Science of the Total Environment, 786*, 147481. https://doi.org/10.1016/j.scitotenv.2021.147481

Selwyn, N. (2024). On the limits of Artificial Intelligence (AI) in education. *Nordisk Tidsskrift for Pedagogikk Og Kritikk, 10*(1), 3–14. https://doi.org/10.23865/ntpk.v10.6062

Tait, A. (2008). What are open universities for? *Open Learning: The Journal of Open and Distance Learning*, *23*(2), 85-93. https://doi.org/10.1080/02680510802051871

Taylor, J. (2003). *Linguistic Categorisation*. Oxford, UK: Oxford University Press.

Taylor, P. G., Cooke, H., & Lane, A. B. (2021). Open by Degrees: Personalization at Degree and Module Level. In C. N. Stevenson (Ed.) *Enhancing Higher Education Accessibility Through Open Education and Prior Learning* (pp. 1-25). IGI Global.

THE. (2024). *University Impact Rankings 2024*. https://www.timeshighereducation.com/impact rankings

Tomasella, B., Wylie, A., & Gill, D. (2023). The role of higher education institutions (HEIs) in educating future leaders with social impact contributing to the sustainable development goals. *Social Enterprise Journal, 19(4)*, 329-346. https://doi.org/10.1108/SEJ-03-2022-0027

Ubachs, G., Kataja-aho, S., Aydin, C. H., Bozkurt, A., Lane, A., Mapar, M., Caeiro, S., Jensen-Lampiri, L., Karhunen, A., Helimo, U., Becker-Schröer, S., Gerstenmeier, A., & Goupilleau, A. (2024). *Green Campus Initiatives in Online and Distance Higher Education*. European Association of Distance Teaching Universities. https://doi.org/10.5281/zenodo.13944881

United Nations. (2025, February 10) *Sustainable Development Goals*. https://sdgs.un.org/goals/goal4#targets_ and_indicators

Wang, Y., Sommier, M., & Vasques, A. (2022). Sustainability education at higher education institutions: pedagogies and students' competences. *International Journal of Sustainability in Higher Education. 23*(8), 174-193.

Zarandi, N., Soares, A. M., & Alves, H. (2022). Student roles and behaviors in higher education co-creation–a systematic literature review. *International Journal of Educational Management, 36(7)*, 1297-1320. https://doi.org/10.1108/IJEM-08-2021-0317

Zawacki-Richter, O., Xiao, J., Slagter van Tryon, P.J., Lim, D., Conrad, D., Kerres, M., Lee, K., & Prinsloo, P. (2024). Editorial – Inaugurating the Journal of Open, Distance, and Digital Education (JODDE). *Journal of Open, Distance, and Digital Education, 1(1)*, 1-4. https://doi.org/10.25619/ozr2ce72

Zhang, Y., & Wang, P. (2022). Detecting the historical roots of education for sustainable development (ESD): A bibliometric analysis. *International Journal of Sustainability in Higher Education, 23(3),* 478-502. https://doi.org/10.1108/IJSHE-11-2020-0462

Author's Contributions

The author was responsible for all aspects of the article and has read and agreed to the published version of the manuscript.

Acknowledgement of Use of Generative AI Tools

GenAI was not used in the development of this article.