Recalibrating Institutional Choreographies for a Future Focused Education

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Abstract: Contemporary educational institutions are experiencing disruptions to their modus operandi from a variety of sources. A changing student demographic across the higher education sector, along with their changing educational needs is driving much of this disruption. Other drivers are the need for different kinds of skill sets required in the contemporary workplace, the need for alternative methods of credentialing and a demand for flexibility in the education space. However, if you examine how prepared our contemporary educational institutions are for leading learning for the future, you are likely to be disappointed. This is not because our current educational system is broken en masse. In fact, there are plenty of examples of excellent practices all around us, but these are not enough. Our universities and educational systems continue to operate on outdated principles and practices. While they are willing to experiment with new models on the peripheries of their core business, most are not bold enough to rethink and reconfigure their mainstream processes. It is rare to find large-scale and enterprise-wide operations that are appropriately aligned to lead learning and teaching for the near and the long-term future. Why is this so? What can, and must be done about it? This paper examines potential areas of disruption, their key drivers, and where and how to begin a rethink and recalibration of how universities can create, capture and deliver value.

Keywords: disruption, higher education, flexible learning, technology.

Introduction

A recent Ernst Young report on the University of the Future asked the question, “Can the universities of today lead learning for tomorrow?” to find that, “Australia’s universities are monolithic institutions that control all aspects of their teaching and research activities, anchored by physical spaces and time-bound schedule” (Halloran & Friday, 2019, p. 5). A rather harsh indictment one might think, but when seen from a global perspective, this is not such an incorrect reflection of the contemporary higher education scene (www.ey.com/au/futureuniversity).

While the generation and dissemination of knowledge remains the core business of universities, transformations in the digital space are challenging and disrupting conventional models and practices, and contemporary educational institutions have not been able to adapt to this changing environment. The report suggests that such disruptions are likely to accelerate and intensify, and unless contemporary educational institutions learn to adapt, they will be doomed for failure leaving global aspirations such as education for all and sustainable development unrealised.
The observations of this report, although focused on the Australian higher education sector, have implications for tertiary education broadly and especially, universities of the future. This paper offers a window into the target of some of these disruptions along the dimensions suggested in the Ernst Young report. These are how universities create, capture and deliver value.

**Potential Areas of Disruption in Higher Education**

A core business of universities is preparing the next generation of learners for a meaningful life. This is how universities create and add value. Traditionally, these learners across the higher education sector have comprised a mixture of domestic and international students, who are funded either privately or sponsored from government and industry sources. The majority of these learners are high school leavers seeking their first qualification in anticipation of a lifetime of work and gainful employment. As such, their primary goal is the acquisition of formal qualifications, new knowledge and ideas, as well as hard and soft skills enabling them to transfer that new knowledge to novel situations. This is also about coming of age for adolescent high school leavers, as they seek their first formal qualification and their first employment opportunities. To these first-time, tertiary students, universities offer new learning opportunities and with that, opportunities for research and scholarship. These opportunities are uniformly bundled across institutions in the form of undergraduate and postgraduate degrees in which teaching and learning activities are organised in the form of lectures, small group tutorials, laboratory and field work.

In the context of a globalised economy and workforce, a greater proportion of these learners will be returning for reskilling and upskilling while remaining in gainful employment. These returning learners will be asking for increasingly flexible learning opportunities so that they are able to combine work, their private lives and further education. They will also be asking for unbundled learning opportunities in the form of short courses and micro credentials alongside full-length study programmes. In order to meet these new demands, universities of the future will need to engage with a wider variety of learning and teaching opportunities including nontraditional, online, and flexible learning approaches.

A notable major component of this is the conventional campus-based physical infrastructure, which includes teaching, learning and research facilities. The revenue model for the maintenance of this infrastructure is the public purse in the form of government grants. In the near future, student fees, commercial interests and philanthropy will need to subsidise this heavily, as the next generation of educational institutions seek to engage with an increasing digital and distributed infrastructure, industry engagement and talent development in an open and flexible learning space.

These disruptions will invariably affect how universities deliver and disseminate value. Typically, this comprises engagement in a wide range of teaching activities that includes the creation and development of subject matter content, helping students engage with this content, assessment of their learning outcomes and credentialing. The widely adopted model universally, for the delivery of this service, comprises campus-based faculties, schools and libraries. It involves the provision of a wide range of services including learning and teaching and research services, technology support services, and student administrative services. Universities of the future will be seeing widespread disruptions to this model of operation as they fight to remain relevant in a contested learning and teaching space where they are no longer the sole providers of learning and educational opportunities.
Key Drivers of Disruption and their Opportunities

This paper maps out a pathway and opportunities for a rethink and recalibration of conventional institutional choreographies in relation to key functional dimensions. These dimensions are how universities create, capture and offer value to individuals, societies and nations, for without such a rethink and recalibration, universities of the future are unlikely to be able to lead learning for tomorrow, leaving global aspirations of education for all and sustainable development as pipe dreams.

In looking forward to the nature of universities of the future, their pedagogical models and the qualifications they will offer, it is appropriate that we reflect upon key drivers of this disruption, and explore the opportunities that lie ahead for policy development and how best to spend our resources now, and in the future. Predominantly cited among these key drivers are: (1) ubiquitous access to technology; (2) demand for flexibility in learning and teaching; 3) need for connectivity and communication; (4) distribution and disaggregation of teaching functions and roles; and (5) growth of alternative digital credentialing.

Ubiquitous Access to Technology

A growing access to technology and affordable connectivity is empowering larger numbers of students to engage with increasingly open, flexible, and technology enhanced learning and teaching (hereafter OFTeL). This is a global trend and a characteristic of both, institutions with an OFTeL pedigree as well as those without. In institutions with an OFTeL pedigree, these methods are moving from the periphery to the centre, alongside a growing mixture of modes including some face-to-face teaching as well. While in institutions without an OFTeL tradition, these methods are increasingly appearing alongside their predominately face-to-face mode.

There is, because of this convergence, an explosion of interest in open, flexible, and technology-enhanced learning across the higher education sector (Gallagher, & Garrett, 2013). A wide range and variety of organisations are venturing onto the educational scene to offer learning opportunities wherever needed, on demand, and in ways that meet the needs of students wherever they might be located. As a result, the form and function of the conventional educational institution is under stress, as it is no longer the sole provider of educational opportunities. These are now accessible from a variety of sources including individuals, consortia and commercial organisations.

A changing student demographic across the sector is demanding these learning opportunities, and organisations are rising up to the occasion and the challenge it poses, as failure to do so will lead to declining enrolments, revenue loss and diminishing rankings. Although for the moment, in many of these institutions open, flexible and technology-enhanced learning continues to sit on the periphery of their core business, as an opportunity to promote its existing brand and tap into new markets for new students and additional revenue streams. Many of these institutions find the affordances of open, flexible and technology-enhanced learning attractive and are willing to experiment with it in parallel to their conventional learning and teaching practices but not at their expense. Classic examples of this are Stanford University, the Massachusetts Institute of Technology, and Carnegie Mellon in the US (GLC, 2016). This is the most potent challenge facing enterprise-wide adoption of open, flexible and technology-enhanced learning, and especially in institutions without a strong pedigree in the field.
A rethink and recalibration of conventional institutional choreographies is required across the sector for successful adoption and integration of OFTeL. Such a rethink will have to involve reimagining conventional academic and administrative structures as well as influencing the behavior of academics, their belief systems about learning and teaching and their instructional methods. It will require careful scaffolding and orchestration of newer learning and teaching experiences including alternative pathways for different kinds of learners. This will need to include opportunities for high school leavers seeking their first tertiary qualification, as well as adults who are already in the workforce and seeking to upskill and reskill. Some of these kinds of learning opportunities will require alternative approaches to accreditation and credentialing. For without such a rethink and recalibration, OFTeL will remain on the periphery of mainstream processes and an unrealised potential, and universities will have missed an attractive opportunity to lead learning for the future.

**Demand for Flexibility in Learning and Teaching**

A hallmark feature of such a rethink and recalibration is the integration of flexible learning opportunities in mainstream educational processes. Teaching is a consequence of mediation between the teacher, the learner and the learning resources. This is either self-paced or group-based and may take one or more of four principal forms, namely, *self-paced learning online; self-paced learning offline, group-based learning synchronously, and group-based learning asynchronously* (Naidu, 2008). In the self-paced learning mode, learners could be working by themselves either offline as in the case of private study, or online as is the case in online learning. In the group-based mode, learners could be studying in a group while in synchronous communication with the group, as is the case in audio or video conferencing, or asynchronous communication as is the case in an online discussion forum.

Open, flexible and technology-enhanced learning affords much greater flexibility than is possible in conventional approaches to teaching in all of these scenarios. For learners, this kind of flexibility may include choices in relation to entry and exit points, selection of learning activities, assessment tasks and educational resources in return for different kinds of credits and costs. And for teachers it can involve choices in relation to the allocation of their time and the mode and methods of communication with learners as well as the educational institution (Naidu, 2017a).

This kind of flexibility in learning and teaching is relevant in any mode of study. Moreover, the determination of its nature and level in a given context will depend on several interacting variables, such as the nature of the subject matter, the level of study, the location of students and teachers, and their readiness as well as the readiness of institutional infrastructure for supporting such flexibility. In this manner, one size or approach does not, and will not, fit all learners, teachers or discipline areas. There is a need for different approaches to learning and teaching, with different levels of flexibility, structure and guidance for different cohorts and learning contexts (Naidu, 2017a).

A useful approach is to consider how flexibility can be integrated to leverage key dimensions of the learning and teaching transaction regardless of the mode of this transaction. These dimensions are as follows (see also Naidu, & Roberts, 2018):

1. **Learner-content engagement**: This is about learners’ engagement and interaction with the subject matter content in ways that suit individuals, their learning styles and approaches to studying and its time, place and pace.
2. **Learner-teacher engagement**: This is about choices learners have in relation to the mode and method of their engagement and interaction with their teachers and tutors.

3. **Learner-learner engagement**: This is about choices learners have in relation to the mode and method of their engagement and interaction with their peers in small and large groups, and in offline and online educational settings.

4. **Learner engagement with the learning environment**: This is about adaptable access, interaction and engagement with the learning environment (such as with mobile devices, Wi-Fi access and innovative use of study space).

5. **Learner engagement with assessment activities**: This is about choices learners have in relation to the fulfillment of their assessment requirements.

6. **Learner engagement with feedback**: This is about choices learners have in relation to access to feedback on their learning and assessment activities.

7. **Learner engagement with the institution**: This is about choices learners have in relation to their engagement with the services of the educational institution.

The greater the flexibility along these dimensions, the more personalised is the learning experience for the student. Although, personalisation of the learning experience for students has its costs. Primarily, this includes increased pressure on teaching and teaching support staff as well as other institutional resources such as the library and technical infrastructure. For this reason alone, teaching staff are not too keen on too much personalising of the learning experiences of students, and instead prefer group-based approaches. Increasing access to technology however, is enabling greater personalisation of the learning experience without a commensurate increase in teaching and support staff workloads. Along with greater personalisation of learning also comes alternative opportunities for learning, teaching and assessment activities for a wider variety of learners including those with different levels of competencies, disabilities and disadvantages, so that not everyone is painted with the same brush as is the case in a group-based educational setting.

The adoption of more personalised learning and teaching opportunities will require upskilling and professional development of university teachers and tutors. Most tertiary educators are not trained teachers, let alone trained in the use of OFTeL. This will need to include, not only a reconsideration of the standard professional development programmes for tertiary teachers, but the development of a whole suite of strategies for all kinds of teaching staff taking on tertiary teaching. Too much flexibility without adequate continuing professional development and support can in fact do more harm than good to learners and teachers alike. Getting the mixture and the balance right in the integration of flexibility and OFTeL more generally across the sector is the key, and a critical function of teaching. This means a rethink and reconsideration of how tertiary teachers are recruited, remunerated, and supported in their work in the contemporary education space.

**Need for Connectivity and Communication**

For effective and efficient mediation of the learning and teaching transaction in an increasingly flexible learning space connectivity is essential. With reliable connectivity, expertise and learning resources can be sourced from anywhere, and by anyone with access to the facilities. Universities of the future will no longer need to invest in physical libraries to support learning and teaching in the
future. Fortunately, connectivity is becoming increasingly accessible and affordable but it is far from universal. Besides, connection and communication comes at a cost. Educational institutions, throughout the developing world, which needs it most, are struggling with unfavourably high costs of reliable and robust connectivity. These costs are just as prohibitive for students and teachers alike, and are especially potent for those who are studying or teaching from home and remote locations.

In an information dense educational environment and with growing availability of open educational resources, the best that universities of the future can do is provide reliable access to robust connectivity. This will need to include not only the provision of adequate connectivity and bandwidth at all times of the day but the reconfiguring of physical learning and teaching spaces such as lecture and tutorial rooms for lecture capture, and desktop audio and video conferencing. It will also need capacity building for staff and students in the integration of open educational resources that will become accessible as a result of increased connectivity (Naidu, 2016a).

**Disaggregation and Distribution of Teaching Functions**

A product of ubiquitous connectivity is *distributed learning* where learning and teaching activities are feasible from *any place, any time* and indeed at *any pace*. In the contemporary higher education sector, this kind of an educational experience is seen as somewhat idealistic, and by some, in fact, an unwise proposition. The argument against this proposition is that students, and especially freshmen, are ill equipped to handle too much independence and flexibility in their learning space. They claim that flexibility in the hands of the novice learner can do more harm than good. As such, many educators argue that direct instruction in group-based learning contexts is much better suited for this category of students.

Many students themselves, have been noted to agree with this suggestion. Many prefer direct instruction where someone tells them what needs to be known, rather than being expected to learn by doing, and exploring for themselves in a flexible learning environment. It is unclear how much of this negativity of tertiary teachers towards disaggregation and distribution of teaching functions is due to their own techno-phobia, or to a fear of losing control and leaving their own comfort zone.

In a distributed learning context, the learning and teaching transaction is not in anyone’s control, nor confined to a particular location (see Saltzberg, & Polyson, 1995). In these educational settings, any such control is distributed among various stakeholders. This is a truly democratic and liberated learning and teaching architecture, in which learners and teachers can be located anywhere and be able to access educational resources from anywhere, and at any time, via web-enabled tools and services.

For this kind of a learning and teaching architecture to work effectively and efficiently, reliable access to networked communications technologies is essential (Dede, 2004). And as this kind of technological infrastructure becomes more widely available and accessible, the typical roles and responsibilities of teachers will undergo change (see Vrasidas, & Glass, 2002).

In the conventional campus-based educational environment, the teaching academic is the aggregate of all teaching functions. This includes selection of the subject matter content, design of the learning and teaching activities, facilitation of these activities, assessment of the learning outcomes and provision of feedback. In a distributed learning and teaching scenario, these teaching functions are disaggregated and shared among a team with specialist skills (Rosenbloom, 2011). The selection of the subject matter
content for instance, could be a product of a team of content specialists, while the design and development of the learning activities, feedback and assessment strategies could be a product of collaboration with learning experience designers and media producers.

Disaggregating traditional teaching roles and functions in this manner and allocating these to specialist groups requires a different operational model of learning and teaching in universities. It also requires a shift in perceptions of what it means to teach and who is responsible for what aspects in the full spectrum of the learning and teaching transaction. It requires a shift in the mindsets of academics about expertise, as tertiary teachers are often hired to their roles for their discipline-based knowledge. And negotiating the form and function of this knowledge with others, especially those without this knowledge base, is fraught with problems.

Tertiary teachers will have knowledge of their discipline but given their current recruitment practices, they cannot be assumed to possess comparable pedagogical and technological knowledge (see Mishra, & Koehler, 2006; Chai, Koh, & Tsai, 2013). This is becoming increasingly obvious with the increasing adoption of technology in the contemporary learning and teaching space. So, relinquishing some of these teaching functions to specialist learning experience design and development staff in fact, has advantages for tertiary teachers. It means more time for other scholarly activities such as research and scholarship, which are also part of their role (Gallagher, & Garrett, 2013).

There are many advantages for disaggregating teaching functions and having it carried out by dedicated and specialist staff. Foremost, it releases the subject matter experts from carrying out functions that they are not skilled at performing. These functions include the design of productive learning experiences, and effective use of information and communications technology to capture and support these learning experiences. The majority of tertiary teachers are not skilled enough in all of these areas, and they will lack the technological and pedagogical knowledge that is required to carry out these functions effectively and efficiently.

Another advantage of disaggregating some of these teaching functions to specialist staff is the opportunity to rationalise teaching tasks such that those who are best skilled are carrying out a task in the most efficient manner, and, therefore, not everyone needs to know everything about a learning and teaching transaction. Furthermore, course materials developed once by teams of people can be used a number of times before they reach a point where they need to be revised. This is advisable not only from the point of ensuring rigour in the design of the study materials but also to guard against undue influences of individual teacher bias in the selection of a body of subject matter content, and in its teaching to students, which can be problematic in some discipline areas (Naidu, 2016a).

A conventional teacher and a content-centric focus to teaching and learning poses the most serious obstacle to the adoption of disaggregated teaching and learning practices by universities today. Academic staff at these universities see research as their primary motivation. Many of them, if they had a choice would rather not teach despite the fact that universities are not research institutes with research and scholarship as their sole purpose. Teaching is a large part of what a university does and the face-to-face campus-based experience is a significant part of that function. However, it is arguable that teaching and learning almost universally, are increasingly shifting towards a more flexible approach that allows for learning anytime, anywhere and at any pace. In support of this agenda, a growing number of universities have put in place a wide range of professional development plans
and initiatives for the integration of OFTeL including policies around flexible learning, open educational resources, and the integration of technology in teaching and learning (Naidu, & Roberts, 2018).

However, more than a few times, and across the sector, it has become apparent that academic staff are not engaging with these resources as much as they should. Many teaching staff are blissfully unaware of developments in this regard, and going on with their business as they have always done. Examples of this state of affairs are too many and in both, conventional campus-based contexts, as well as in open, flexible and distance learning environments. Academic staff (unless they are classified, as research intensive) cannot see themselves as researchers only, although that is a large part of their role. Another large part of that role is teaching, and that too needs equal attention and care. There is a chasm in many universities today between their aspirations for a future-focused learning and teaching, and what is rolled out at the coalface. For effective implementation of a distributed and disaggregated learning scenario, a fundamental rethink is required of how tertiary teachers are recruited, remunerated and supported across the sector.

**Growth of Alternative Digital Credentials (ADCs)**

These disruptive forces on conventional institutional practices are gradually affecting how universities capture and add value. This includes approaches to credentialing and certification, other than what universities are used to. Interest in alternative methods of credentialing in universities has been on the rise for some time (see https://bit.ly/2oNYuXV). The key drivers of this interest is the proliferation of short courses in the sector, as well as a demand from employers for more and different kinds of information about learning achievement on the usual qualifications, certification and transcripts.

The basic idea of ADCs is not new. We have known of this idea in the form of journals and portfolios, provided alongside one’s formal academic certificate and transcript. What is new about ADCs, as we know them now, is their digital nature and what is possible to capture in this format, and enable it to be shared widely. ADCs enable credentialing of smaller chunks of work, unlike a certificate or transcript, which is awarded only after completion of a larger programme of study, and they may take the form of a digital passport, an e-portfolio or a 3D CV. Any of these will contain a lot more information on a person’s skills and competencies than what is often available on a graduation diploma or a transcript. This kind of information will include such things as products of one’s activities, critical reflections on their learning experiences, and testimonials which might be more informative about a person’s competencies than a diploma or certificate.

ADCs provide a useful way of capturing these learning opportunities and submitting them as part of formal learning arrangements. ADCs also offer possibilities for recognizing and rewarding learning from a wider variety of sources, and in so doing helping to achieve the goals and aspirations of the education for all, and education for sustainable development agenda promoted by organisations such as the United Nations and the Commonwealth of Learning (see Naidu, 2019).

**Getting Disruption Ready**

In sum then, methods of teaching and learning that were pioneered as a part of open, flexible and distance learning are increasingly creeping into conventional forms of educational practices. Some of this is due to the proliferation of various kinds of technologies such as the Internet and the World Wide Web for mediating the teaching and learning transaction. Other reasons are related to the appeal
of open and flexible learning methods for a changing student demographic, which includes a wide variety of learners other than the typical high school leaver. Notions of openness, which were once focused on open access to learning, are being extended to include the adoption of open educational resources and the practice of open scholarship (Naidu, 2016b; Naidu, 2017b). The traditional lecture, once the mainstay of conventional campus-based experience is fast becoming an accompaniment and increasingly more interactive with the lecture time being spent on more active learning and student-teacher and student-student interaction (Baggaley, 2015; Sams, 2010).

There is much to be optimistic about the future of universities and higher education. The path of universities for leading learning for tomorrow looks promising. However, I fear that many of us are not on this path, or indeed moving in the right direction. There is still a lot to do, and much to be concerned about. Primarily, this includes a lack of a systemic and enterprise-wide rethink and a recalibration of existing learning and teaching choreographies so that they are appropriately aligned with the opportunities and promises of openness and flexibility.

A serious rethink and reconfiguration of contemporary institutional choreographies is required. How should universities of the future begin to rethink and recalibrate their conventional choreographies so that they are able to meet the demands of the next generation, and the ones after that? The ten questions below from the Ernst Young report, Can the universities of today lead learning for tomorrow? The University of the Future, (Halloran, & Friday, 2018, p. 31) will offer a quick assessment of your situation and suggest where to start:

1. Are you willing to challenge or change your core business model?
2. Have you cultivated a culture of “yes, we can” that enables agile decision-making?
3. How well does the leadership team and council understand the dynamics of disruption both inside and adjacent to higher education?
4. Is your university’s strategy fit for a digital world?
5. Have you assessed your disruption readiness gaps? How do you compare to your competitors, locally and globally? How do you compare to leading corporates, locally and globally?
6. As incumbent business models shatter, can you build the capabilities you need to succeed or will you need to buy them?
7. Does your strategy address the need to both achieve near-term objectives and lay the groundwork for future disruption? Does it drive transformation?
8. How does university purpose inform your disruption readiness agenda?
9. How secure are your funding commitments against disruption initiatives over the medium to long term?
10. Have you assessed your funders’ views on disruption in higher education? Is your funder base aligned to your ambitions?

Go ahead. Take this test. If your answers to these questions cause you concern, then a rethink and recalibration of your institutional choreographies is required.
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