Models of Tuition for Digital Education
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ABSTRACT

Digital education has a confusing realm of terminology. Models and modes freely apply the terms ‘online’, ‘hybrid’, ‘blended’, ‘flipped’ and (more recently) ‘HyFlex’ as if they have specific and agreed meaning. Without discerning the potential differences across these (and other) terms, valuable opportunities for linking different models of tuition for different learner groups can be overlooked.

In the response to Covid-19, Emergency Remote Teaching (ERT) and Learning (ERL) have further muddied conversations around online and distance education. Imprecise definitions of MOOCs and micro-credentials also add to the confusion, making agreed frameworks of definition critical for both decision-makers and practitioners. All terminology, at its core, projects assumptions about teaching and learning that are usually undisclosed.

This paper proposes a framework comprising six models for digital education. Beginning with distinguishing between asynchronous and synchronous approaches to education, the six models span distance, face-to-face and work-based learning options each of which seek to match learner access with sound education. The six models suggests a different role for courseware and teachers, however linking all six models together can form a mutually-supportive and coherent system that encourages collaboration across multiple education institutes.

Once different models of education are defined, the potential for innovation – across courseware development, teaching, data analytics, and student success advocacy roles – becomes clearer.

Differences and implications from the perspective of the learner also become more visible, with each model extending different benefits.

Keywords: Blended learning; Definitions; Digital education; Hybrid learning; Models of education; Online education

‘Online education’ can be an unhelpful term, because it does not describe a particular approach to tuition. Neither is it a great descriptor for how to organise or support teaching and learning. What Ross Paul wrote in 2014 is still readily apparent in literature – both popular press and scholarly – today: authors “take their own terminology for granted” (2014, p. 176). Paul includes the terms “distance, online, e-, technology enhanced, Web-based, Web 2.0, mixed-mode, networked, mobile, technology enhanced, hybrid, blended, or flexible” (ibid.) in the list of poorly defined terms that complicate discourse.

A recent study found that roughly half of 81 Canadian institutions (universities, colleges, polytechnics) surveyed had no institutional-wide definition of online learning; 66% had no definition of distance learning; and 55% had no definition of hybrid learning. Hidden within these numbers is a disturbing number of conflicting definitions apparent within the same institution (Johnson, 2021). When seen in combination, the varying definitions used across Johnson’s respondents overlap considerably. Even where internal conversations might make sense, talking across institutions risks serious misunderstanding.

New terminology also circles the literature, seeking acceptance. Open Digital Distance Education (ODDE) is defined as being “complex in nature and scope as it involves a wide range of non-traditional ways of teaching and learning that are mediated by various media and technologies” (Jung, 2019, p. 1), HyFlex (Hybrid Flexible) is another recent addition, described as “Courses delivered with fully remote option(s)—synchronous or asynchronous—along with regularly scheduled in-person classes, allowing students to transition seamlessly between the two learning environments” (Rider & Moore, 2021, para. 10), which might sit nicely within ODDE as defined above. Even new terms find themselves tangled in what has come before.

Emergency Remote Teaching, the term used to describe the rapid response to COVID-19 lockdowns by traditional providers of education, is also frequently called ‘online’ and ‘distance’, despite its sudden, ‘knee-jerk’ implementation. Hodges, Moore, Locke, Trust and Bond (2020) suggest there are differences between “high-quality online education” (2020, para. 6) and the “temporary shift of instructional delivery to an alternate...
delivery mode due to crisis circumstances” (2020, para. 13). This distinction is seldom admitted in popular discourse.

**The problem of definition**

Distinguishing between different forms of education is a critical element of institutional planning and investment, because a model of tuition determines the enabling operating model (Nichols, 2020). In turn, the operating model sets the groove for how all teaching takes place by defining its default practice and the limitations of its innovation. An operating model sets the limits of sustainable practice and the flexibility that might be offered to the learner. Most education model definitions are descriptive of the institutions own activity and so tend to assume various elements of practice. For example, ‘flexible’ can be used to describe both the opportunity to study at any time within a set semester, or the ability to start anytime and finish early or later if preferred: the same term, but very different practice. The strategic difference across these two examples is more than incidental; an institution providing anytime enrolments has a strategic advantage over those locked into a semesterised format, regardless of whether students have more flexibility within the semester itself.

The centrality of operating models is not one considered by the recent Canadian Digital Learning Research Association (CDLRA) report (Johnson, 2021), shown as Figure One.

![Figure One: The Modes of Learning Spectrum (Johnson, 2021, p. 7) (released under CC BY-ND)](image)

The CDLRA Modes of Learning Spectrum represents a starting point “for common understanding and it is designed in such a way that the definitions will hold their meaning over time (as technologies and ways of teaching and learning continue to advance)” (Johnson, 2021, p. 7), and is intended to provide a universal classification. The horizontal dividing line between ‘Distance Learning’ and ‘In-Person Learning’ demonstrates that some forms of ‘Hybrid Learning (Blended Learning)’ might be one or the other.

Similarly, the New Zealand Qualifications Authority (NZQA) has recently confirmed its own definition of the ‘distance online delivery’ mode:

Delivery through an online learning management system [LMS] which may include but is not limited to webinars / virtual lectures (recorded or live), online tutorials and discussions (synchronous or asynchronous), individual and group work (synchronous or otherwise via online fora and chats).

(Note: in some literature and jurisdictions, it is also referred as digital learning, e-learning, remote learning, online learning, web-based learning, extra mural or virtual learning). (New Zealand Qualifications Authority, 2020, p. 1).

From the education stakeholders’ perspective – whether these be administrators, academic staff, governors, senior managers, or students – the terms ‘online learning’ (CDLRA) and ‘distance online delivery’ (NZQA), though similarly defined, are entirely unhelpful. The terms come close to being examples of polysemy: “the coexistence of many possible meanings for a word or phrase.” ‘Online’ learning that consists entirely of semesterised, timetabled synchronous Zoom classes, for example, is totally different from learning based...
entirely on interactive courseware with no timetables and anytime start and end date. Both extremes require
different infrastructure, different processes, different teaching activities and learning practices, and generate
different learning analytics. Yet, according to both the CDLRA and NZQA, both are adequately defined with the
same term.

Operating models aside, an important consideration for scholars is that placing ‘online’ in the primary place of
any definition including the term ‘distance’ tends to remove ‘distance’ from the once-established cluster of
‘Open, Flexible and Distance’ learning, or ODFL. In the cluster of ODFL, ‘distance’ takes on a particular
historical and significant meaning. The contrast is most recently described by Daniel (2022), who suggests the
benefit of distinguishing between ‘closed distance learning’ (citing ERT) from the more traditional ‘open
distance education’ that is foundational to the many open universities around the world. The differences
between the two could not be more acute: ERT is an immediate response to pandemic lockdowns, largely
implemented without serious planning; the latter deliberately designed to be scalable and accessible to
extremely large volumes of students.

The term ‘online’ in discourse paves over forms of education that have traditionally been very different, with the
risk that the many advantages of ‘open distance’ might be overshadowed by the more recent, widespread, and
less capable ‘closed distance’ model. Worse, because of operating model differences, it is much easier for
traditional institutions to adopt ‘closed distance’ than it is ‘open distance’, and so miss the many advantages the
latter provides. Operationally, pedagogically, and systematically, ‘closed distance’ education and ‘open
distance’ education are as divergent as educational practice might be; yet, to draw from the CDLRA and NZQA
definitions as examples, they are considered equivalent because both are experienced through the same browser.
The operating model distinctions, vastly different mechanics of scalability, and student experience make the
term ‘online’ entirely obfuscating.

Open, distance, and flexible learning – ODFL

At heart, the problem would seem to be the steady erosion of the term ‘distance’ from the asynchronous
assumptions it was once tied to. Between 2004 and 2009 it seems a subtle, yet significant, shift occurred in
literature: the term ‘distance’ started to be equated with ‘online’ (Amoozegar, Khodabandelou, & Ebrahim,
2018; Zawacki-Richter & Naidu, 2016). The terms became intermixed, to the extent that ‘going online’ meant
adding flexibility and distance (place agnostic) study options to traditional campus-based education. The terms
once associated as part of the classic open, distance, flexible and distance learning (ODFL) bundle became
independently atomised, in turn bonding with lecture- or campus-based educational approaches to create very
different compounds.

While it has a long heritage dating back to at least the Open University UK, the ODFL bundle is extremely
difficult to define. It takes on a variety of practice, primarily because each of the terms ‘open’, ‘distance’ and
‘flexible’ are themselves variable in their application. Just over a decade ago an attempt was made to articulate
the landscape around these terms:

- **Open**: Education that is specifically designed to be accessible for learners, typically through open
  enrolment periods but also through relaxed entry criteria. ‘Open’, like ‘flexible’, is always relative.
- **Flexible**: Education that provides learners with more choice over where, how, and when they
  learn. Flexibility is always a relative feature of formal study; however, particular techniques that
  are usually applied to enhance flexibility over traditional on-campus learning make the term
  appropriate. Distance learning tends to be flexible by nature.
- **Distance**: Education that does not require a learner to attend on-campus or contact classes. Stated
  positively, distance education enables a learner to study from the location of their choice for the
  duration of their formal enrolment.
- **Blended**: Education that deliberately mixes the features of classroom contact and online or
  distance learning experiences. Typically a blended course makes online resources and experiences
  available to learners in order to make their learning more flexible.
- **Online**: Education that emphasises the use of online (internet) technology for study. (Nichols,
  2011, p. 1).

In 2011 when these suggested definitions were published, the ability for most domestic residences to stream
videoconferences was on the fringe of possibility and the term ‘online’ was added to the definition list only to
show its limitations in the context of the other terms. ODFL, at the time the above landscape was mapped, was
assumed to be asynchronous. Constraints to domestic internet upload speed (the rate at which data is transferred
to, rather than from, the internet) made video-conferencing far from accessible to home-based learners, and download speeds at the time also challenged video streaming.

For the first decade of the new millennium ODFL authors assumed an asynchronous model of tuition. Otto Peters, a leading theorist in what might be termed classic distance education, wrote that in distance education, “‘Written’ teaching dominates in contrast to ‘spoken’ teaching. ‘Reading’ learning is stressed against ‘listening’ learning” (Peters, 2004, p. 17). In 2005 Guri-Rosenblit’s article ‘Distance learning’ and ‘e-learning’: not the same thing confronted the terminological issues facing ODFL advocates:

The lack of distinction between ‘e-learning’ and ‘distance education’ accounts for much of the misunderstanding of the ICT roles in higher education, and for the wide gap between the rhetoric in the literature describing the future sweeping effects of the ICT on educational environments and their actual implementation. (Guri-Rosenblit, 2005, p. 467).

While the erosion was steady it is now clear that, hastened by the COVID-19 pandemic and the ERT response to subsequent lockdowns, ‘distance education’ needs a better nuance. While Daniel’s terms ‘open’ and ‘closed’ point in this direction, they do not adequately provide clear operating model or stakeholder-relevant indicators.

A proposed set of definitions

To unscramble the considerable terminological tangle evident in education practice, we suggest definitions should be linked to a series of principles that might be evaluated and debated. In our minds definitions for modes of learning should:

1. Provide a clear distinction across different modes.
2. Benefit strategy and operational decisions.
3. Enable a common dialogue in literature.
4. Give insight into the teaching and learning experience.

Under these principles it is clear that ‘online’ is entirely unsuitable as a category. The CDLRA’s ‘Hybrid Learning (Blended Learning)’ could be described as ‘online’ (indeed, it fits within the NZQA definition), as could many of the ‘technology supported’ forms of education (‘In-Person Technology-Supported Learning’, CDLRA) it is supposedly distinct from. Neither is it possible to base an operating model on the basis of ‘online’, as most of the relevant parameters related to administrative systems, teaching materials development, the teaching role, and student success services rely on more fundamental decisions (Nichols, 2020).

A far better basis for defining modes of education would seem to lie within the definitions for online provided by both the CDLRA and NZQA: asynchronous versus synchronous. It is the difference between time-dependence and time-independence that has traditionally distinguished orthodox on-campus education from ODFL, and these two extremes are easy to tell apart. Both have different teaching roles; synchronous lectures, even when recorded for later viewing, are very different from asynchronous courseware. The timetables of both are very different, as are their underlying administrative functions. Critically, asynchronous education can also stretch into anytime start and completion in scalable ways it is simply impossible for synchronous education to. That both might be expressed online becomes incidental, even assumed.

Replacing any definitional structure that includes ‘online’ as a mode removes the camouflage of what asynchronous distance education – built on the historical cluster of ODFL – might further become: education that might be completely independent of semesters, due dates and contact requirements. Rather than an ‘online’ mode of education that might be asynchronous or synchronous, it is much more useful to talk of asynchronous or synchronous education modes that might be further shaped because they happen to assimilate online technologies.

As we will now describe, placing asynchronous and synchronous modes of education in points of contrast can be used to illustrate a mix of education models that are distinctive yet also complementary.

The Reform of Vocational Education and complementary provision

In New Zealand, the Reform of Vocational Education (RoVE) was initiated in 2019. The RoVE resulted in multiple key changes toward a unified vocational education system, including the creation of Te Pūkenga, a “unified, sustainable, public network of regionally accessible vocational education, bringing together the
existing 16 ITPs [Institutes of Technology and Polytechnics]."¹ The RoVE outcomes are legislated in the Education (Vocational Education and Training Reform) Amendment Act 2020,² which repealed the Industry Training and Apprentices Act 1992 and amended the Education Act 1989.³ One of the key outcomes of the RoVE is the development of unified programmes, whereby common course descriptors are used across the network.

The network of 16 ITPs brought together into Te Pūkenga includes Open Polytechnic, the dedicated ODFL provider with a national mandate, which began correspondence education as the Technical Correspondence School (TCS) in 1946 (Dougherty, 1999). Since 2015 Open Polytechnic has developed ODFL courses under a deliberately digital strategy that eschews both textbooks and print provision. The design, development and delivery of Open Polytechnic courses is such that independent, anytime, high quality, and highly scalable education is available all across New Zealand. The operating model of the Open Polytechnic centres around the learner, reflecting ODFL practice.

The bringing together of the previously independent ITPs brings with it significant opportunity for improved access, flexibility and scalability across the entire nation. By Charter, Te Pūkenga is charged with offering ‘on-the-job’, ‘face-to-face’, and ‘distance delivery’ among its activities (Figure Two).

Figure Two: NZIST’s Charter (Schedule 22 of the Education (Vocational Education and Training Reform) Amendment Act 2020)⁴

This requirement, plus the opportunity to combine regional face-to-face provision with a dedicated, asynchronous open distance education function, suggests a different way of considering how modes of delivery might be defined. To return to the four possible ways of defining modes of learning, and beginning with the Te Pūkenga Charter obligations, how might it be possible to provide a clear distinction of different modes (in order to differentiate), while benefitting strategy and operational decisions (seeking to collaborate), retaining links to common terms (not seeking to further fragment dialogue), and give insight into the teaching and learning experience (linking the modes to actual practice)? Two factors were readily apparent:

1. Asynchronous (‘open’) and synchronous (‘closed’) models are utterly distinctive, and so provide useful extremes of practice.
2. ‘Online’ represents a channel or medium, rather than a model; ‘online’ can be descriptive, at least in part, of any point between asynchronous and synchronous extremes.

That asynchronous and synchronous models are utterly distinctive is best seen through the experience of the student. They either must be regularly present at a set time to succeed, or not. From extremes the asynchronous student can study when they want to, because they have ready access to all they need. The synchronous student, on the other hand, must attend live classes; to miss one is to have to catch up later or else fall behind. As a further distinctive, it is helpful to think about the infrastructure provided at each extreme. Here the defining question might be, is there a classroom (be it virtual or physical) that facilitates attendance?

¹ https://www.tec.govt.nz/rove/reform-of-vocational-education/
² Education (Vocational Education and Training Reform) Amendment Act 2020 – Education in New Zealand
⁴ Education (Vocational Education and Training Reform) Amendment Act 2020 No 1 (as at 01 August 2020), Public Act – New Zealand Legislation
The difference between asynchronous and synchronous is also illustrated by the role of the academic staff member or teacher. At the asynchronous extreme a teacher will typically be active in forums, email, and marking; let’s call this teacher facilitative. Any synchronous communications (such as by telephone) is incidental; most of the teaching is either through courseware or as a result of the student’s own self-directed activity. At the synchronous extreme a teacher is more a traditional lecturer, applying a real-time didactic role (let’s call them didactic); if a student can’t attend, they miss out or else get notes from someone else. As these extremes move more toward one another, there is eventually a tipping point at which the facilitative teacher must prepare notes for a class, and where the didactic is no longer preparing such notes. Too far toward asynchronous learning models and the didactic becomes facilitative; and facilitative tending more towards the synchronous eventually becomes didactic.

Ultimately the question is, what is the basis of the student’s experience? Is it live teaching, or is it pre-developed courseware? The underlying dynamics of the two extremes are completely different.

On this foundation, and assuming digital technologies have a part to play across them all, six education models – three each across two paradigms, being asynchronous and synchronous – are proposed. Figure Three illustrates how these might be described, with a fully asynchronous paradigm tending toward synchronous across three models from one end, and a fully synchronous paradigm tending toward asynchronous from the other. Because the proposed definitions originate from New Zealand, key Te Reo Māori (Māori language) terms are used as follows:

- **Ako.** A single term combining the meanings of both teach and learn.
- **Ākonga.** A plural term for those learning; students.
- **Kaiako.** Someone who provides ako; a teacher.

Figure Three shows that the courseware developed for ‘open distance’ education might serve as the basis for other models, and how the ‘open distance’ model exemplified by Open Polytechnic might enrich, rather than be absorbed by, regional campuses and on-the-job models.

The proposed definitions begin with the fully asynchronous ‘open distance’ model, suggested as foundational for the three asynchronous models while also making a contribution to the three synchronous ones. The ‘open distance’ model ensures a scalable national reach, along with the potential to offer anytime enrolment, anytime completion and independent ako options for ākonga whether they study from home or on-the-job supported by specialised kaiako.

The second and third models draw on the availability of regional campuses. While asynchronous ako does not generally require a campus, Te Pūkenga ākonga might enrich their study experiences by accessing the face-to-face services they offer (model two) and, in addition to this, even attend relevant tutorials or lectures should they choose to, their timetable independent of the schedule synchronous ākonga are subject to. In models two and three ‘open distance’ ākonga might access library and cultural services, counselling and lab sessions as well as tutorials, practical sessions and assessment opportunities.

It is at this stage that the proposed modes pivot from asynchronous-based provision to a synchronous-based. Up to this point, students have had the advantage of anytime study and, potentially, the opportunity to begin and complete their studies to their own schedule. In models four through six attendance to synchronous events becomes a more required part of tuition. This pivot-point, which we refer to as the line of synchronal determination, might happen at system (strategic), programme (operational), course (teaching), module (study), or even lesson level.

In models four and five the same courseware used for distance ako (model one) could still have a part to play. Model four, the ‘flipped classroom’, relies on the courseware as the foundation for more collaborative and practical ako. This differs from model five (‘blended’) in that kaiako are more deliberate on localising the distance courseware to provide their own, customised teaching. In model six, the traditional ‘face-to-face’ model, kaiako might develop their own materials completely to suit their own class and context. In model six, the distance courseware might be provided as an additional study resource; after all, the same course descriptor would be used across the network.
### Asynchronous paradigm
**Based on distance modality**

<table>
<thead>
<tr>
<th>1. Distance ako</th>
<th>2. Distance ako plus face-to-face services</th>
<th>3. Distance ako plus face-to-face services and delivery support</th>
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</thead>
<tbody>
<tr>
<td>Using purpose-designed digital courseware, with online support services. National delivery. For both on and off job ako. Model/ capability can also support/ enable blended delivery models and assessment—only options with campus and workplace settings.</td>
<td>Access to campus (non-academic) support services (library, recreation, cultural services, counselling, labs) for all ako (including on-job).</td>
<td>Further subject specific, delivery, or technical support coordinated and provided by the regional delivery arm including tutorials, lectures, practical sessions, excursions. Also, on-job coaching/instruction and assessment.</td>
</tr>
<tr>
<td>Fully scalable and efficient at scale, consistent and quality assured courseware, on-demand access and assessment, scalable innovation, national reach for marginal local demand, basis for all models and modes, including on-job.</td>
<td>As 1, with the addition of campus-based services to support distance and on-job ako who seek opportunities for F2F interactions with mentors, peers and health professionals.</td>
<td>As 2, with the addition of some subject-specific engagement and provision, either to complete compulsory physical/practical components of a course or to provide motivational context and opportunities for ako.</td>
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</tbody>
</table>

*Shift to more face-to-face ako and support*

### Synchronous paradigm
**Based on class/cohort modality**

<table>
<thead>
<tr>
<th>4. Face-to-face ‘flipped’ classroom</th>
<th>5. Face-to-face blended ako</th>
<th>6. Face-to-face ako</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where ako receive full access to digital courseware in model 1. These resources supplement face-to-face ako by kaikoo in campus (in-classroom) or workplace (on-job) settings.</td>
<td>Where local kaikoo draw from some digital courseware in model 1 and hosting platform functionality within their delivery. These resources might include learning objects, slideshows, assessments, in-class pulses, and instructional resources, with the additional use of analytics.</td>
<td>Where all tuition is independent of digital courseware in model 1. Platform, content, delivery, and assessment/employer specific teaching resources all part of the local ako context. Fully decentralised and locally empowering.</td>
</tr>
<tr>
<td>Optimises use of face-to-face opportunities for collaborative and practical ako, including tutorials and assessment. Digital courseware materials are used as primary reference. Koikoo have access to akoaka analytics and online activities to enhance delivery.</td>
<td>Kaiako devise their own unique lesson plans and resources to match the specific requirements of their akoaka, while also drawing on digital courseware. Digital courseware is locally customised by kaikoo. Digital courseware host’s assessment services might also be utilised.</td>
<td>Kaiako devise their own unique lesson plans, activities, and resources to match the specific requirements of their akoaka. In their context. Meets requirements for on-job, clinical, practical, and regional specific courses.</td>
</tr>
</tbody>
</table>

*Shift to more online ako and support*
Conclusion: Models of tuition

We have sought in this paper to provide a practice-based and more strategic means of applying definition to those terms applied to developing forms of education. Popular definitions for ‘online’, we suggest, are unhelpful because ‘online’ is not a special type of model. It is more helpful to view ‘online’ as an enabler of very different forms of education that are operationally incompatible.

Drawing on the changes to the New Zealand vocational education sector, we have also demonstrated how fundamentally different models – ‘open distance’ (Daniel’s term, similar to model one) and ‘in-person’ (the CDLRA extreme, similar to model six) – might be bridged in a series of six related models. Eventually, though, the underlying assumptions of education planning and provision are either asynchronous or synchronous. The form of courseware enabling model one might have a part to play across all six models, to varying degrees.

The advantages of the definitions proposed here meet the four criteria suggested earlier: there is a clear distinction across different modes; the modes provide a clear framework for strategy and operational decisions; they enable a common dialogue; and they give insight into the teaching and learning experience. The distinction between asynchronous and synchronous forms of tuition provides a sound basis for strategy, planning and practice.

Bibliography


