Definitions of the Terms *Open*, *Distance*, and *Flexible* in the Context of Formal and Non-Formal Learning

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Abstract

This opinion piece seeks to define and contextualise educational terms that are used, and appear to be misused, in contemporary academic literature and practice. It aims to explore the concept that these three words, *open*, *flexible*, and *distance*, fall into the categories of policy, mode of learning, and models of delivery. In the context in which the global educational community across all sectors adapts to new forms of learning, it is essential that practitioners agree on the terminology. Words have definitions, but they also have technical meanings and daily, commonplace, uses that sometimes defy those dictionary definitions. Words sometimes become symbolic, they are adopted by a specific community to cover a range of "sins", and this use serves to normalise or induct new users into that community. The ability to twist and bend definitions to suit a specific context, to appeal to policy makers or funders, relies on some malleability, some ambiguity, of definitions. In the context of Boyer's definition of the integration of research (Boyer, 1997), the purpose of this piece is to enable colleagues to decide how to best define and deploy existing, and validate new terminology.

Keywords: definitions; open; flexible; distance; blended; hybrid; hyflex

Introduction

It is not unusual to read a piece of published academic work and be left with the sense that the terminology used in the article or chapter did not match your own internalised definitions. Words have definitions, but context can alter their meaning. In exploring these three terms: *open*, *distance*, and *flexible* (all included in the title of this journal and in many institutional mission statements), I hope to challenge some of the reader's assumptions. A noticeable restriction on this review is that it is informed by literature written only in English. Each term is dealt with separately and then they are brought together in the discussion section where I will attempt to summarise the distinction between educational policy frameworks, modes of learning, and models of delivery. The first aim is to establish that policies, (governmental and institutional) define access to learning, and that formal enrolment practices serve to define the degree of openness. The second aim is to establish that there are only two modes of learning—in-person (or face-to-face) learning, and distance learning. These two modes can be combined through different approaches to curriculum design to create models of delivery, which is the third aim. The currently popular flavours of blended, hybrid, and hyflex learning—each with varying degrees of flexibility—are then also contextualised.

The term *open*

Open learning has come to be understood in the context of equity, collaboration, agency, democratisation, social justice, transparency, and removing barriers (Zawacki-Richter et al.,

2020). A more positive, narrower, definition concerns ensuring minimal barriers to entry. In this use of the term, *open* is used to refer to the ability of any student to enrol in a programme or course regardless of their prior educational experience or other factors, be they language ability, age, gender, or social or cultural context (Blessinger & Bliss, 2016). In truly open learning there are no prerequisites, qualifications, or experiences that need to be demonstrated at enrolment.

Governments' educational policies around openness usually refer to the relative absence of barriers to access to education. Fewer pre-qualifications, and less need for financial means, denote an educational system that is more open than closed. In educational terms, *closed* ordinarily means more selective. In formal educational settings a selective system may involve entrance exams, or certainly some grade-point average type model, that determines the relative chance of success for any given student. Selective institutions may also impose other conditions of access such as religious adherence or geographical residency criteria. These selective institutions are clearly not open.

In practical terms, the formal institution that offers the learning will always impose some contextual limitations on learners. There may be a number of curriculum expectations, or they may be required to work in a professional environment. There may be sociocultural expectations that could include an assumption of technology access, basic digital literacy, and other forms of literacy. Open learning, in its "pure" form, rarely exists—indeed, those who lay claim to openness may, in fact, be reinforcing inequalities of access (Gourlay, 2015).

The term *open* has morphed into being synonymous with the notion of flexibility. This is understandable, given that more flexible models of delivery are also designed to lower the barrier to access. In the era of the internet, open learning has been conflated with everything from creative commons licensing to shared content repositories (Jemni et al., 2016; Peters & Britez, 2008). The most obvious example of the subjugation of the term *open* is in the form of Massive Online Open Courses (MOOCs), and in Open Educational Resources (OERs). Most MOOCs are free of charge at the point of enrolment and require fees only for certification or assessment. The degree of openness is rather debateable given that these programmes are invariably 100% online, presenting a number of technological barriers. They also often provide very limited individual mentoring for students, relying on existing educational prerequisites for students to be able to succeed (although these prerequisites are not stated). As a result, the retention and completion rates for MOOCs are low compared to higher education programmes, with noticeable variations across global regions and socio-economic contexts (Bonk et al., 2015; Shah et al., 2022).

Formal educational providers, be they privately or publicly funded, are usually accountable to regional or national quality assurance agencies. As such, they have retention and completion targets that mitigate a truly open access policy. Although some providers appear to provide open access, the processes of enrolment, advice to applicants, and evidence requirements serve to filter out those individuals with a lower probability of success in their studies. In the formal education sector, where academic credits are acquired, there is no true open learning. This is because the potential for high failure rates would risk the integrity of the institution despite the social justice agenda that many are loyal to (Strauss, 2020).

Similarly, easily accessible courseware that requires no evidence of attainment of prior standards (e.g., LinkedIn and similar platforms), reportedly have completion rates lower than those that have some form of selection policy. Accurate data is difficult to ascertain, with estimates varying from 10–75% completion claimed by different providers. LinkedIn certainly has relatively low barriers for entry—providing they have a device that plays videos with audio and a robust (and preferably unlimited) internet connection, learners can embark on a wide range of professional development courses. As badges become more recognised as genuine marks of attainment, this form of learning recognition is likely to grow (Roy & Clark, 2019). Other forms of non-formal

learning recognise achievements (through point systems, awarding stars or "credits"), which are all designed to incentivise and motivate the learner to continue in their studies, are more acceptable to generations that are more familiar with game-play (McDaniel & Fanfarelli, 2016). Language-learning mobile apps such as Duolingo are a good example of this. The requirement for learners to have access to technology, and the ability to use it effectively, is clearly a tangible barrier to this form of open learning. Where formal institutions have something to learn from these non-formal providers is in the extensive use of initial and ongoing diagnostics that, when well-designed, serve to maintain learner motivation (Shortt et al., 2021).

The initial meaning of open learning has changed in the last 3 decades. After the Second World War it was used to describe the intention to make education accessible to those who had been denied opportunities, irrespective of their socio-economic status, in terms primarily relating to policies of enrolment and prerequisites. Since the mid 1980s it has been used to define digital access. Open Educational Resources (OER) and all its permutations is one context in which the use of the term *open* is clearly understood. Open Educational Resources, and its associated movement, argues for the free and accessible dissemination of educational content and support mechanisms on the basis of need and suitability for purpose (Conole & Brown, 2018). Since David Wiley's development of open content Licenses in 1998 (opencontent.org), which has spawned a movement in the form of Creative Commons Licensing, and any number of open content repositories, there has also been attention paid to their associated teaching practices. The concept of Open Educational Practices (OEP) has emerged, based on shifting teaching practices in the use of OER (Ehlers & Conole, 2010). This movement has grown alongside a range of projects promoting forms of pedagogical patterning, models, and tools designed to reuse successful approaches to teaching (Littlejohn, 2003).

All of these tools, techniques, resources, and approaches were fuelled by the birth of the World Wide Web in 1988 in its commonly understood form, and the first widely used web browser Mosaic (Netscape) in 1993. The promise of unfettered access to the wealth of information sources, openly available to anyone with technological access (and, by implication, the foundational skills to navigate their way through it), represented a new use of the term *open*.

The term *distance*

There are just two modes of learning: distance and in person. These opposites represent the student's experience. If the student is distant, they are physically separated from their educators and their fellow students; if they are not, then they are in person. In-person learning requires the student to be physically present, to be able to shake the hand of their educator in a real sense. This in-person learning is necessarily in real time. On a scale of virtuality, it ranks as not virtual at all (Atkinson & Burden, 2007). If we agree that life is not a simulation, then we all experience real-world encounters every day. Sometimes these in-person learning experiences are referred to as campus-based or classroom learning. Distance is a mode of learning which stands in counterpoint to the notion of in-person learning. Distance is the absence of physical proximity to the educator and fellow students. Historically this also meant no real-time, or synchronous, learning opportunities were possible. That is no longer the case, given the near ubiquitous access to modern communication technologies in high-income countries. Distance learning has mirrored technological progress from paper, to printing, through to digital communication.

One can argue that education has always had in-person and distance modes in the form of homework, but the distinction here is that an individual cannot be learning at a distance and in in-person mode at the same time.

Given the long history of distance education, this should be easiest of our three terms to define, but it still causes confusion. Take the statement drawn from the website of TechSmith, a digital

software provider, "Distance learning is a way of educating students online" (Simon, 2020). It would be more accurate to say that "educating students online is one possible means of providing distance learning". Other attempts to socialise the concept include statements such as "Distance learning is the kind of education that is conducted beyond physical space and time and is aided by technology." (Simonson & Seepersaud, 2019). However, distance learning is a mode of learning not narrowly defined by its tools or techniques. Distance is often treated as a synonym for correspondence, remote, and online learning. These are organisational forms of distance learning but should not be treated as synonyms—they are means of technical support for delivery.

Distance education has gone through four generations of development. The first generation of distance education in the English-speaking world is frequently attributed to the use of correspondence via mail service in England in the 1840s. These were Sir Isaac Pitman's phonographic, or shorthand, courses. Historical evidence is uncertain because the academic citations are rather cyclical. There is more evidence for the development of in-person courses that followed (Moore & Kearsley, 2005). There is stronger evidence for formal learning with an early correspondence school established in the United States of America at Boston, Massachusetts, in 1873 in the form of the Society to Encourage Studies at Home, and in the United Kingdom at Wolsey Hall, Oxford in 1894.

The second generation of distance learning arrived with more real-time communication technologies. Courses were designed to support learners who were, to some extent, remote from in-person, real-time provision (e.g., for the soldier at the front, the sailor at sea, the lighthouse keeper, the oil-rig worker, and the remote farmer). Learners who had been serviced through effective reading materials and tutorial notes were now supported with occasional tutorials, by radio in the 1920s, and television after the late 1930s. Again, the first use of any of these technologies is hard to prove. Suffice to say that the nature of learning dissemination was uni-directional—teaching was usually broadcast. Exceptions to this are exemplified by the School of the Air movement in Australia in the 1950s. The School initially used shortwave radio to allow children on remote farmsteads to interact with teaching staff. Telephone tutorial support also grew from the 1960s to the 1990s as home telephones became ubiquitous in developed economies (Lopes et al., 2011).

Because technologies overlap, the origins of the third generation of distance learning are vague. This generation is characterised by rich media. In addition to increasingly sophisticated printed materials, students might have received long-playing vinyl records, possibly even 8mm film, and then audio tapes and video cassettes. Richer media then found its way onto CD and DVD. These relatively static media required more personal computer power for both teachers and learners. This generation saw something of an obsession with computer mediated communication (CMC) or asynchronous discussion boards (Dempsey, 2021). These had much deeper roots in early bulletin board technology and USENET groups, particularly in the professional scientific community. Fuelled by the prevailing educational theoretical leaning towards social constructivism, the ability to learn with and from fellow students became the basis for much programme design.

A fourth generation of distance learning is characterised by increasingly interactive technologies. As mentioned earlier, two-way teaching at a distance had already occurred with the School of the Air movement, but the power of the internet, audio, and video streaming—and then desktop video conferencing technology—brings us to where we are today. The origin of the educational webinar is also hard to pin down, because it evolved from tele-learning in the corporate sphere, often then migrating into business schools.

Many students in high-income economies expect that their learning materials and associated support can be accessed on any device connected to the web, without the need for external media-playing devices. This development of learning approaches, in tandem with technological developments means that, in much of the contemporary world, distance education has become synonymous with online learning. However, in parts of the world where World Wide Web access remains a challenge, it is best perceived as technology-enabled learning, often making use of mobile phone devices mixed with printed materials. In either case, *distance* and *online* are not synonyms. The media, be it paper based or fully immersive virtual reality, are merely the means of technical support for delivery. Distance is one of two modes of learning.

The term *flexible*

Flexible learning describes models of delivery. Not all models of delivery are necessarily flexible. For example, medical schools may adopt problem-based learning (PBL) as a curriculum design choice, with little or no flexibility. As a term, *flexible* has been co-opted by online and distance providers to imply (sometimes to promise) that freedom from timetabled in-person teaching sessions represents flexibility. To some extent that is undeniable, but that is where the flexibility experienced by the learner often ends. Formal learning inevitably has a structured curriculum and established criteria for fixed assessments. Conventional use of the term *flexibility* conflates several idealised practices that include *time flexibility, location flexibility, assessment flexibility*, and *duration flexibility.*

It is not possible for most students to define their own pace of learning because institutional enrolment and assessment processes are simply not designed to accommodate that. A student who chooses to study in the evenings after their family commitments are completed, or during their lunchtimes, or during their commute, can leverage some degree *of time flexibility*. This is more easily afforded in a virtual learning context than in in-person learning. It follows that, for many, the notion of flexibility requires a course to be, at least to some extent, online. Some institutions advertise in-person flexibility by holding sessions at different hours and days of the week and weekends, and allowing students to choose.

Location flexibility is a feature of some providers who deliver in-person learning in different venues to allow students a degree of choice. As digital learning platforms become the primary means of delivering learning content and experiences, these virtual locations represent a degree of rigidity. The more sophisticated platforms do allow learners some control—the appearance of their content, colours, and fonts can be easily changed through stylesheets, which is increasingly necessary under accessibility legislation. The best of these learning environments also adapts easily between desktop, tablet, and smartphone interfaces. However, I am not aware of any educational provider that allows learners to choose their platform independently of the learning design.

During the height of the COVOD-19 pandemic many institutions ran simultaneous in-person and distance provision. This hybrid model is one form of location flexibility.

Assessment flexibility, the ability to submit an assessment when the student is ready, and to define the nature of their evidence, would doubtless represent true flexibility from the learner's persecutive. Many non-formal programmes (e.g., learning to drive) allow learners to say when they are ready to be tested. Formal education is more rigid and is set by annual or semesterised timetables. Good assessment design should ideally give the student flexibility to decide how to best present their evidence. Indeed, the advantages of inviting students to either define the questions or tasks used to assess their ability to demonstrate outcomes, or to use evidence from their personal social and cultural context, is well documented (Andrade, 2019). Many institutions do not afford these possibilities to their students because their organisational structures (be it

their submission and marking systems, or the assessment literacy of their markers) make this problematic and potentially expensive. Learners would undoubtedly benefit from *assessment flexibility* but it remains a second-order priority for providers.

The final dimension of flexibility I will deal with here is *duration flexibility*. The ability for a student to decide that they want to study intensively over 3 weeks to complete a 150-hour programme, while another student on the same course chooses to study an hour and a half a week and take 2 years to complete, defies institutional norms. That would, however, represent true *duration flexibility*. Guided by national or regional quality assurance agencies, formal educational providers impose time limits on the credit accumulation process. Credits earned one year as part of a defined programme might expire if other elements of the programme are not completed within a set number of years. More enlightened institutions are pushing the boundaries of this issue by being imaginative in their recognition of prior accredited learning and prior experiential learning.

Flexibility is not a mode of learning. Flexibility encompasses a range of models of delivery, and of learning design approaches. It is a series of questions about the nature of a curriculum design and the institutional approach to timetabling, real-estate, registry, and assessment practices. In formal and non-formal education spaces flexibility is rarely perceived by learners and providers in the same way (Kariippanon et al., 2020; Valtonen et al., 2021). Providers tend to see flexibility as relating to their established curriculum. The ability to choose the order of courses within a programme is often touted as flexibility. The ability to enable learners to temporarily suspend a course of study and regain the established path at a later point represents flexibility. Learners generally welcome these options but they do not represent true flexibility. For the learner, flexibility would mean being able to study just one course, or four at the same time, if they choose. To be able to spend weeks in full-time study then drop back to a few hours a week or none for a couple of months and pick up full time later. The flexibility to submit an audio recording of their assessment, provide a visual narrative or a written essay, to be able to choose the question. The existence of a curriculum in formal education virtually guarantees a lack of flexibility.

Given that relative flexibility is essentially the product of the course, programme, or curricula design, we may also explore other popular terms in a new light. There is a wealth of academic literature and community commentary, in the form of institutional websites, that define the terms blended, hybrid, and hyflex. I propose to touch on these briefly. As I do so, I would encourage you to think about how their definitions are affected by the four forms of flexibility outlined above: *time flexibility, location flexibility, assessment flexibility*, and *duration flexibility.*

Table 1 Definitions of blended, hybrid, and hyflex models of delivery

Models of delivery	Flexible		
Variants	**Blended**	**Hybrid**	**Hyflex**
Time flexibility	Some choice of when distance mode occurs	No choice	Choices based on availability of resource
Location flexibility	Pre-defined location	Choice of location	Choice of location
Assessment flexibility	Determined by institutional policies		
Duration flexibility	Determined by institutional policies		
Definition	Blended learning is a curriculum design approach that predetermines that the learner undertakes some elements in person and others at a distance.	Hybrid learning allows learners to choose whether to engage in person or at a distance in real-time learning activities. To be successful, this requires additional teaching competencies.	Hyflex learning is a curriculum design approach that enables choice of both location and time to suit individual approaches to learning. This may require the design of learning activities for different contexts.

The terms *hybrid* and *hyflex* are sometimes used as synonyms but they differ from "mainstream" blended approaches. Blended learning, which relates to curricula and teaching practice, determines where a learner studies and what they are doing in each space— the learner has no choice. Hybrid and hyflex approaches attempt to give some agency to the learner as to the nature of their learning experience. Both aim to empower the student to choose which learning should be studied face to face and which should be studied online. The distinction is that hybrid happens in real time, with cohorts either physically present or logged in at a distance, sharing the same learning experience. This hybrid nature often means programmes spawn new hybrid "spaces" in which there is seamless integration between real-world in-person and virtual learning experiences. These require the development of fresh competencies as a teacher, managing in-class and distance students simultaneously. Hyflex is more ambitious in seeking to provide opportunities for the learner to decide how, what, and where they study. This means that designers of courses that aspire to be hyflex are required to model the same learning experiences in multiple forms or alternative spaces (Bennett et al., 2020; Goodyear, 2020) very much in line with the principle of universal design for learning (Bracken & Novak, 2019). Blended, hybrid, and hyflex claim to be flexible learning delivery models—they all use combinations of the two modes of learning within a policy framework of relative openness, but all exist within institutional limits, and they are not synonyms.

Discussion

In academic publications and on institutional websites the terms *open*, *flexible*, and *distance* are widely used, often without clarification or definition. There is an assumption perhaps that commonplace understanding of these words transfers easily to educational contexts and therefore they do not require further elaboration. They are often grouped in the acronyms OFDL or ODFL, although often the O in such usage has become Online rather than Open. Those who are immersed in academic literature treat these terms as malleable, adaptable to context, and it is often easier to just associate all three as somehow related. Clearly there are courses offered that are, indeed, open, distance, and flexible, but they are not inextricably linked. A course may be open (having no entry requirements), but it might require face-to-face learning and be completely inflexible. The opposite is also true. A course might have high barriers of entry in the form of

prerequisites, but give students enormous freedom to choose where and when to learn, possibly even to decide how long to study for and when to submit their own evidence to meet assessment requirements.

Each of these terms, *open*, *distance*, and *flexible*, occupy a different section of any lexicon. They are not synonyms that can be interchanged at will. As illustrated in Table 2, *open* is used in opposition to *selective*, within an educational policy framework relating primarily to access to education. *Distance* is used in opposition to *in person* to define the modes of learning that any student experiences at any given time. Finally, *flexibility* serves in opposition to *inflexible* (or rigid) in defining the nature of any curricula design.

In this piece I am proposing that governmental and institutional policies define access to learning, and that formal enrolment practices inform the degree of openness. That there are only two modes of learning (in person and distance). And that these two modes can be used together through the nature of curriculum design in different models of delivery, among which are the currently popular flavours of blended, hybrid, and hyflex, each with varying degrees of flexibility.

Below is a summary of the terms with their definitions, set in the context of formal and non-formal learning.

Table 2 Definitions of open, distance, and flexible learning

Term	Open	Distance	Flexible
Policy or practice	Policy	Practice	Practice
	Education policy and philosophy	Mode of learning (binary)	Models of delivery
Theme	Access	Spatial/location	Learning experience
Intention	Lowering barriers to access	Enabling access	Enabling student choice
Antonyms	Closed (selective)	Near (in proximity, in person, in the flesh)	Inflexible (rigid, fixed)
Determinants	Government/institutions	Institutions/course designers	Faculty/course designers/students
Definition	Open learning is a form of formal or non-formal learning provision in which the barriers to access have been lowered by virtue of structural policy decisions made at a governmental or institutional level.	Distance learning is one of two modes of learning. The learner is physically separated from their student cohort and instructors.	Flexible learning defines models of delivery and associated learning designs that aim to provide optimal learning experience and enable the student to have degrees of choice.

Conclusion

Words have definitions. These definitions change in their vernacular use as the external environment changes (Barton & Tusting, 2005). The social and cultural environment also affects how terms are used. *Open education* was initially used to describe a social and political aspiration about democratising education, lowering the barriers to access to formal qualifications, and improving access. Now it is used to describe the aspiration of institutions to align themselves

to a clearly defined social justice agenda. *Distance* is a mode of learning, distinguishable from its opposite of in-person learning. *Flexible learning* describes delivery models that include any number of curriculum structures that take advantage of the two modes of learning. Flexible learning requires curriculum design that is designed to meet student needs and expectations in terms of time and location, but also institutional flexibility for assessment and duration of study. As a term, *flexible learning* can be further subdivided into learning design approaches to flexibility, blended, hybrid, and hyflex models among others.

Open, *distance*, and *flexible* are attractive terms for policy makers, partly because they appear malleable. Are we open for business, or are we open for any student from any social–cultural context, regardless of their prior educational achievement? Are we entirely distance or is there some expectation of in-person learning? And if we are distance, are we entirely asynchronous or will there be synchronous learning? Which technology, shortwave radio, telephone, or videoconferencing will we use? How flexible is flexible? And who is it flexible for—the student, faculty, or the institution? Do we think our programme is blended, hybrid, or hyflex?

Failing to define the terms—*open*, *distance*, and *flexible*—risks undervaluing them, and I believe we should, as a learning community, be willing to define our terms at the outset of any engagement. This is important for newer members of our professional discourse. Assumptions that are based on the vernacular use of words, outside a learning context, may lead to contradiction and miscommunication. All for the want of a definition.

References

Andrade, H. L. (2019). A critical review of research on student self-assessment. *Frontiers in Education*, *4*, 87. https://doi.org/10.3389/feduc.2019.00087

Atkinson, S. P., & Burden, K. (2007). *Virtuality, veracity and values: Exploring between virtual and real worlds using the 3V model.* http://www.ascilite.org.au/conferences/singapore07/procs/atkinson.pdf

Barton, D., & Tusting, K. (2005). *Beyond communities of practice: Language, power and social context*. Cambridge University Press.

Bennett, D., Knight, E., & Rowley, J. (2020). The role of hybrid learning spaces in enhancing higher education students' employability. *British Journal of Educational Technology*, *51*(4), 1188–1202. https://doi.org/10.1111/bjet.12931

Blessinger, P., & Bliss, T. J. (Eds.). (2016). *Open Education*. Open Book. https://doi.org/10.11647/OBP.0103

Bonk, C. J., Lee, M. M., Reeves, T. C., & Reynolds, T. H. (Eds.). (2015). *MOOCs and open education around the world*. Routledge.

Boyer, E. L. (1997). *Scholarship reconsidered: Priorities of the professoriate*. Jossey-Bass.

Bracken, S., & Novak, K. (Eds.). (2019). *Transforming higher education through universal design for learning: An international perspective*. Routledge.

Conole, G., & Brown, M. (2018). Reflecting on the impact of the open education movement. *Journal of Learning for Development*, *5*(3), Article 3. https://jl4d.org/index.php/ejl4d/article/view/314

Dempsey, L. (2021). From occasion to obsession: The connection between relationships, media literacy and the changing use of computer mediated communication, from 2005–2018

[ProQuest Dissertations Publishing]. https://search.proquest.com/docview/2607347336?pq-origsite=primo

Ehlers, U.-D., & Conole, G. (2010). *Open Educational Practices: Unleashing the power of OER*. UNESCO Workshop on OER, Windhoek, Namibia. https://oerknowledgecloud.org/sites/oerknowledgecloud.org/files/OEP_Unleashing-the-power-of-OER.pdf

Goodyear, P. (2020). Design and co-configuration for hybrid learning: Theorising the practices of learning space design. *British Journal of Educational Technology*, *51*(4), 1045–1060. https://doi.org/10.1111/bjet.12925

Gourlay, L. (2015). Open education as a "heterotopia of desire". *Learning, Media and Technology*, *40*(3), 310–327. https://doi.org/10.1080/17439884.2015.1029941

Jemni, M., Kinshuk, & Khribi, M. K. (2016). *Open Education*. Springer.

Kariippanon, K. E., Cliff, D. P., Okely, A. D., & Parrish, A.-M. (2020). The "why" and "how" of flexible learning spaces: A complex adaptive systems analysis. *Journal of Educational Change*, *21*(4), 569–593. https://doi.org/10.1007/s10833-019-09364-0

Littlejohn, A. (Ed.). (2003). *Reusing online resources: A sustainable approach to e-learning*. Kogan Page.

Lopes, E., O'Neill, M., & O'Donoghue, T. (2011). *The education of children in geographically remote regions through distance education*. Information Age.

McDaniel, R., & Fanfarelli, J. (2016). Building better digital badges: Pairing completion logic with psychological factors. *Simulation & Gaming*, *47*(1), 73–102. https://doi.org/10.1177/1046878115627138

Moore, M. G., & Kearsley, G. (2005). *Distance education: A systems view* (2nd ed). Thomson/Wadsworth.

Peters, M. A., & Britez, R. G. (2008). Open education and education for openness. *Educational Futures 27*. 27.

Roy, S., & Clark, D. (2019). Digital badges, do they live up to the hype? *British Journal of Educational Technology*, *50*(5), 2619–2636. https://doi.org/10.1111/bjet.12709

Shah, V., Murthy, S., Warriem, J., Sahasrabudhe, S., Banerjee, G., & Iyer, S. (2022). Learner-centric MOOC model: A pedagogical design model towards active learner participation and higher completion rates. *Educational Technology Research and Development*, *70*(1), 263–288. https://doi.org/10.1007/s11423-022-10081-4

Shortt, M., Tilak, S., Kuznetcova, I., Martens, B., & Akinkuolie, B. (2021). Gamification in mobile-assisted language learning: A systematic review of Duolingo literature from public release of 2012 to early 2020. *Computer Assisted Language Learning*, 1–38. https://doi.org/10.1080/09588221.2021.1933540

Simon, J. (2020, May 12). Distance learning: The complete guide. *TechSmith*. https://www.techsmith.com/blog/distance-learning/

Simonson, M. R., & Seepersaud, D. J. (2019). *Distance education: Definition and glossary of terms* (4th ed.). Information Age.

Strauss, P. (2020). Not quite university people? Academics teaching on foundation studies programmes in New Zealand universities. *Higher Education Research and Development*, *39*(5), 1013–1025. https://doi.org/10.1080/07294360.2019.1699030

Valtonen, T., Leppänen, U., Hyypiä, M., Kokko, A., Manninen, J., Vartiainen, H., Sointu, E., & Hirsto, L. (2021). Learning environments preferred by university students: A shift toward informal and flexible learning environments. *Learning Environments Research*, *24*(3), 371–388. https://doi.org/10.1007/s10984-020-09339-6

Zawacki-Richter, O., Conrad, D., Bozkurt, A., Aydin, C. H., Bedenlier, S., Jung, I., Stöter, J., Veletsianos, G., Blaschke, L. M., Bond, M., Broens, A., Bruhn, E., Dolch, C., Kalz, M., Kondakci, Y., Marin, V., Mayrberger, K., Müskens, W., Naidu, S., . . . Xiao, J. (2020). Elements of open education: An invitation to future research. *The International Review of Research in Open and Distributed Learning, 21*(3). https://doi.org/10.19173/irrodl.v21i3.4659

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