

Transitioning from Class-room to Tech-room: *Exploring an approach to Technology Enhanced Learning (TEL) in Australian HE sector*

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Abstract

The unprecedented pandemic has forced Australian and global higher education institutions to move from the Class-room to the Tech-room and these institutions have adopted Technology-Enhanced Learning (TEL) in varied ways in an attempt to remain dynamic in the sector. This paper aims to explore approaches taken by higher education institutions to implement TEL strategies. The paper also discusses how higher education institutions are dealing with the imperatives of student satisfaction, engagement and performance while implementing TEL. Our aim is to highlight the many nuances associated with the TEL framework and its implementation.

Key words

Technology Enhanced Learning, TEL, Online Learning, Distance Education, Learner Satisfaction, Learner Engagement, Learner performance.

Introduction

The past decade has witnessed an exponential growth in the adaptation of technology enhanced learning (TEL) in higher education institutions globally (Kirkwood and Price, 2014; Price and Kirkwood, 2010; Tynan, et al., 2012). The COVID-19 pandemic has forced many HE institutions, including those in the Australian HE sector, to adapt to the TEL environment.

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The popular term 'Distance Education' has been propagated over the years with terms such as correspondence study, blended learning, online learning, e-learning, online delivery, flexible delivery and sometimes mixed mode delivery. TEL, in the context of learning, embodies the basic use of a learning management system (LMS), various technologies for course delivery, through to an entire course offered online. The use of the term TEL and its meaning is not uniform in the higher education sector and as a result, it is defined differently from institution to institution (Laurillard et al., 2009; Oliver and Trigwell, 2005).

For the purposes of greater clarity around TEL, it is important to understand what TEL means in the context of education. According to Goodyear and Retalis (2010), TEL is an educational situation where technology is being utilised to help people learn. Many researchers have defined TEL using three key factors - enhancing the quality of learning and teaching; meeting student expectations; and improving access to learning for students off campus in any context (James, Krause, and Jennings, 2010; Walker, Voce, and Ahmed, 2012; Walker et al., 2014). These factors are considered as norms in TEL implementation.

In a number of research articles on the benefits of TEL, different views are explored including the view that the student experience and learning outcomes have different achievements by TEL (Harvey and Williams, 2010; Mellar and Jara, 2009). Research has indicated that a combination of both face to face and online is the best way to achieve academic outcomes for students (Aldridge, 2013; Paechter, Maier, and Macher, 2010). Overall, TEL has significant benefits such as enhanced engagement, flexible learning, long distance collaboration, asynchronous communication, time management skill development, generic attributes, enhanced pedagogical practice and in some instances, enhanced learning outcomes (Clark, 2011; González, 2010). In the higher education sector, online delivery is now ubiquitous (Bichsel, 2013) driven by an ever-growing demand and appetite for flexible learning.

This large-scale disruption to the delivery of education, not seen since World War II (Martinez, 2020), provides an opportunity for leaders in Australia to shift the existing educational paradigm. Can this health crisis bring about real change to ensure that HE Institutions facilitate online education and

approaches to student learning outcomes? This paper discusses the approach to TEL by the HE sector and examines how the HE sector is transitioning successfully towards TEL.

Changing Paradigm – Vanishing Class-rooms and Appearing Tech-rooms

The COVID-19 pandemic has had a significant impact on our lives and on the educational landscape. According to a UNESCO Report (2020), governments in 161 countries around the world have closed educational facilities at all levels of their education systems to deal with its containment and prevent the spread which has impacted over 60% of the global student population. To mitigate the impact, a large number of higher education institutions, globally, have been forced to continue education delivery through an online distance learning mode.

Online learning is dependent on student access to: technological resources (Lamb, 2020), technological ‘know-how’ (Noble, 2020); appropriate HE Institutions technical infrastructure (ACER, 2020; Anderson, 2020); and academic staff capability in delivering online learning, in terms of experience, knowledge, skills, and attitude (ACER, 2020; Lamb, 2020; Toth-Stub, 2020). Learning online requires students to have access to ‘a computer, a reliable internet connection (with adequate speed and data), and, for some, specific software’ (Noble, 2020: para. 10). Yet, even in Australia, where ‘access to digital technologies and the internet is high’ (ACER 2020: 1), many students face barriers to learning and are likely to experience limited access to technological resources (Clinton, 2020; Noble 2020).

Transitioning of an Institution to TEL

Many higher education institutions have taken a different approach to transition from face to face to online delivery. The Australasian Council on Open, Distance and e-Learning (ACODE)⁴ has developed a TEL Framework comprising eight aspects of TEL implementation - Strategy, Quality, Systems, Services, Staff Development, Staff Support, Student Training and Student Support. According to this framework,

⁴ <https://www.acode.edu.au/mod/page/view.php?id=1598>

an institution that is delivering technology enhanced learning (TEL) must adopt these eight elements of the framework. They serve as a blueprint.

In brief, the ACOE eight TEL elements include -

1. *Strategy* applies to institutional level planning, policy development and implementation in relation to the application of TEL. It includes the delegation of authority and responsibility for developing and implementing policy, and strategic and operational plans;
2. The *quality focus* is centred on continuous improvement through systematic and regular evaluation of implementation strategies and outcomes. Such evaluation will in turn inform future planning and align with the institution's strategic direction;
3. The *systems* aspect describes the range of systems and support required to maintain and update an institution's approach to TEL. This can include the use of: learning management systems and their associated systems; library systems; cloud-based tools and services and mobile technologies. It also includes hardware (computers, telecommunications and ancillary equipment) and networks, both internal and external which are used for the purposes of TEL, for both on and off-campus environments;
4. *Services* address the effective application of TEL services into courses and programs. It encompasses the underlying rationale and strategic intent, how it is embedded into teaching, how it is resourced, evaluated and advanced;
5. *Staff development* activities encompass individual and group delivery, face-to-face, as well as online;
6. *Staff support* for the use of TEL encompasses both technical and educational support;
7. TEL services are the systems and tools used by an institution to support learning and teaching. These can include the use of required computing equipment and software; learning management systems and associated applications; library systems; cloud-based environments and mobile technologies;
8. *Support for students* in the use of TEL services is defined as primarily technical but the learning context should also be acknowledged. Support should be considered in terms of the use of computers and mobile technologies; learning management systems and their associated applications; library systems, and; those cloud based systems and tools adopted by the institution.

One of the core elements in the transition to TEL is the role of leadership in HE institutions (Bates and Sangra 2011). Beside the leadership drive, implementation of online policies and planning, providing financial resources, content digitization and its delivery, building strong student support and enhancing student engagement are important aspects to consider (Bates and Sangra, 2011).

Leadership support

Moving to an online mode of delivery is an organisational change which requires skilled leadership. The change is only successful if driven by leaders who have skills, knowledge and a positive attitude to drive such change (Northouse, 2013). Successful leaders strengthen these skills to become more effective and to manage change amidst scarce resources (Marques, 2013; Warrick, 2011). Skilled leaders focus on building strong relationships with staff, faculty, students and other stakeholders especially in times of crisis (Fullan, 2011) which are fundamental to building online delivery processes.

Implementation of online policy and planning

The critical area in transitioning to online learning is the implementation of online educational policy and planning (Bates and Sangra, 2011). HE institutions should implement policies to govern the online educational systems and to support pedagogical awareness surrounding learning. Implementing educational policy and planning consists of developing policies such as staff training and support, student services, and student training and support (Levy and Beaulieu, 2003). When online learning is integrated into the HE institution's policies, it fosters greater adoption and relevance for stakeholders (Casanova and Price, 2018).

Providing financial resources

COVID-19 has resulted in unprecedented financial challenges with regard to operating the requirements of institutions. The economic downturn has made the financial conditions of HE institutions vicarious and has posed significant financial pressure on institutions to make up the shortfall (Kim and Woodland, 2020). Due to border closures and international students not being able to travel, there is a significant enrolment target shortfall. As a result, many HE institutions have been unable to make up the financial shortfall. This necessitates the need for financial resources being

made available for online delivery by leaders in HE institutions – creating an additional financial burden.

Content digitization and its delivery

It is essential that both online learning technologies and online digitized content is integrated so that the delivery of learning resources or communication between lecturers and students is well established (Cheawjindakarn, et al., 2012). Information technology has dramatically improved and enhanced the growth of online learning with ease of access to learning and teaching. Delivering a quality online learning experience is only possible by having standards, ensuring that there is instructional design, development and analysis, and having faculty and student support (Martin, Polly, Jokiahho and May, 2017). Moreover, timely and constructive feedback between students and lecturers provides critical input for improvements *and* critical feedback enhances student engagement (Al-Bashir, Kabir and Rahman, 2016).

Building strong student support

Providing student support to online students is a crucial factor for transitioning to online delivery (Schroeder, 2001). The quality of student support should be constantly reviewed to ensure it meets the service standards that were offered on the physical campus. Student services must offer additional technical help as well as other services that were offered given face-to-face students may no longer have access to the physical sites (Jaggars, 2014). Further, as long as HEIs remain student centred, student health and well-being are key areas of support that should be addressed. No doubt, some students are facing emotional distress as a direct result of the pandemic (Roy et al., 2020) and this needs to be kept in mind.

Enhancing student engagement

Educational technology contributes to student engagement in online learning and student engagement in online learning can enhance a culture of learning in higher education (Krause and Coates, 2008). Student engagement is a commitment that students give to their learning and as a result of this commitment adds value to class discussions, increases student knowledge, and provides

an active and collaborative learning environment that enhances interaction between students and faculty (Kahn, Everington, Kelm, Reid and Watkins, 2017).

Making TEL a success – Learner Satisfaction, engagement and performance

With online becoming the order of the day in 2020 in HE institutions, little has been examined in relation to the factors that potentially impact on the level of student satisfaction, student engagement and ultimately student performance in their studies. There is a range of studies centred on evaluating student satisfaction based on instructional factors such as organisation, teaching methods, instructor enthusiasm and curricular factors as well as issues such as texts, transferability, and readability (Green, Hood, and Neumann, 2015). Another type of student satisfaction includes institutional or non-teaching factors such as quality of class space, price and class size (Paechter, Maier, and Macher, 2010). Studies on student satisfaction related to technology were generally considered negligible in truth.

In recent years, there have been studies on student perceptions of online course satisfaction in terms of teaching quality, learning achievement, and institutional support. For example, mediation of technology in the academic delivery of online education, makes it dramatically different from traditional education (Song et al., 2004). Similarly, student perceptions are impacted by various types of online lectures in comparison to face-to-face lectures, and online teaching poses challenges to instructors because of the new techniques and strategies they must master to maintain educational integrity and provide quality in an online mode (Asoodor, Vaezi, and Izanloo, 2014).

Student engagement in HE contexts has often focused on what students are doing and the effect of this on academic performance (Carini, Kuh, and Klein, 2006). Student engagement can be identified in the development of critical thinking skills, higher grades and embracing learning by taking responsibility and actions to achieve intrinsically motivated goals. Gonzalez et al. (2020) conducted a study analysing the effect of COVID-19 confinement on the student performance. The study revealed that COVID-19 confinement changed student learning strategies to a more continuous and ongoing habit of being an online approach to study and thereby improving their efficiency. For these reasons,

improved results in student assessment are expected and the same can be explained by an improvement in their learning performance.

During the COVID-19 pandemic scenario, many studies have been initiated on how students are managing online study with technology enhanced learning embedded. Some studies indicated that TEL significantly impacted on student academic achievement and learning performance. When online learning is well-designed, conducted within a robust learning management system and is in the hands of skilled teachers, it offers a comparable learning experience to face-to-face (Toth-Stub, 2020). TEL, with fully supported active online learning, is proving capable of delivering very high retention and attainment rates with rising demand for high quality online education (Panigrahi et al., 2018).

Conclusion

Today's students are highly familiar with the using digital platforms of technology enhanced learning. They are extremely quick to understand poor digital design and equally quick to become disengaged with an inadequate online experience. More mature online students tend to be more experienced and worldly than the face-to-face cohort given they are older, often employed and having an ability to manage other responsibilities. On the contrary, online students are often academically less experienced and hence less confident than face-to-face younger students.

The COVID-19 pandemic has resulted in a significant rise in the demand for high quality, supported online learning in Australia and globally. HEIs need to fully embrace and leverage the changing face of education by adapting to the sector's fluctuating needs with continued leadership and leadership support, policy planning, the provision of financial resources, strong student support and innovative content digitization and delivery.

TEL has transformed what is, in many cases, simply a digital delivery of face-to-face content which has high attrition rates with a delivery approach that encourages and embracing the potential of both technology and people for greater retention and performance. Most of the time, online students are largely 'unseen', however with enhanced TEL measures in place, institutions are able to keep students

as 'visible' using the entire institution approach and making a positive difference on their learning success.

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Disclosure statement

No potential conflict of interest was reported by the authors.

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Dr Chanda has a great passion for building 'New Age Learning' and 'Digital Transformation' in education industry. He has in-depth knowledge of education system including regulatory requirements at Vocational education and training and higher education. He has extensive experience of education management, compliance and academic management. In past, Dr Chanda has lead large corporations as a Chief Executive and at a senior management level in oil and gas, construction, mining, energy and logistics industries and has been instrumental in its growth and success. Dr Chanda has a PhD in Management from UNISA, Australia and has MBA and Law qualifications. He has authored three business books on business strategy, organisational performance and strategic HRM and numerous research papers. Currently he is a Provost – Virtual Campus, UBSS Australia.

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Emeritus Prof Whateley has a Doctorate in Virtual Pedagogy in addition to holding a Diploma of Teaching (with a focus on Music and Psychology); a Bachelor of Music Education (with a curriculum development focus), a Graduate Diploma in Educational Administration (with a focus on Organisational Behaviour), and a Master of Education (with a focus on Assessment and Evaluation). Emeritus Professor Whateley began his teaching career (1975 – 1988) in the area of music and arts education at both primary and secondary level. He has taught at every level of formal education (K – PhD) and has either,

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Jotsana Roopram

Jotsana has lectured for a number of years in the field of Hospitality Management at higher education institutions in South Africa. During this time, she worked closely with industry associates, developing and preparing students for junior management roles in the hospitality sector and mentoring junior staff for progression into senior roles. In the latter part of her career in South Africa, she worked in academic administration and management as Head of Department, managing a faculty of lecturers from diverse fields such as business, hospitality, tourism, sport and journalism. She has a national diploma in hospitality management, certificates in assessment design and development and a moderators' license from the sector training authority of South Africa.

She attained a Postgraduate Diploma and a Master of Education, specialising in Higher Education (University of Kwa-Zulu Natal in Durban, South Africa) before immigrating to Australia in 2014. Prior to joining UBSS in 2016, she was the College Operations Manager at Navitas in Sydney.

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