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The precarious futures for online learning

El futuro precario del aprendizaje en línea

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Abstract

As universities and colleges begin to contemplate the post-COVID reality and their strategic intentions, new realities are emerging which will change both the policy and financial landscape in which they operate. Facing reduced revenues, enveloped funding and demanding performance measures, higher education institutions will look to educational technology and its potential for transforming their business models. They should be cautious, since the EdTech transformation litany comes with consequences. As is already the case, not all institutions will survive, some will shrink and others will change. This paper explores both the content and conditions of emerging change patterns for colleges and universities.

Keywords: Transformation, online learning, new public management, sustainable development, technology enabled learning.

Resumen

A medida que las universidades y colegios comienzan a contemplar la realidad post-COVID y sus intenciones estratégicas, están surgiendo nuevas realidades que cambiarán tanto el panorama político como financiero en el que operan. Enfrentando ingresos reducidos, financiamiento envuelto y medidas de desempeño exigentes, las instituciones de educación superior buscarán la tecnología educativa y su potencial para transformar sus modelos comerciales. Deben ser cautelosos, ya que la letanía de la transformación de EdTech tiene consecuencias. Como ya es el caso, no todas las instituciones sobrevivirán, algunas se encogerán y otras cambiarán. Este artículo explora tanto el contenido como las condiciones de los patrones de cambio emergentes para colegios y universidades.

Palabras clave: Transformación, aprendizaje en línea, nueva gestión pública, desarrollo sostenible, aprendizaje con tecnología.

The Transformation Conversation

The global COVID-19 pandemic has changed economic, social, community and learning realities for all so permanently. Disruption to institutional practices have impacted every organization, including universities, colleges and schools. Online, flexible and distance learning replaced face-to-face learning across the education system, with mixed results. Though some yearn to "return to normal" – what has also been called the "great reboot"- this "back to the future" thinking does not align with a number of known realities.

There is a strong push, aided and abetted by technology vendors, to see the time between the beginning of the end of the pandemic and the start of the "new normal" as a moment of transformation when colleges and universities shift from being predominantly about inter-personal relational teaching and learning to becoming technology enabled, hybrid learning organizations. Selingo et.al (2021) at Deloitte, Adam Nordin (2020) of Goldman Sachs,

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Kenneth Rogoff (2020) and Michael Moe (2020) among others are encouraging the view that this is the age technology driven personalized learning – an age of "transform or die".

The idea of colleges and universities using "weapons of mass instruction" (Gatto, 2010) to transform themselves in not new (Watters, 2021) and began in earnest in the 1920's. Despite frequent re-appearances of this transformation conversation, there's precious little evidence suggesting that technology innovations have done anything to improve teaching and learning (Stommel, Morris and Watters, 2018). In fact, the transformation conversation is more about privatization, efficiency and scale than it is about authentic learning and engaged teaching. Audrey Watters (2019, 2021) and Martin Weller (2020, 2021) have documented some of the more spectacular failures of Ed-Tech. These two veterans of ed-tech suggest that the talk of "revolution" and "transformation" driven by technology misunderstands both the purpose of higher education and the nature of teaching and learning.

This transformation talk also underestimates the system-wide impacts of the pandemic and its implications for the financing of higher education (Burgos, et al., 2021), the workforce within our institutions and the focus for teaching and learning. This paper explores the context, challenges and opportunities facing higher education institutions in the emerging post-pandemic world (Murgatroyd, 2021) and raises questions about the transformation agenda.

The Shifting Systems Dynamics of Higher Education: A Cancelled Future

Before we can unpick the transformation narrative and challenge the proposition that learning has been "forever changed" by the experience of remote learning during the pandemic and the "new normal" is hybrid learning driven by technology, it is important to understand some of the trends and patterns that will shape policy and institutional decision making in the decade to come. Here we document five such developments which will either inhibit, enable or encourage change.

1. The Financial Health of Governments

All governments now have significant financial challenges, having used debt financing to support workers, healthcare and essential services during the pandemic. Prior to the lock-down, global debts (corporate, government and personal) were very high. In September 2019, global debt from all sources stood at app. $253 trillion, according to the Institute of International Finance[1]. Such a debt level is 353 times larger than global GDP. In response to the pandemic, governments had to spend significant funds to support communities, families, organizations and business. Global debts increased by $17 trillion[2], triggering low or negative interest rates in many countries. For the UK pandemic spending has produced the worst financial position of any UK government in the last three hundred years and they continue to spend. At some point, all governments will need to engage in a "great reckoning" and recast every line of government finances. Universities and colleges will not be exempt.

Governments will either further lower their real investment in the work of universities and colleges, something they have been doing for many years, or they will target specific funding associated with their judgement of what these institutions need to deliver. High levels of accountability will be associated with these enveloped, targeted funds. Overall, most higher education systems will be asked to do more with less.

[1] See https://www.cnbc.com/2020/01/14/global-debt-hits-all-time-high-of-nearly-253-dollars--iif-says.html

[2] See https://www.thenationalnews.com/business/banking/surge-in-debt-levels-could-weigh-on-global-economy-in-2021-1.1143658

2. Impact of the Pandemic on Economies and the Future of Work

The impact of the pandemic on current and future patterns of work is still emerging. The International Labour Organization (2021) indicates that the equivalent of 225 million jobs were either "lost" or put on hold in the last quarter of 2020, with Latin America, Caribbean, Southern Europe and Southern Asia being most impacted. The impact of changes and challenges in the workplace affected younger workers, women, the self-employed, low and medium skilled workers more than any other groups. It also impacted some sectors – retail, hospitality, tourism and travel, and the food supply chain, for example – more than others. While inactivity increased more than unemployment, some of the jobs impacted will never return.

These shifts in the workforce are in addition to those already taking place as a result of demographic shifts in many economies (Euromonitor, 2017) and the impact of advanced technologies on both jobs and the nature of work, including professional work (Susskind and Susskind, 2015; Spencer, et al, 2021).

The acceleration of existing workplace strategies, in particular the adoption of technology enhancements to replace human labour and the growth in the use of contingent workers will continue. But the disruption to key sectors will have long term consequences for many key programs of study. Culinary arts, retail management, marketing and sales and many other programs will need to be rethought in the light of these changes. So too will programs focused on health, eldercare, nursing and public health.

3. Impact of the Pandemic on Health, Especially Mental Health

Health was also impacted, and not just physical health. The World Health Organization reports significant impacts of the pandemic and its consequences for mental health. In China, health care workers report significant increases in depression, anxiety and insomnia. In Canada, 47% of health care workers have asked for and have received psychological supports[3].

As for physical health, over 110 million were diagnosed with COVID-19 around the world and global deaths have exceeded 2.5 million so far. Some countries – the US, India, Brazil, UK, Russia, France, Spain, Columbia, Argentina, Mexico – were especially hard hit. What is more, long-term impacts of the virus are only now beginning to be understood. While vaccines are now being used to limit the spread and impact, spread will continue and the virus should be seen as a permanent rather than temporary feature of the world in which we live. Further, given the speed at which the virus is now able to mutate, the veracity of vaccination and prevention measures are in question. Just like other viruses, we will each need to find ways of managing our lives to live with the reality of a virus that is able to mutate quickly and spread effectively.

The need to revise our teaching about many aspects of public health, public policy, eldercare, nursing and mental health is evident.

4. Impact of the Pandemic and Related Public Policies on Society and Social Trust

The social impact of COVID-19 and related developments is only now emerging. What is clear is that the pandemic served to strengthen inequality, increase divisiveness, promote populism and weaken the ability of many in society to differentiate between fact, fiction and conspiracy. Trust in institutions, governments, science, news media is at an all-time low (Edelman, 2021).

[3] See https://www.who.int/news/item/14-05-2020-substantial-investment-needed-to-avert-mental-health-crisis

One example relates to social trust in medical advice and information. A surprising number of people continue to suggest that the COVID-19 virus is a conspiracy and a hoax, with many of these individuals refusing to be vaccinated. A study using a sample of English adults suggests that up to 20% of citizens continue to believe the virus is a hoax and a full 59% believe that their government has been misleading them in their public health statements. In a separate study, 12% said that they would refuse the vaccine if offered (Freeman, 2020). The decline in social trust may lead to the pandemic persisting longer than need be, harming any notions of a gradual return to "normal". As almost all public institutions lose social trust, a key challenge is to rebuild it, especially as we see more and more examples of "information bankruptcy". Indeed, a study of students suggests that many no longer trust either news sources or scientific evidence (Funke, 2018).

Social trust in the value of higher education has also been challenged during the pandemic. Students challenged the value of the online learning they received, with some seeking redress through fee reductions or returns (Anderson, 2020; The Learning Network, 2020). University and college teachers were not universally accepting of the pivot to remote teaching (Murgatroyd, 2020b). Many governments are now concerned about the extent to which college and university activities are "fit or purpose" in meeting the emerging challenges of the post-COVID world.

5. Impact of the Current Situation on Sustainable Development

Despite the rhetoric of governments, climate change and environmental degradation continues. The year of 2020 was, according to the UN, the warmest year on record and CO2 emissions remain high and continues to rise (415.52 ppm in January 2021 up from 413.61 recorded in January 2020)[4]. Fires, floods and other climate events are becoming more frequent and the number of climate change refugees continues to grow. Human actions and decisions continue to have a detrimental impact on our planet and change in response is urgent (Mann, 2021).

Both COVID-19 and the climate crisis have exposed the fact that the poorest and most marginalized people in society, such as migrants and refugee populations, are always the most vulnerable to shocks. With regard to climate change, those most impacted by extremes have usually contributed the least to the root causes of the crisis. The most recent Countdown report (Cai et al., 2020) finds that no country is immune to avoidable loss of lives linked to climate change arising from widening inequalities, with every indicator in the report following a worsening trend.

What the pandemic is doing is accelerating the shift to the green economy, with a variety of Asian countries accelerating their green infrastructure investments and the roll out of systems to support electric vehicles (EVs), which will in turn impact global demand for oil and gas (Dewar, et al, 2020). This transition will be further accelerated by the adoption in the US of an aggressive green agenda across the new Biden government (Rapier, 2020).

Both a focus on sustainable development and the transition to a green energy economy require real investments in knowledge, learning, skills and capabilities – something universities and colleges need to urgently respond to.

[4] See https://www.esrl.noaa.gov/gmd/ccgg/trends/

The Drivers for Higher Education Policy Post COVID-19

These emerging features of the socio-economic landscape are driving governments to look at higher education in terms of the following policy elements for near term developments:

- **Responsiveness to labour market needs and the urgent need to reskill, upskill and enable second career transitions rapidly**. This is leading some governments (e.g. Australia, Ontario) to invest heavily in micro-credentials, short-form modular stackable learning linked to known areas of skill demand. It is also leading to questions about the value, utility and cost of long-form credentials like degrees. There is also a focus on this emerging labour market on the skills needed for initiatives and work in sustainable development and the green energy economy.
- **Refocusing the purpose of university and college away from citizenship and the general pursuit of knowledge, understanding, skills and capabilities to a much stronger focus on skills and competencies.** A narrowing of curriculum, with a strong emphasis on science, technology, engineering and mathematics (STEM) and a disdain for the arts, social science and the humanities.
- **Increased access to and success in affordable learning, especially for those traditionally denied access to higher education – first generation learners, recent immigrants, unemployed, single parents, rural and remote learners.** This is presented as a focus on equity, diversity and inclusion. It reinforces the idea that access to and success in college and university is an essential "marker" in the work of community.
- **Reduced complexity, costs and efficiency** – many systems are now deemed, in terms of cost per completion and return on investment, as simply too expensive. Governments are exploring system rationalization (mergers, acquisitions, reorganizations, rationalization) as a response to this perception.
- **Refinancing higher education with a stronger focus on outcome based performance funding.** This is a major focus for two large Canadian governments (Alberta and Ontario) and has been a focus for many others for some time.
- **A desire to see virtual learning as core rather than an "add-on" feature of the system,** with technology being seen as resources that can "unlock" the publicly funded resources sitting "as underused assets" in our colleges and universities. As a response to the challenge of equity, diversity and inclusion, technology is seen in policy terms to be at least part of the answer.
- **A focus on sustainable development and the greening of energy systems –** in some jurisdictions, significant investments are being made in curriculum and research focused on sustainable development and the growth of the green economy. In particular, skills training linked to the energy transitions and research on autonomous systems are seeing significant investments.

Here are some of the patterns we can see emerging at this early stage in the post-pandemic planning that flow from these policy considerations, several of which have substantive long-term consequences:

1. **Permanent Closures:** A number of universities and colleges, especially small liberal arts colleges, will close permanently in the United States (Burns, 2020; Corey, 2020). There are also a significant number of universities in the UK who are vulnerable (Brackley, 2020) – up to thirty face very challenging financial difficulties. In Australia, according to a new analysis (Yazdani, 2021), a drop of 20% in the number of

international students registering to study could lead to the closure of between six and ten universities.

2. **Mergers and Clusters:** Accelerating an existing trend, especially across Europe, for universities to merge or form functional clusters to reduce duplication, strengthen global presence and secure efficiencies and research impact (Mitchell, 2015). The Government of Alberta has asked McKinsey to review the overly complex system for a population of less than five million (six public universities, two polytechnics, eleven community colleges and five partially funded private university colleges) and suggests forms of rationalization. Other jurisdictions around the world are examining their options, with mergers already under discussion in Philadelphia (Seltzer, 2021).
3. **Pause and Rethink**. Some universities and colleges are seeking bankruptcy protection so as to enable them to restructure and re-organize. Laurentian University in Canada is one (Usher, 2021). It is using its bankruptcy to suspend its collective agreements with unions and restructure its work. In the UK, some 30-50 universities are currently (or may soon need to) considering this option (London Economics, 2020; Brackley, 2020).
4. **Shrinking and Focusing**: The idea of the comprehensive university engaged in teaching, research and commercialization of innovation across a wide spectrum of disciplines and subject domains is shrinking in the face of lost revenues from international student fees, reduced capacity and the high costs of operations (Dolton, 2020). The University of Alberta, facing a 20% budget cut imposed before the onset of COVID-19 as well as the loss of international student fee revenues, has reduced the number of its faculties from eighteen to three and is seeking to create a new focused centre for enterprise and revenue generation. Others are narrowing their teaching and research focus so as to reduce operating costs (secured through program closures) and focus the work of the institution (Head, 2021).
5. **Opening the Envelopes**. Governments, hesitant to offer sector-wide bailouts, are offering envelope funding to colleges and universities to achieve specific purposes. For example, the Government of Ontario, following similar developments in Australia[5], has provided $59.5 million over three years to support the development and deployment of micro-credentials[6].
6. **Keep Calm and Carry On:** Many colleges and universities, though now operating differently, are focused on doing what they can with what they have got and responding in reactive and adaptive ways to the emerging realities. Part of this work involves data storytelling (Stackpole, 2020) – using available analytics to recast what is happening in the language of the current policy narratives. That is, what changes is the story, not the work.
7. **Going Digital and Getting To Scale**: Some, not many, see the success institutions like Arizona State (Crow and Dabars, 2015) have had with online learning and are exploring the implications of shifting more of their work to the digital space. Their "fantasy" is that this will reduce costs, increase access and sustain the institution, even if only part of their teaching and learning activities move online.

The higher education systems that result from these developments will not look like the systems that preceded them. They will have adapted to changed financial, operational and market considerations.

[5] See https://ministers.dese.gov.au/tehan/higher-education-relief-package

[6] See https://www.newswire.ca/news-releases/new-funding-for-micro-credentials-will-help-more-people-find-employment-833617199.html

Throwing Into Relief the Key Components of the Neo Liberal Agenda

It is also the case that higher education systems in various geographies were suffering from what might be referred to as "pre-existing conditions", exacerbated by the impacts of the pandemic. These are the components of the broad neo-liberal agenda and new public management agenda adopted by many governments which have impacted the work of higher education since the 1970's (Kelly, 2020; Murgatroyd, 2020a; Murgatroyd and Sahlberg, 2016). The pandemic has served to strengthen these features of the neo-liberal agenda:

- **The privatization of public good.** In the UK, as well as many other jurisdictions, the government investment in universities fell from app. 90% of operating budgets to 25% between 1981 and 2020 (Dolton, 2020). In almost every jurisdiction, even while college and university numbers have risen significantly, per capita investments from government in higher education learning have fallen. Further, the portion of university and college operating revenues paid for by student fees is now a mission critical component of their funding.
- **Marketization –** Universities and colleges compete for registrations and market share, since learning and credentials are regarded as "commodities" (Gupta, 2018). Even in India, following the economic reforms of 1991, competitive markets for students have emerged, as they also have in many other countries around the world.
- **Growth of managerialism –** While the number of tenured and tenure-track positions in universities and permanent positions in colleges falls (see below), the number of executive and management positions in these institutions has risen sharply. In Canadian universities, for example, spending on administration increased by 228% between 1973 and 2017 while spending on tenure and tenure track positions fell by 11%.
- **The globalization of academy and its growing reliance on China.** In the UK, where student fee income is a major source of revenue, a relentless focus on international students (who pay higher fees that domestic students), especially at the postgraduate level drives the work of many in the organization. In a typical year, more students were recruited to the UK from China than from the whole of the EU's twenty seven countries. Between 2006 and 2019, the number of students studying in the UK from China rose from 25,000 to 90,000 (Dolton, 2020). In Australia, the closure of borders and collapse of the international student market will cost its universities $16 billion in 2021 alone (Head, 2021).
- **Uberization of the university.** In the US, 75% of those teaching in universities do not have tenure and are not on a tenure-track – the Canadian figure is app. 61%[7]. Universities and colleges increasingly rely on part-time contingent staff who have no job-protection to deliver their teaching and learning activities. In Australia, some 90,000 university teachers at the thirty-nine public universities are contingent workers and not all will be employed in the future (Head, 2020, 2021).
- "**Learnification**" – As more students are taught by contingent staff, part of the emerging narrative shifts the work of higher education away from teaching in favour of "personalized learning" and the prime importance of the learner as a customer. This learnification of higher education – placing the learner at the centre and marginalizing the work of teaching – shifting attention away from the teacher:student:knowledge relationship towards the relationship between the student and "content" (Biesta, 2010, 2014) and the isolation of the learner from community, peers, social networks and challenge.

[7] Based on http://cou.on.ca/wp-content/uploads/2018/01/Public-Report-on-Faculty-at-Work-Dec-2017-FN.pdf

- **Datafication and Accountability** – Despite reducing their investment in higher education, governments demand increasing levels of accountability and performance (Lahey and Griffith, 2002), aided and abetted by a growing number of league tables and rankings (David, 2016), some of which are linked to funding mechanisms (Severin and Egger, 2020). This flows down from the system level to the work of individual faculty members, who are increasingly judged by measures of citation impact (e.g. h-index), grant gaining and conference presentations (Lorenz, 2012). For some, the pressure to perform is part of the emerging surveillance culture prevalent in some universities and colleges. They may wish to bear in mind Lenin's observation: "trust is good, control is better".

Online Learning and the Precarious Futures of Universities and Colleges

Into this ferment of developments, with many university and college leadership teams anxious about their future, comes the promise of technology and the offer of a more cost-effective approach to teaching and learning which could "transform" the work of the institution and ensure survival.

The promise of the advocates involves four inter-locking litanies:

1. **Equity** – All recognize that our current systems of higher education strengthen rather than reduce inequalities. While some advances have occurred, especially in the education of women and girls, many remain outside the ambit and reach of higher education, especially in emerging economies. The issue is often presented in terms of "access" but the real issue for equity is in terms of both access and success. More indigenous learners may be given access to higher education through a variety of interventions, but the differentiated supports needed to complete successfully are rarely available. At a very basic level, not all have access to affordable broadband or the technologies required to be successful in an online learning program (Escueta, et al., 2020). The litany, however, is that technology is the great equalizer – something not at all evident in the current deployment of technologies for learning.
2. **Cost** – the litany is that technology enabled learning, especially fully online learning aided by AI enabled technologies, will dramatically lower the costs of higher education and, by doing so, increase access and success for more in society. This suggestion involves several implicit assumptions: (a) that current collective agreements specifying workloads and class size are replaced with different arrangements; (b) that programs achieve scale, since small class sizes would render quality instructionally designed online learning supported by AI as being more expensive than current face-to-face instruction; (c) that institutions radically reimagine the use of time and place with more courses and assessment being available on demand; and (d) that institutions or higher education systems have ready access to the technologies and skills needed to enable online learning to achieve scale and transformative potential. All of these assumptions are problematic (Finkelstein, *et al*, 2000; Bramble and Panda, 2008). To achieve significant savings, universities and colleges would need to unbundle their operations (Craig, 2015).
3. **Quality and Personalization** – There is also the litany that, because of the rigorous use of instructional design and principles of universal design, online courses will adhere to quality standards and known best practices. The use of analytics and other indicators will enable continuous improvement in course design, deployment and instruction. Through the ability to observe, record and inspect teaching and learning quality as

surveillance can occur. Using adaptive learning engines supported by AI, learning can be "personalized" and the need for teachers reduced. Such developments require significant upfront investments in professional development, instructional design and technological capabilities – features absent from the landscape of many higher education institutions.

4. **Innovation** – Another component of the litany is that technology enabled learning and unbundling the university or college to achieve scale and efficiency will align these institutions with the emerging innovation landscape. That is, embracing online learning and all that it implies will move universities and colleges closer to the innovative leaders of the economy – Apple, Alphabet / Google, Facebook, Tesla, Oracle, Dell, Microsoft. Embracing technology and the idea of the hybrid campus will enable universities and colleges to be more agile, nimble and responsive to changes in the market (Wilhelm, 2019).

Underlying these litanies are some critical assumptions, the most salient of which are: (a) the reinvention of the work of the faculty member; (b) the rise in importance of getting to scale; and (c) the creative use of time. To achieve the ambitions this litany requires, some faculty will need to become responsible for course production, in partnership with instructional designers, editors, media producers and Ed-Tech specialists. Other faculty members will then be asked to teach the course produced by others. Different processes will be used to enable students to be assessed. Unbundling the faculty role is essential in making the ambition for online learning successful. Also essential is the shift away from a limited number of fixed start dates towards a combination of "on demand" courses or courses with five to ten enrolment periods, so that they may be accessed at any time (Seelig, et.al, 2019; Panda and Mishra, 2019). Scale – courses with hundreds rather than a dozen – is an essential ingredient of the transformation conversation (Rawls, 2016; Toutkhoushian and Lee, 2018), with massive open online courses (MOOCs) being a model for what may be possible.

Underlying mechanisms are also essential to make an online system of higher education truly effective. The first is greater transferability of credit bearing courses between institutions, enabling a course taken at one university to be recognized automatically at another. The second is the need to reduce what are termed "residency" requirements – the number of courses which must be taken at a specific institution to earn a Certificate, Diploma or degree from that institution. Such requirements exist in part for financial reasons, but mainly because of concerns over the integrity of qualifications issued in the name of an organization and in part because of concerns about the varied quality of courses "parlayed" into a qualification from other institutions.

As some have observed, online learning as a transformation strategy is not simply a logical outflow of the normal work of a college or university. It is a deliberate and demanding strategy intended to disrupt the business model of the organization. Done well, it requires an organizational change and transformation across the organization and truly courageous leadership. It also requires significant investment in professional development, design capacities and technology infrastructure. Other approaches, such as the organic growth of online learning, will add to costs and increase organizational complexity, especially if marketization and competition rather than shared development and collaboration drive the agenda and are unlikely to produce the outcomes and successes expected from transformation. This is where the suggestion of "transform or die" comes from.

Five Barriers to The Transformation of Higher Education Through Digital Technologies

The barriers to the technology enabled transformation of colleges and universities are many. The five critical barriers are:

1. **Governance and decision making** – While there has been a shift away from shared and participative governance in our universities and colleges (Lapworth, 2004), courageous leadership driving transformational change is both rare and generally short-lived (Nichols, 2020), as the attempt to transform and transition the Open University UK demonstrates (Adams, 2018). The focus for governance is generally to evolve and to focus on continuous modest change (Klassen, 2021) rather than radical transformation and disruptive change (Christensen, and Eyring, 2011). Transformation requires a particular kind of leadership (Givens, 2008; Graham, 1998) and followership which is difficult to sustain in a higher education institution.
2. **Transforming the work of faculty** – In many institutions, the faculty is unionized and has worked hard to secure appropriate conditions of service and workloads. Unbundling the work of faculty, an essential precursor to transformation, has proven challenging (Seelig, et al, 2019; Gehrke and Kezar, 2014; Craig, 2020). Without unbundling, scale and efficiencies are difficult if not impossible to achieve. Also required are significant investments in faculty development and capabilities and the development of instructional design capabilities within the institution. Shifting from "sage on the stage" to co-designer and enabler of learning is a difficult transition for many (Murgatroyd, 2020b; McCowan, 2017). Changing funding models to account for different workloads and course deployment and delivery is also very problematic.
3. **Weak understanding of the purpose of learning and design.** Most faculty in colleges and universities have little or no training in instructional design or teaching. Indeed, many pride themselves on the fact that their master's, doctoral degree or trade qualification prepares them for the subject they teach, not how to teach (Baldwin and Wawrzynski, 2011). The implication is that they know little about design, universal design for accessibility or constructivist approaches to the uses of technology enabled learning (Fink, 2020; Laurillard, 2020; Denton, 2012). This is one reason the pivot to online learning was problematic for many students (Anderson, 2020).
4. **Money and Investment**. Many governments fantasise that transforming higher education to either a hybrid model or largely online will lower costs, but have not understood that the key to achieving both quality and efficiency is unbundling and getting to scale (Nichols, 2020). They also make assumptions about technology infrastructure, access to technology and skills and competencies for the use of technology. Canada, to give one example, needs to invest in excess of $6 billion to secure universal access to affordable appropriate broadband by 2030[8]. This is a pre-requisite to the transformation of higher education. Also a prerequisite is a need for all engaged in the transformation to have technology skills, competencies and capabilities and access to appropriate technologies to teach and learn in creative ways. In most effective online learning institutions, significant upfront investment secures returns when the program of study achieves a suitable scale. Current models of teaching and learning and workload constraints do not permit this.
5. **MOOCs and the New Market.** In 2020, the four leading MOOC providers in the developed education markets secured thirty-two million new registrations, with many

[8] See https://www.budget.gc.ca/2019/docs/nrc/infrastructure-infrastructures-internet-en.html

of these pursuing micro-credentials or degrees[9]. So successful were these providers that one (Coursera) doubled its market capitalization and is considering an initial public offering of shares. These aggregator organizations, which offer courses, programs and credentials (over 850 micro-credentials and 100 degrees) are game changers in the market for online learning with whom all local universities and colleges will complete. Why take a degree from X university when one can obtain one at home from MIT or Georgia Tech? If a university or college moves to the hybrid / fully online space then they are entering a global rather than merely local market.

Four Scenarios for the Future

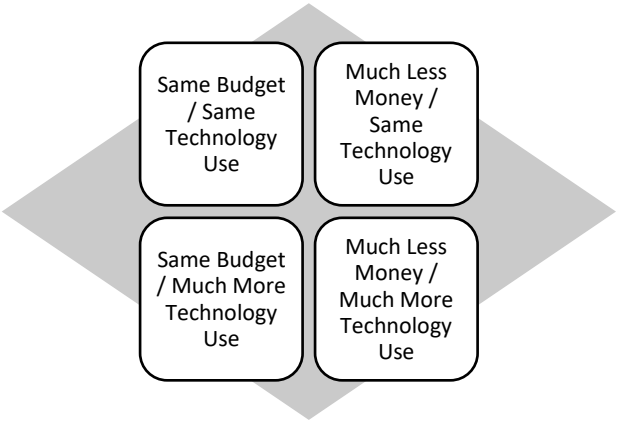
As universities and colleges face up to the emerging realities - shifts of government policy, new financing rules, a change in market conditions, a bold move by a competitor, new entrants into the market, the arrival of powerful AI-enabled learning technologies, new challenges not anticipated prior to COVID-19, new wrinkles in the "return to the new normal", they need to understand possible futures. Part of this understanding needs to relate to online learning: what role might online learning play in the future of the college or university?

One approach is to develop three or four different scenarios of the future for the institution. The work here is not to choose a single preferred scenario, but to understand what would happen under each scenario and develop appropriate responses. This work is based on the long history of effective strategic foresight and future literacy (Miller and Sandford, 2019; Michael, 2017; OECD 2018).

Two dimensions will help to focus this work. One is finance ('how much or little will we receive from all sources?') and the other technology ('to what extent do we want to leverage technology enabled learning as key to our future?'). These questions need to be answered in the context of thinking about the long term (10-20 years from now) not just the near term. They should also be addressed in the context of purpose. As Tully and Murgatroyd (2013) made clear, it is not appropriate that all institutions shift to online learning if it is not aligned with their understanding of their purpose or their strategic intentions: doing something to secure revenue which goes against strategy and purpose will destroy the culture and performance of the organization.

We show what some scenarios may look like in the figure below, which uses the financial and technology dimensions:

Figure 1: Four Scenarios For the Future Using Income and Technology As Drivers



[9] See https://www.classcentral.com/report/mooc-stats-pandemic/

The focus on finance should be obvious – governments, students and stakeholders will seek to re-evaluate all expenditures and all investments. Some governments have already dramatically reduced expenditure on higher education and others may follow. The technology dimension has emerged as a component of strategy, based on the extensive use of synchronous and asynchronous technologies for teaching and learning. While some may seek cost savings associated with the use of technology, these can only be realized when an institution changes assumptions about key roles and seeks to get to scale (Cini and Prineas, 2016). The institutional challenge will be determining the role of technology in shaping teaching and learning and the place it has in blended or online delivery.

Behind each of these scenarios are assumptions about staffing requirements, needed investments in technology infrastructure and staff development, likely market responses and the need for learner support. Some of these scenarios suggest the need for joint ventures and shared services.

The task for leadership here is to determine which of the scenarios the team has developed is a preferred scenario, given what is known about the external conditions. Key here will be the decisions made by the government and by international students and their governments about a return to study. A changed financial picture for colleges and universities and challenged governments required to find new sources of revenue and spend significant sums stimulating moribund economies is certain. New public:private financial models may emerge or need to be considered.

One specific focus for this work will be capital expenditure. Has the lock-down suggested a need to rethink the use of capital assets and budgets away from buildings and structure towards technology? Does the capital plan that existed in January 2020 still make sense, given the changed conditions we are now experiencing? Do we need to strengthen the technology backbone and resource levels to enable strategy? Already, many capital spending plans for 2020-2023 have been discarded.

Dan Qualye, a former Vice President of the United States, is quoted as saying “the future will be better tomorrow”. It may be if we stop talking about transformation and become more realistic about change, development and emergence.

CONCLUSION

The transformation conversation focused on higher education is alive and well and has significant momentum. It focuses on the idea that technology can transform university and college teaching and learning in ways similar to the ways technology has transformed retail, banking and other professional services (Susskind and Susskind, 2015). These suggestions underestimate the impact of the pandemic on both financial stability of these institutions and their capacity for change. They also over-estimate the readiness of faculty, students and the available technology infrastructure to deliver on the promise of transformation. The courageous leadership and adaptive followership needed to enable this transformation is also notably absent. More realistic conversations about “what’s next” and “building back better” are needed.

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