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Reconceptualizing educational provision: An integrated approach

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Abstract

At the heart of the educational process—from formal to non-formal and the informal—lies the learning and teaching transaction. In traditional campus-based educational settings the choice of methods as part of this transaction is based on the affordances of the physical infrastructure and its resources, whereas in non-traditional more open, flexible and distance education arrangements, their selection depends on the media used for learning and teaching. The choice of these methods nevertheless, in all cases is based on their suitability, and none is inherently better than any other. They are designed to optimize opportunities for teaching and learning regardless of their mode of operation—ranging from resource-rich campus-based settings to most remote locations such as a rural farmhouse, or a cargo ship on the high seas. Whether these methods are smart or digital is a moot point. What is important is that they are fit for purpose, and able to strike the right balance between independence and interaction in the design of productive learning experiences and environments for the widest variety of educational contexts—from the physical classroom to the remotest location imaginable.

Keywords

campus-based learning; technology-enhanced learning; online learning; blended/hybrid/hyflex learning; open, flexible and distance learning; self-directed learning

1 Introduction: Beyond binaries

Educational provision in contemporary settings can no longer be adequately described through the binary lens of traditional versus the distance mode. Instead, educational systems today operate on a continuum of openness, flexibility, and technological mediation, where the boundaries between modes are increasingly porous (Erdoğan, 2022; Teschers et al., 2024). The emergence and proliferation of increasingly open, flexible, and distance learning (OFDL) models have reconfigured the expectations of learners, institutions, and educators, requiring new ways of conceptualizing how education is designed, provided, and supported. Traditional campus-based models are based on co-presence where teaching, learning, and institutional services converge in one place through the agency of experts and the affordances of its physical infrastructure. By contrast, in OFDL models, these functions are distributed across people, time, and space, relying extensively on the use of media and a variety of learner support systems to compensate for the absence of co-located interaction. Contemporary OFDL environments are identifiable not only by physical distance between learners and their teachers, but by the nature of transactional distance captured by levels of dialogue, structure, guidance, and learner autonomy in them (Moore, 1997; Moore, 2007).

This growing interest in openness and flexibility, and the role of technology in the mediation of the learning and teaching transaction, has seen the rise in the appeal of online, blended, hybrid, and hyflex models of educational provision. These initiatives have led to the collapse of traditional distinctions between campus-based and distance education models, foregrounding the idea that educational provision should be responsive to learning needs, contextual constraints, and technological possibilities regardless of its mode. In these models, the role of educational technology is critical—not merely as a tool but as a structuring logic that shapes the pedagogical, administrative, and epistemic dimensions of learning.

This paper traces the shift from the conventional campus-based model of education to a more open and flexible educational provision, highlighting the need for renewed attention on the design of productive learning experiences and learning environments regardless of their mode of operation. This approach to educational provision comprises careful orchestration of a range of learner support services and systems, along with the integration of human and technological resources in it. A key message of this paper is the imperative for educational designers and technologists to transition from a focus on the design of instructional materials for flexible learning, to the crafting of learning experiences and whole education ecosystems, regardless of their mode of learning and teaching (Richardson et al., 2015).

2 Conventional practices

Teaching and learning—regardless of system, level, or mode—revolve around the quality of the communicative relationship that unfolds between teachers, learners, and the subject matter. In conventional face-to-face education, this transaction is facilitated through physical proximity, shared time, and classroom interaction, and the deliberate design of learning experiences for the initiation of learners into the world of work. It is, as such, a transactional activity that can occur only in the presence of learners. The acts of teaching are designed to help learners transition into a zone beyond what they can reach by themselves. Known as the zone of proximal development, this is the difference between what learners can do with the help of teachers and teaching, and what they might be able to do on their own (Eun, 2019; Vygotsky, 1978; Wang, 2022). Teaching, as such, is an invariably complex activity and especially challenging in an increasingly technology-mediated, learning space that is no longer confined to a physical place.

In conventional campus-based face-to-face instructional settings teaching is often the responsibility of the instructor who is considered to be an expert in the subject matter, as well as in its communication. Learning in this case is facilitated by the presence of student peers, and a range of institutional resources such as classroom time, instructor-student contact, and access to libraries and laboratories. While very effective and engaging, this is however, a boutique operation which requires learners and teachers to remain in close contact for extensive periods of time. The learning and teaching transaction in these settings is conducted largely face-to-face, and in small group settings. Teaching in such settings is an apprenticeship in which the trainee learns by observing, imitating and modelling expert practice while in close proximity of expert practice (Schön, 1983). As a model of educational provision then, this campus-based operation is not easily scalable to accommodate large numbers of learners, especially those who are geographically distributed, or not as mobile.

3 Open access and flexibility

Additionally, education is too important an instrument of development to be left this elitist, and in the service of the privileged few. For a just and equitable society, educational provision needs to be made accessible to the majority, if not all. For without it, the United Nations agenda for sustainable development and education for all, freedom and justice will remain an unrealized aspiration (Sen, 2009; United Nations, 2015). Alternative approaches to the conventional campus-based model must be found to meet the need and demand for education from a wide variety of sources. Furthermore, these approaches will need to include the use of technology for the mediation of the learning and teaching transactions.

In the early days, pervasive technologies for expanding access to learning opportunities comprised print, radio and television as they became available. Notable examples of the adoption of these technologies included extending educational and learning opportunities to marginalized groups in society such as in apartheid South Africa (Welsh, 1975), and the working class in the United Kingdom (Perry, 1977). The goal in these cases, and many more to come following these pioneering efforts, was to open up educational opportunity to those who had been excluded because of their ethnicity or gender, lack of prior educational qualifications, their inability to pay, and geographical remoteness from conventional sources of educational provision (Daniel, 1996).

The acts of teaching and learning in these settings were separated across time and space, mediated by instructional materials that may have been produced years earlier and far away from their place of use. The individuals who designed content, delivered it, and those who assessed learning were often different people. When this was the case, teaching became institutionalized, and learning more independent, with support mediated through technologies rather than through constant teacher presence. This shift—from co-presence to mediated presence—invited a reconceptualization of pedagogy itself. It is here where OFDL emerged, not merely as a set of teaching methods, but as a revolutionary mode of educational provision with its own character, design imperatives, and institutional frameworks. These initiatives marked the beginnings of open, flexible and distance learning practices globally, and on a larger scale (Bååth, 1981).

Key characteristics that set OFDL apart from conventional campus-based operations was its adoption of open access, and flexible learning practices (Naidu, 2016). Opening up access meant that anyone could register for a program of study regardless of their ethnicity or gender, lack of pre-requisites or prior educational qualifications, and ability to pay, or geographical location. The idea of open access was deeply grounded in a socio-economic and political agenda that sought education for all as the path to real freedom and justice, for without it one could not really be part of the mainstream conversation and therefore unable to compete equitably. As such, this meant

not just equal, but equitable access from a position of disadvantage. This kind of educational opportunity also encapsulated the idea of open scholarship, which is the practice of scholarship and the release of its outputs for use, reuse, and adaptation without restrictions (Naidu, 2023). The idea of flexible learning, on the other hand, meant the adoption of methods of learning and teaching that afforded time, pace, and place flexibility to both, the learners and their teachers. It was best captured with the development of opportunities for learning at anytime, anywhere, and at any pace, as well as anyhow.

4 Distance education

These were the founding principles of distance education, known in the early days as correspondence education because of its adoption of the printed form for the mediation of the teaching and learning process. Distance education refers to various forms of educational activity in which the learners are physically separated from the teacher or the teaching institution for much of the teaching and learning process (Rumble, 1989). It is this feature of distance education that distinguishes it from conventional classroom-based educational activity. Distance education placed much greater emphasis on guided independent study on the part of the learner, without eliminating the possibility of some face-to-face contact, either between the teacher and the learners, or the learners themselves. Hence, the more face-to-face contact there was in distance education programs, the less distant they became, and conversely, the less face-to-face contact there was in such programs, the more distant they were.

This separation of the teacher and learner, and the acts of teaching and learning in distance education, defined the differential roles of the distance learner and the distance teaching institution in that context. Distance learners, for the most part, studied independently. Their concept of schooling was limited to the learning materials they had been provided, their own study space, mailbox and/or their devices. Distance teaching institutions, due to the constraints imposed on them by this mode of instruction, were required to play a different and more active role than their conventional counterparts in delivering instruction to their clientele. For instance, resources that were often taken for granted in conventional institutions, such as library services, bookstores, classroom processes, tutorials and peer group contact had to be made accessible to the distance learner through other means, and with the use of a suite of distributed support services. This was also done, or its lack of, compensated for by the provision of carefully designed learning and instructional materials which needed to possess standards and qualities comparable to those typically associated with instruction and student support in conventional campus-based settings.

As a mode of educational provision then, distance education represented a distinctly different approach, not only from the learner's perspective but also from that of the teacher or the teaching institution (Bååth, 1981). Whereas in conventional educational institutions it is the teacher who usually teaches, in distance education institutions, instruction takes on a life that is quite independent of any particular teacher. Conventional classroom-based students are in an environment that the teacher controls, whereas distance learners are not in an environment that the teacher or the institution controls. And however well an institution may organize the teaching process, it must rely on the learner to set aside time for study and to follow instructions and guidelines without frequent and immediate responses to their questions. Distance education involves mostly home-based independent study with occasional work in class and in groups, while conventional educational practice requires mostly classroom or group-based study with occasional independent work at home (Wedemeyer, 1981).

In such educational settings where contact between learners and their teachers is not always possible, or where comparable levels of institutional support to campus-based operations cannot be provided, the instructional challenges are different and more acute. In such situations, the acts of teaching needed to be considered differently and in advance of their execution, along with a variety of learner support mechanisms within the instructional materials to cater to the range of individual learner characteristics that could be expected in and among the learning group.

This unique character of distance education is best illustrated by Peters (1971; 1983) with its comparison with industrial processes. In drawing parallels between characteristics of distance education activity and the processes of industrial production, Peters pointed out that neither process could start without a previous period of careful planning by experts, and without specialization by division of labour, that is, by dividing the many functions of the teacher and assigning them to a number of specialists. Both—distance education and industrial processes—relied on the use of technical devices and computers, "while both applied the principles of the assembly line and mass production, and both needed, and used scientific methods of control in order to improve the teaching or production process while in operation" (Mackenzie & Christensen, 1971, p. 225).

Peters argued that conventional classroom-based instruction was a pre-industrial process, and that the teacher in the classroom was an artisan, as that kind of teaching resembled the work of an artisan where there was still the unity of person, time, and place. The industrial process, on the other hand, was the symbol of a new epoch in the development of systems which had effected fundamental changes in most spheres of human existence. As an emerging mode of educational provision then, distance education was a more progressive form, than conventional classroom-based instruction and consistent with the basic principles and tendencies of industrial processes, namely division of labour, rationalization of its production process, systematic planning and organization, automation, scientific control, mass production, and centralized administration. The notion of division of labour in distance education was apparent when the conventional functions of the teacher/instructor—that of single-handedly imparting knowledge, providing counselling, and assessing student learning- was shared among a team of experts, including educational designers, media specialists, counsellors, and subject matter experts. With this division of labour and the economic implications of the mass production of course materials came the need for a rationalization of the production process, some degree of collective and objective decision-making, and also standardization in the choice and presentation of content.

Peters acknowledged, nevertheless, that this characterization of distance education in terms of industrial processes was purely a heuristic and that the teaching and learning processes in it were not necessarily equated with industrial processes (Sewart et al., 1983). The use of the industrialization metaphor was never meant to equate the humanity of learning and teaching with industrial phenomena, but rather to highlight its organizational complexity. The greatest challenge for distance education institutions was the variety of functions they needed to conduct, and which required an equally complex and diverse range of organizational styles. While running printing presses and operating course materials warehouses may have been best done through the rigor of industrial processes, functions such as the creation of distance learning course materials, and the planning and organizing of the information flows necessary to support effective tutoring and counselling services for distance learners required the most modern forms of project and personnel management.

4.1 Teaching at a distance

In such distance education settings, since the teaching acts are separated in time and place from the learning acts, the opportunity for regular interface between students and teachers, and among

students, does not occur naturally. The learning materials used by students may have been developed several years ago, and perhaps in another part of the world. Furthermore, the developers of these study materials and those who may be using them to teach and evaluate students' learning from them may not necessarily be the same persons. Sometimes even the choice of content can be in the hands of persons other than those who may be teaching with it. It is arguable, then, that the study materials that are developed belong to the institution, where teaching then becomes institutionalized, unlike how it is regarded in campus-based operations, and learning is the responsibility of the learner, although part-time staff may be available to support their learning.

The role of the learning and instructional materials that are prepared in advance of the learning activity is, therefore, especially important, as many of the instructional activities commonly associated with conventional face-to-face instruction, such as classroom time and immediate and direct feedback, are not easily provided in the distance education context. And because teaching at a distance typically limits immediate, spontaneous interaction, these instructional materials then become central to the learning experience, and the quality of the teaching and learning process in distance education is heavily reliant on the quality of these study materials. The act of teaching is embedded in these materials, which may comprise print, audio, digital resources, synchronous and asynchronous components, as well as face-to-face sessions where required.

The development of these materials is a labour-intensive and costly endeavour, which draws upon a wide variety of skills and expertise that is not normally available within the repertoire of skills of any one person (Jenkins, 1990). Consequently, some variation of a team approach to the process was recommended and often adopted (Shaw & Taylor, 1984). Several approaches to course teams to suit different organizational circumstances have been proposed and discussed by Holmberg (1983), Mason and Goodenough (1981), and Smith (1980). The dynamics of developing these materials within the context of a team have numerous implications for their members. These range from faculty concerns about losing their academic control of course content to the day-to-day management of the developmental task by the team. These and many other concerns of distance education course development teams have been discussed extensively in the distance education literature (Hawkridge, 1979; Lewis, 1971a, 1971b, 1971c; Riley, 1984a, 1984b, 1984c). Concerns of staff, and possibilities for coping with them, have also been explored by Naidu (1987; 1988), and Kember and Mezger (1990).

Because distance learning materials replace the teacher in more ways than the subject matter alone, these materials must be designed in such a way that they provide a substitute for the dialogue possible in the conventional classroom situation, and that is not just a matter of possessing a good writing style but a conversational style (Holmberg, 2003). The materials, once developed, are considered self-instructional, and upon receipt of these packages, students are expected to be able to progress with their study independently with the least amount of additional support. Faced with this notion of minimal or no direct contact with students once the course materials are developed and out in the hands of the students, distance education course developers are forced to pre-empt the entire teaching and learning transaction as well as possible, long before any of it takes place. That process is often very labour-intensive and includes a consideration of various aspects of the presentation of content, activation of the learning process, the assessment of learning outcomes, and provision of feedback on them. It incorporates a reproduction of as much as possible that is part of the dynamics of one-to-one tutorial instruction, for teaching at a distance is essentially a form of one-to-one tutorial instruction, although through non-contiguous means (Naidu & Bernard, 1992).

4.2 Learning at a distance

Learning at a distance then, is largely an isolated activity. Schooling for distance learners comprises engagement with their study materials, the study space, as well as synchronous and asynchronous communication tools (Moore, 1986; Wedemeyer, 1981). The separation of the teaching acts from the learning acts in distance education means that for the most part, learners do not have to be present at any one place or time. As such, learners have greater control over their learning and the choice to manage it in a manner that best suits them, especially for those already in the workforce. And learning is more easily accommodated into an already full daily program of activities. The disadvantage, however, of this kind of flexibility with one's learning activity is that without the natural rhythms of campus life, distance learners face challenges such as limited access to peers, libraries or learning spaces, and delayed feedback. The result, for many, is disenfranchisement, procrastination, and dropout (Sweet, 1986).

This is particularly potent for those who choose to seek education via this mode but do not possess all that it takes to manage and conduct a successful learning experience on their own, especially when combining it with paid employment. Among the major woes of most distance education programs is student attrition. As a result, practice and research in distance education have always been concerned with understanding and saving student dropout through a variety of ways, notably, by reducing turn-around times for feedback to students (Rekkedal, 1983), and also with the provision of tutor and peer group counselling services (Amundsen & Bernard, 1989; Sewart, 1983). Practice and research in distance education is also concerned with providing learners with as rich and complete a learning experience as is possible to eliminate notions of learning at a distance as learning through the backdoor (Wedemeyer, 1981). This is made possible most commonly through a distributed system of local tutorial and counselling services, study centre facilities, library resources and science laboratories, and also through periods of residential face-to-face sessions where necessary.

5 Digital and smart learning

With the increasing availability of AI and digital tools, a lot of learning and teaching, and not only in distance education is becoming technology mediated. This is particularly the case in developed and resource rich settings, and it has led to a wide range of characterizations of the educational provision. Notable among these are online learning which refers to the use of the internet, blended learning which combines face-to-face contact with online learning, hybrid learning, which is the blending of online and face-to-face modes where some students are physically co-located while others are online, and hyflex learning which is the blending of hybrid and blended learning in arrangements that give learners the option of attending sessions in the classroom, online, or both.

Developments along these lines have also led to the use of terms like digital and smart learning to capture emerging trends (Zawacki-Richter, & Jung, 2023). The appearance of more digitally enhanced learning and teaching environments presupposes that both the teachers and the learners have regular and reliable access to these tools and the connectivity that is required for their use—when this is clearly not the case universally. It also assumes a certain level of competency in the adoption and use of these technologies on the part of all stakeholders, and especially the teachers and the learners.

6 Design as a mediating discipline

It is arguable that the nature of the educational transaction is altered when online, digital and smart learning technologies are used to mediate the educational transaction, but learning and teaching itself does not take on a new meaning if and when this is the case (Naidu, 2025). What does and should change, is the design of the students' learning experience. The instructional and learning challenges posed by adopting increasingly open, flexible, digitally enhanced and smart learning and teaching technologies elevate the role of design as a core mediating discipline. Whereas in face-to-face settings, teaching relies heavily on instructor presence—in OFDL contexts educational designers and technologists must anticipate well in advance, students' learning needs to structure content appropriately, integrate interaction throughout, and support learners' development of literacy, study skills, and cognitive strategies. Educational designers and technologists understand and appreciate this role of instructional materials in their business and are concerned about ways of developing sound instructional materials in order to optimize learner engagement and performance.

Much of the course design and development activity regardless of its theoretical orientations and mode is primarily concerned with three things: (a) the subject matter content; (b) the instructional methods that are employed to facilitate learning; and (c) the processes of learning (i.e., behaviours in which learners will engage). In most educational contexts, the content is provided by subject matter experts, while the determination of how that content may be presented, and what learners will do with it, is the responsibility of educational designers in the system. In most cases, however, the tasks outlined here are not always as clearly defined. And often, there is collaborative effort involved among subject matter experts, media specialists and instructional designers, as exemplified in the team approaches to course development referred to earlier.

What the educational designers and technologists do to present the content, and what the learners do with the study material once it is delivered, is therefore critical. Often, these decisions are influenced by a variety of factors, some of which relate to the logistics and costs of their implementation. And not all that is theoretically sound may be practicable and educational designers cannot be oblivious to learner characteristics, if they are to design materials to compensate for these deficiencies and optimize their proficiencies. The pervasiveness of differences in learner performance in most instructional settings is evidence that there are different ways of approaching learning—as one size does not fit all. These ways of going about learning have been variously referred to as approaches to learning and studying (Entwistle, 2012). If particular methods are found to be more effective than others for some learners and with certain kinds of subject matter, then it would seem appropriate to investigate if better and more powerful learning and retention techniques can be taught and learned to optimize learning (Bernard, & Naidu, 1992).

7 Enduring principles of learning and teaching

While the foregoing enduring commitments to inclusivity captured by notions of open and flexible access to educational provision laid the groundwork for the digital transformation that now defines the educational space broadly, no single mode or model of the learning and teaching transaction should be seen as superior or inferior to another. Each model needs to be viewed as a distinct mode of educational provision with its own unique structure, pedagogy, and ecosystem. Models of open, flexible and distance learning as such—and there can be many variations of these—are not any inferior, nor superior form of education than another. They are a different

form of educational provision defined less by the technologies they use, and more by how the teaching and learning transaction in them are mediated.

These non-traditional models of educational provision require a design-based, anticipatory pedagogy rather than depending upon spontaneous interaction among learners and their teachers based in close proximity to one another other. Openness and flexibility are essential characteristics of this ecosystem, not optional enhancements. And educational designers and technologists ought to serve as core academic partners in their design, development and execution, not as peripheral technicians, and any less important than the core academic staff. Supporting the learner as a self-directed agent is central and crucial component to the design of this ecosystem.

8 Conclusion: The case of integrated approach

While historically, educational provision has been conceptualized along dichotomous lines ranging from campus and classroom-based learning on the one hand, to fully distance-based models on the other, the contemporary landscape is far better characterized as a multimodal ecosystem comprising, campus and classroom-based models (full presence), technology-enhanced learning (full presence with the integration of AI and digital tools), online learning (full digital mediation with varying levels of synchronicity and a-synchronicity), blended/hybrid/hyflex learning (systemic combination of presence with online components), OFDL systems (open, flexible, learner-driven pathways with structured support), and self-directed learning (informal, lifelong, ubiquitous).

Rather than viewing these as hierarchical modes of provision, institutions worldwide, are increasingly treating these as complementary models within a unified and integrated system of provision. And as education systems worldwide seek openness, flexibility, scalability, and resilience, OFDL models no longer stand on the periphery, but at the center of contemporary educational transformation in which educational provision is best theorized by mode of provision (online, blended, hybrid and hyflex), and not merely by their method, for example lecture, seminar, or project-based learning (Nichols, 2024).

Moving away from a "method to mode" mindset requires rethinking institutional business and operational models, their pedagogy and the role of educational design and technology in them. Models of educational provision such as open, flexible, distance learning are not simply a delivery proposition—but a comprehensive mode of educational provision requiring sophisticated design, and new conceptual frameworks for understanding teaching and learning across different contexts. The challenges, as well as the opportunities ahead lie in cultivating educational ecosystems that maintain academic rigor, ensure equitable access, and honor the diverse realities of learners—whether they sit in a classroom, study from a remote location in a village, or from aboard a ship on the high seas (Naidu, 2025).

If we were to design educational institutions from scratch, or reengineer existing ones, for such resilience, what would they look like? How would key educational functions in them, including their various educational services be organized, regulated and managed? How would role and responsibility in relation to teaching and learning be reorganized and rewarded? How would academic staff be appointed to support it, and under what terms and conditions? How would academic staff have access to professional development, and from where? What kinds of policy frameworks will be required for such future-focused education systems and institutions? Most importantly, what would be different about these considerations from the way they have always been operated and managed (see Peters et al., 2025; UNESCO, 2023)?

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