

Karim Hajhashemi / Nerina J. Caltabiano / Neil Anderson / Cliff Jackson

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Online Learning: Increasing Learning Opportunities

Karim Hajhashemi^{1,a}, Neil Anderson^{2,b}, Cliff Jackson^{3,c}
and
Nerina Caltabiano^{4,d}

^{1,2,3} School of Education, James Cook University, Australia

⁴ Department of Psychology, James Cook University, Australia

^akarim.hajhashemi@my.jcu.edu.au

*

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Abstract. Internet and networked technologies have expanded delivery mode opportunities in education. In recent years, many universities have offered either predominantly online courses or online learning platforms embedded within traditional modes of on-campus and face-to-face learning. Online learning has thus developed into a priority within modern educational facilities and has grown significantly both in Australia and other countries. To consider the connection between student learning and effective integration of technology, this study provides an overview about the requirements for learning in a modern society. It will discuss current reforms in higher education to accommodate a new generation of digital Australians and to prioritize teaching and learning issues in online environments.

1. Introduction

The integration of ICT in educational settings has accelerated the growth of online learning and potentially changed the way instruction is delivered to students. Researchers in the field argue that ICT has proven its potential to satisfy the promising expectations of learning by assisting in the delivery of high-quality services [1, 2]. According to Barber and Mourshed [3], facilitating learning with ICT improves the quality of learning. They also believe that ICT provides an opportunity “to put greater ownership for learning in the hands of students, who themselves can help lead the way to unleash the power of ICT for learning” [3]. Indeed, the internet and networked technologies allow flexible approaches to learning through the judicious use of multiple embedded pedagogical elements: access to learning resources via contemporary technologies (e.g. learning management systems [LMS], Blackboard, other internet applications); flexible delivery of learning experiences (e.g. podcasting, iLectures); collaborative and interactive activities (e.g. via LMS, Web 2.0 technologies); face-to-face and distance education. These technologies have expanded the delivery modes of education, and made fundamental changes to students’ learning environment experiences. In recent years, many universities have increasingly offered either wholly online courses or used online learning as an adjunct to traditional modes of learning.

2. Literature Review

In the 21st century Australia's capacity to provide a high quality of life for all will depend on the ability to compete in the global knowledge and innovation economy. Education equips young people with the knowledge, understanding, skills and values to take advantage of opportunity and to face the challenges of this era with confidence [4, 5]. In this economic and political climate, students are viewed as important customers within the corporate model of education. Students' expectations of what they want from a university are higher than before due to the expenses involved in obtaining a degree [6]. In response to the existing milieu, university administrators have become more conscious of their student customers and more attentive to the significance of engagement with learning and teaching to maintain long-term market share and financial viability.

The Internet and ICT are integral to modern education trends in tertiary learning and teaching. Contemporary Australian tertiary education practice has provided students with the opportunity to complement face-to-face classes with online resources via learning management systems. Traditionally, courses were offered in internal or face-to-face mode. However, today, some courses are offered either fully or partially online. 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. It facilitates learning for those who cannot participate internally, i.e. women staying at home with their young children. It also makes study fit with part time work better. Specifically, the rollout of the national broadband provided impetus for learning institutions to complement their current mode of delivery by introducing partial, and in some cases, full access to online courses. This learner accessibility also required a commensurate change in teaching mode. JCU is well placed geographically to embrace this shift as it serves learners not only residing regionally but also those from rural and remote communities.

As the effective use of ICT and technology in course delivery has become more widespread, some researchers have pointed to its impacts on students achievement and engagement in the learning process [1, 7]. More recently, McCoog [1], Henry et al. [8], and the Bill and Melinda Gates Foundation [9] highlighted the importance of thoughtful and purposeful use of technology to facilitate students' achievements. They stated that it should help exploration of other learning avenues in the process of differentiating instruction with clear educational goals. It should also engage students in creative information gap activities and real experiential learning. To address the obstacles to US educational innovations and tap the potential of technology, for instance, the Bill and Melinda Gates Foundation (2010) argued that utilizing technology intelligently can dramatically improve American students' readiness and completion. Furthermore, the emergence of the Net-generation students, born between 1977 to 1997, has placed additional pressure on universities and their staff to include a prominent role for technology in their teaching and learning. The Net-generations are "demanding a change in the classroom because of their ability to gather information faster than any other generation" [10].

Investigating students' perceptions of online learning environments, Terrell [11] found that considering the computer and network facilities handy to Net generations, it is not surprising that they expect technology to support their learning by accommodating the changing nature of literacy. The internet provides them with the chance to get in touch with friends, take part in online talks, and share videos and clips with buddies all around the world. In short, it allows interaction with people and material to a great extent. Logan (2012) asserts that incorporating computer-based instruction enables students to learn more effectively than previously while also enhancing self-efficacy, learner satisfaction and instructional attitudes. Indeed, the use of online learning technologies has become a part of

everyday experience of university students [12]. For example, the number of students who took at least one online subject was more than 1.6 million in 2002 and increased to 4.6 million in 2008 [13]. In a recent report released by the same authors, the trend has continued and the number has risen to a new total of 6.7 million [14].

Many tertiary educators know or expect that technological innovation changes in educational aspects should improve the quality of learning for students. Also, many professionals in the field agree about using technology in classrooms, to accommodate the changing nature of literacy with the emergence of these new technologies [8, 10, 15-19]. However, there is a need to integrate new literacies introduced with the arrival of internet and network affordances into the classroom in order to prepare students with 21st century skills [20-23].

The emergence of the Web 2.0 social networking technologies has also provided new opportunities for education, such as facilitating collaboration, innovation and creativity for students in groups or individually [24]. Web 2.0 technologies have allowed for an expansion of activities and user contributions. Among them, social networking sites such as Facebook, YouTube, LinkedIn, bulletin boards, wikis, blogging, and Twitter have become ubiquitous.

YouTube as the world's largest video-sharing website provides users an opportunity to upload, share, and view videos easily [25]. As stated in its official site (<http://www.youtube.com/yt/about/>), it provides "a forum for people to connect, inform, and inspire others across the globe and acts as a distribution platform for original content creators and advertisers large and small." Officially launched in December 2005 it has more than 1 billion views per month. Today, views per month on YouTube exceed 6 billion hours in 56 countries around the world and "100 hours of video are uploaded every minute." Having Net generation students in the classroom may pose a challenge for many educators as they need to use innovative strategies to meet students' learning expectations. YouTube as part of the emerging technology is an available resource to meet the needs of both educators and students. Accordingly, some researchers [26] state that YouTube provides an avenue for students to visualize the concepts that they might not have otherwise noticed during the course. It also provides a discussion forum that enhances engagement opportunities amongst learners.

Facebook is another example of a social networking platform that may facilitate learning activities among students. Since its introduction by Harvard University students in 2003 [27], Facebook has become one of the most popular social networking sites in the world [28], with 1.11 billion active users worldwide (according to *the report released in March 2013* by the site). Despite its primary reputation for social networking activity, it quickly became a respectable e-learning platform [29]. Some researchers [29, 30] don't discount the possible integration of and learning opportunities Facebook can provide into university courses. Three such benefits include increased communication among students, greater access to course materials, and improved logistical management of courses. The results of some studies [31-33] have also revealed the effectiveness of integrating Facebook into the learning environment and the positive perception of students. Counter to this argument are issues of content ownership, privacy, virtual integrity, students keeping on track and its possible effect on academic performance [33-35]. However, incorporation of these resources into teaching and learning makes the classroom more diverse and may satisfy their course delivery as they are able to integrate their course requirement with social networking tools that they are familiar and engaged with.

2.1 Educating the Net Generations

As a significant proportion of today's students are born into and have grown up in an era of computers and the Internet, their frequent use of this technology is not surprising. They are

almost always connected via new devices and social networking interfaces and are considered Net-generation students, a term coined in 1997 by Tapscott [36]. Net-generation refers to the young people born in between January 1977 to December 1997 whom now the oldest are turning thirty six [36, 37]. The majority of today's undergraduate students are Net-generations who are characterized as technologically advanced, diverse, extremely social, education oriented, self-confident, multitasking, and impatient. In the same way, some researchers [19, 22, 38-40] argue that as Net-generation learners grew up in the information-age, they not only develop a digital mindset, but they also have greater connections through networking. In fact, it is claimed that they experience the world differently through these connection possibilities, what is sometimes called the information highway. Constant connection to the Internet via mobile devices is so integrated into their lives that it can be considered as a part of their collective being or as a technology-rich culture. According to a recently published report by Australian Bureau of Statistics [41], in 2008–2009, 74 percent of people aged 15 and above have used the internet, and 68 percent have had access to the net from home with nearly seven in ten (69%) from the age of 18 to 24 that have gone online daily from home. Concluding that nearly 'three-quarters' of Australian households have had access to the net, they held that it is "up from one in six a decade earlier" [41]. Since the Internet became widely available 17 years ago, Findah [42] claims that internet access among the population has increased on an annual basis from 2 percent in 1995 to 89 percent in 2011.

2.2 MOOCs: A new trend with challenges and advantages

Marketization and subsequent regulatory environment of higher education, such as the Tertiary Education Quality and Standards Agency (TEQSA) [43], have multiple impacts on universities. This independent regulative body was created by the Gillard Australian Government to ensure that universities deliver a high quality student education. While the aims of the TEQSA act are noble objectives, the implementation has created an unprecedented administrative burden in the tertiary sector. Furthermore, it "challenges the autonomy of universities as self-accrediting and independent institutions ... in relation to institutional governance, strategy and direction, resourcing and performance in teaching and research" [44]. One of the challenges universities face is how to embrace the new technologies while adhering to the regulatory environment.

The shift to a demand-driven system has intensified competition among multiple providers of higher education programs. This could put universities under pressure because students have more choice and the universities must provide high quality education to win the attention of students. Massive Open Online Courses (MOOCs) are a relatively recent online learning phenomenon. A MOOC is a free course delivered through the net to a large number of students and they were first introduced in 2008 by Dave Cormier [45]. The existing wave began in 2011 by the university of Stanford [46]. 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 [47]. MOOCs have received a considerable attention from the media and press coverage which might have altered perceptions of higher education subjects and other online offerings. According to a recent report released by Allen and Seaman [14], 2.6 percent of higher education institutions currently have a MOOC, while another 9.4 percent report MOOCs are in the planning stages. Through MOOCs, universities attempt 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. Yuan and Powell [45] define two key features for MOOCs contrary to traditional university online courses: a) open and free access to education; and b) scalability (support for an indefinite number of participants).

Despite its recent growth and popularity of MOOCs among some universities and its features, there are still many universities that have not yet decided to adopt MOOCs and these include prestigious universities such as Oxford and Cambridge. A number of unresolved issues including, the market value of certification of courses [45, 48], lack of credit awards [45] and absence of serious pedagogy [46] and high attrition rates persist to date. Many academics and higher education institutions remain unconvinced regarding MOOCs' efficacy in a higher education context, although some universities view MOOCs as an excellent marketing opportunity. According to Vardi [46] "the enormous buzz about MOOCs is not due to the technology's intrinsic educational value, but due to the seductive possibilities of lower costs" [46]. In short, the successful implementation of MOOCs needs to be embedded in a university's strategy, along with clear quality assurance arrangements as well as outlining and how they may articulate with other study pathways.

Another factor pertinent to the success of MOOCs is the way students engage with it. In fact, the real question for MOOCs is whether they can offer effective education alternatives given that the relationship between their design and student engagement in formal university qualifications is still unclear. A recent study reports low completion rates for MOOC users and only about 50% of enrolled students viewing the lecture content [49]. This would suggest that learners may require scaffolding and monitoring as they progress through the MOOCs. Accordingly Buchanan [50] states that although MOOCs make "no distinction between knowledge obtained from an online course or through prior learning, educators need to ensure that the education that is received is not watered down to fit the circumstances. That would be a great disservice not only to the individual but also to society in general" [50].

In summary, higher education sector has embraced the online medium and it has opened up more possibilities for learning and teaching. With the proliferation of educational technology and internet communication, an expansion of flexible online delivery of university subjects is provided. Indeed, the use of online learning will continue to grow both in Australia and other countries promoting the uptake of flexible delivery modes within courses and offering new means of enhancing students' learning and engagement. What is clear about the future is that the university sector in Australia is student focused and thus it is important to consider students' perceptions and satisfaction of the recent advancement of technology that is integrated into their learning environment. As predicted by Tham and Werner [51], "[t]he world has changed dramatically from earlier ages to today's highly technological world" [51]. Despite the fast pace of technological changes and the challenges that this brings, there does not seem to be any decrease in adoptions both at the individual or institutional levels.

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