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Network affordances through online learning: Increasing use and complexity

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Abstract

Computers, mobile devices and the Internet have enabled a learning environment described as online learning or a variety of other terms such as e-learning. Researchers believe that online learning has become more complex due to learners' sharing and acquiring knowledge at a variety of remote locations, in a variety of modalities. However, advances in technology and the integration of ICT with teaching and learning settings have quickened the growth of online learning and importantly have changed ways of learning and course delivery. Hence, there is a need to weave together the ICT experience of teachers to integrate ICT for appropriate and augmented -learning.

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1. Introduction

The advent of computers, mobile devices and the Internet in particular, has enabled a learning environment called online learning. Researchers (Ramli, Darus, & Bakar, 2011) believe that online learning has become more complex due to learners' sharing and acquiring required knowledge at a variety remote locations. However, advances in technology and the integration of ICT with teaching and learning settings have quickened the growth of online learning and primarily have changed the way of learning and course delivery. The internet and networked technologies have well prepared the ground for flexible approaches to learning. In 2000, some higher education courses delivered on-campus were beginning to see the benefits of blending face to face with online delivery, but now all subjects at many universities and institutions of higher education mandate the inclusion of

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an online component, regardless of their mode. For example, the number of students who took at least one online subject was more than 1.6 million in 2002 and within six years (i.e., in 2008) the number rose by almost three-fold to 4.6 million (Allen & Seaman, 2010) with a compound annual growth rate of 19 percent. As a primary source for learning, the Internet has provided the availability of free and open enrolment in a variety of courses through massive open online courses (MOOCs). Considering the changes in educational aspects in parallel with technological innovations and different types of ICT resources, it is vital to consider the integrated innovations to facilitate the most effective learning and teaching. This paper will explore current trends in the literature pertaining to online learning in higher education.

2. Literature Review

Increasing use of the Internet and almost constant online connection has attracted the attention of researchers to the use of online implications for educational purposes. Accordingly, the use of online learning has grown significantly around the world and has provided abundant opportunities for school-leavers and higher education applicants to fulfill their dreams with reduced anxiety about time management, location, and pace of progress off-campus issues. Online learning has made it possible for the educational institutions to increase the accessibility and opportunity of learning for those whose access was limited in the past. For instance, online education has become a fast growing sector of higher education in the United States (McBrien, Jones, & Cheng, 2009). Sun, et al. (2008) believe that “e-learning’s characteristics fulfill the requirements for learning in a modern society and have created great demand for e-learning from businesses and institutes of higher education” (p. 1184).

Thirteen years ago McNabb, Valdez, Nowakowski, and Hawkes (1999) argued that technological modes of instruction should be utilized as learning environments to enhance and expand learners’ capabilities, and therefore, to better accommodate the needs and requirements of learners and to assist them to reach higher levels of achievement and knowledge construction. Owing to the growth of new technology, online learning has shifted “from the domain of distance education to encompass all modes of educational delivery” (Anderson & Baskin, 2002, p. 136). For instance, Radford (2011) states that the number of students taking at least one online course has been increased from 8 percent in 2000 to 20 percent in 2008. Exploring students’ reasons for taking online courses, Braun (2008) claims that the most prevalent ones are related to financial reasons, flexibility, and the ability to complete course assignments, readings, and other requirements from home. Jensen (2011, p. 298) also speaks of the ‘almost universal access’, ‘increased flexibility’, and ‘preference among young adults’ as the factors contributing to the appeal of online courses. Any change in education systems as claimed by Farrell (2001) is mostly happening to achieve one or more of the following goals: improvement of access to educational opportunities, enhancement of quality in terms of both standards achieved and the learning process, and improvement of efficiencies such as increased productivity, greater return on invested capital and cost reduction or containment.

However, providing students with the opportunity of complementing internal classes with the online alternative has been one of the crucial developments. Traditionally, courses were offered in internal or face-to-face mode. Today, however, owing to the growth of technology, some courses are offered fully or partially online. This use of the internet improves the accessibility of tertiary education for all. This mode of internet learning and teaching would be also beneficial to those students who otherwise could not participate internally. For instance, in James Cook University both internal and external courses are offered in order to respond to the distinct demands of students; the internal courses include both face-to-face contact and online material whereas in the external subjects the students only study online. These modes of delivery may never entirely replace direct face-to-face involvement, but they have the potential to augment traditional instruction. For instance, Cooper and Sahami (2013) claim that online learning can serve as an effective means to students when other forms of delivery are not available. Accordingly, universities have utilized a number of online affordances to support learning and teaching.

Contention exists about which mode of learning delivery is superior. While some believe a face-to-face mode of instruction is superior to an online mode of delivery, others suggest that online courses should be used as a

replacement or supplement to face-to-face classes. A third argument is that a blended learning experience that integrates technology-media supported and web-based applications is superior. As defined by Bath and Bourke (2010), blended learning is “effectively integrating ICTs into course design to enhance the teaching and learning experiences for students and teachers” (p. 1). Further, the authors state that blended learning engages both teachers and students “in ways that would not normally be available or effective in their usual environment” (p. 1). Two recent research publications (Angiello, 2010; Bakia, Shear, Toyama, & Lassetter, 2012) have reported on this issue. The findings of both meta-analysis reports reveal that the performance of students taking all or part of their courses online is better than their face-to-face counterparts. Likewise, they report that a combination of online and face-to-face instruction has more advantage relative to merely face-to-face instruction or solely online instruction. Accordingly, Richardson et al. (2012, p. 98) suggest that “online learning deserves more serious and more rigorous study” to identify the properties of successful learning environments.

Online learning has the potential of generating new revenue and providing learning opportunities for those with limited access to traditional courses. This mode of learning works best for people who are well-organized, self-motivated, and able to manage their time (Gansler, 2007). Furthermore, online affordances and web tools give more communication chances to students who seem to be shy and introverted through giving them more chances of communicating and expressing themselves. The online environment gives them the privacy and space that they do not find in ordinary face to face interaction (Dewar & Whittington, 2000). Taking part in the online interactive communication makes them feel more positive about their learning abilities as they do not need to take turns to speak or worry about interruptions. However, online learning has also shown to have the disadvantage of high dropout rates and failure in the competitive market (Sun et al., 2008). Some users stop their online learning after an initial experience (Sun et al., 2008). Curless (2004) enumerates lack of finance and time, isolation and lack of self-discipline and motivation among the reasons of dropouts.

Online affordances, web tools and new technological innovations are typically designed to improve the quality of learning and teaching. However, the reverse could be true. Thus, it is important to consider the advances in contemporary pedagogy in parallel with technological innovations and different types of ICT resources.

2.1. Net-generation students

The emergence of the Net-generation indicates that universities have to address and include the role of technology in their teaching and learning. Net-generations are born into and grown up in an era of computers and the Internet and frequently use them. They have grown up in a highly wired environment (Ismail, 2010; Oblinger, 2008; Worley, 2011), are almost always connected via new devices and social networking interfaces. The Net-generations are “demanding a change in the classroom because of their ability to gather information faster than any other generation” (Sheskey, 2010, p. 197). Dede (2005) also believes that as the result of growing up in a rapidly changing world, Net-generations are fast and like quick response times in all the acts of their life, for example, playing a game or responding to an instant message (IM). They place more value on speed than on accuracy. Their different learning patterns as well as reasoning principles may head them in a different way of learning compared to their previous cohorts (Shakarami, 2012). They are exposed to oceans of information on the Net and it is this immersion in virtual environments that may make their learning different from those of earlier generations. According to Windham (2005), although online communication is often viewed as contrary to personal interaction, it is not certainly seen as such for the Net-generation. The Internet has become a medium of interaction for them through its global reach that provides vast international resources and enables learners to access useful learning material and opportunities. In a survey conducted by Terrell (2005), it was revealed that considering the computer and Network facilities handy to Net-generation, it is not surprising that they possibly expect technology to support their learning. The Internet provides them with the chance to get in touch with friends, take part in online talks, and share videos and clips with friends all around the world. In short, it allows interaction with people and material to a great extent. According to Prensky (2001), Net-generations have more tendency to communicate visually, integrate virtual and physical, learn better through exploring, like instant responses and can quickly change their attention from task to task. They like online socialisation, blogging, and

interactive activities. They often perceive the Internet as an indispensable part of their life in that it makes things faster, facilitates learning, helps shy students express their ideas, and lets students cooperate more in their online interactions and most importantly, keeps them connected to the outside world at all times.

Although Net-generation learners spend so much of their time online and are plausibly expected to have a strong preference for online courses, the reality is sometimes otherwise. Oblinger and Oblinger's (2005) survey study found that "face-to-face" interactions were preferable to online options (p. 2.11). According to the researchers, "the implication is that colleges and universities should not assume that more technology is necessarily better" (p. 2.11). In their perspective, utilizing the technology "to increase customization, convenience, and collaboration is well received; however, its integration into most courses or curricula is not as deep as into students' personal lives" (p. 2.11). In another study (Kvavik, 2005) carried out among 4000 students, they were found to have a "moderate preference for technology" with regard to teaching and learning. They also had "mixed feelings" towards use of technology in the classroom, and believed many of the ICT skills necessary for learning were acquired at college (p. 7.17). In this regard, the relative efficacy ICT and technology in online and face-to-face courses is still under question and needs to be revisited.

2.2. Massive Open Online Courses (MOOCs)

Massive Open Online Courses (MOOCs) are a relatively recent online learning phenomenon in modern education delivery that has significantly attracted the attention of media and higher education providers. MOOCs are free courses delivered through the net to a large number of students and were first introduced in 2008 by Dave Cormier (Yuan & Powell, 2013). MOOCs have the potential to take advantage of the changes that are currently happening in higher education due to globalisation of education, constrained budgets and the new demands of the information age and Net-generations. The existing wave began in 2011 with the enrolment of 450,000 students for three courses delivered by the university of Stanford (Vardi, 2012). Over the last five years, many prestigious universities have introduced MOOCs (e.g., Harvard, Stanford, MIT, Berkeley), with many more investigating the feasibility of this mode of education (Paldy, 2013). Recently, the University of Melbourne became the first Australian university to offer free online courses in higher education. The University's first MOOCs was offered in 2013 and is heavily subscribed with more than 148,000 enrolments. Through MOOCs, the university attempts to reach a wide and diverse range of learners who otherwise may not have the chance to set foot on a university or college or may not care about credits.

Despite its recent growth and popularity among some prestigious universities, the authors believe that MOOCs will not replace universities and cannot be considered as an alternative credential to the traditional degree. MOOCs have the potential to assist higher education in solving some of the problems to control their unsustainable costs, increase their enrolment rates, increase their graduation rates, and to compete and win the attention of students in order to survive among multiple higher education providers. However, MOOCs are still in their infancy. They are suffering from the lack of serious pedagogy (Vardi, 2012), the market value of certification of courses (Cooper & Sahami, 2013; Yuan & Powell, 2013), short of credit awards (Yuan & Powell, 2013) and plagiarism (Cooper & Sahami, 2013) and other yet to be revealed factors. Vardi (2012) states that "the enormous buzz about MOOCs is not due to the technology's intrinsic educational value, but due to the seductive possibilities of lower costs" (p. 5). Thus, the current trend of learning and its impacts on the quality of learning and course delivery needs further investigation.

In summary, the changes happening in higher education are inevitable. With the advent of new technologies and demands of the new generation learners we should expect more educational changes in higher education. There is no doubt that the courses can still be delivered without considering the new changes and the integration of new technologies brought about by the Internet. However, there could be a severe disconnection between the teachers and their students as the way that they will be taught in universities and schools will differ from the world that they live in. We also believe that implementing any change or integrating any new technology in education has its own challenges and complexity, like anything new and that strategies to support implementation should be backed up by high quality, empirical evidence provided by research to avoid wasting potentially

expensive resources or by not using digital technologies in a way that will ensure that they reach their potential in scaffolding learning.

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