ABSTRACT

Educational online technologies (EOTs) have revolutionised the delivery of online education, making a large contribution towards the global increase in demand for higher learning. Educationalists have striven to adapt through knowledge development and application of online tools, but making educationally sound choices about technology has proved challenging, amidst the extensive and largely unclassified range of tools. The absence of a taxonomy comprehensive enough to guide EOT choice is a concern, given the current extent of online activity. This paper addresses this issue by proposing a new taxonomic framework of EOTs called the Pentexonomy. Developed by augmenting five existing taxonomies, the Pentexonomy synergises a range of perspectives to produce a robust and multi-dimensional classification which facilitates effective decision-making on EOT activity.

INTRODUCTION

The Internet is a phenomenal digital structure that has revolutionised the application of online technologies. By providing a “ubiquitous and universal means” of interconnection it has enabled a growing populace of over 2.4 billion users to rapidly exploit an expanding array of digital services (Tselentis et al., 2009). The digital frontiers have extended mankind’s metropolis of digitalia, with impressive advances hallmarking the global network as an “extraordinarily successful” catalyst for growth (Tselentis et al., 2009).

Industry-wide the Internet has generated opportunities. Tertiary institutions and educationalists in particular have found the developments occurring within distance and blended education to be significant. Ambitious new endeavours to deliver online education to learners have been bolstered by online technologies, as evidenced through the inauguration of two massively open online course (MOOC) ventures, Udacity and Coursera. Herein the

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Internet has provided a channel through which students have been recruited at an astonishing rate (The Economist, 2012). In April 2012, Coursera had enrolled one million students. By January 2013, this number had risen to over two million. “It’s most successful class... had attracted over 180,000 students” (The Economist, 2012).

Predictions about future online learning suggest that as “the pace of change” rapidly accelerates, “hybrid classes will proliferate” (J. A. Anderson, Boyles, & Rainie, 2012). Similar forecasts indicate that the digital delivery of university-level course work via cheaper technologies will revolutionise higher education (J. A. Anderson et al., 2012). For educators, this may elicit “threatening change and unsettling volatility” or “exciting possibilities” (Chandler, 2012). Despite these varying perceptions, the reality of the Internet’s influence is evident. “Academic leaders at all types of institutions” are reporting “increased demand for …online courses” with “the demand for online offerings…greater than that for the corresponding face-to-face offerings” (Allen & Seaman, 2010). “The power of this form...” of education “works...to engage and inspire people outside of the confines of an institution” (Kernohan, 2012). “The idea that learning occurs only within” the “confines [of an institute] is becoming obsolete” (Annetta, Folta, & Klesath, 2010). “The trend toward blended learning systems will increase” to become “so ubiquitous that we will eventually drop the word blended and just call it learning” (Bonk & Graham, 2006).

Factors including the affordability, affordances and accessibility of online technologies are contributing to the shift away from traditional in-class methods of delivery to more digitally-driven systems which accommodate a wider range of students. Distance learners who as part of a “new learning context, an interconnected community, rather than a series of individual learners” being dispersed geographically and separated by distance, stand to benefit greatly from the advancements being made (Gooley & Lockwood, 2012).

As online technologies continue to advance and as online end-users become more familiar with the capabilities of online learning, it is likely that improved and expanded applications that “increase connectedness, community and collaboration” will be developed (Bonk & Graham, 2006). These will be accompanied by appropriate support for digital tools that strengthen and accelerate learning (Tuapawa & Skelton, 2012). Educationalists understand that “no longer are classes one-dimensional”, but as ‘modality demands’ transition from face-to-face to online, an exploitation of digital services must occur to improve traditional methods of delivery, the features of which can be “transferred and… enriched in online environment” (Weller, 2013).

Responsively, higher education institutions, many of whom are “under significant pressure to provide affordable, sustainable approaches” have collaborated to expand their knowledge-base concerning the value of online technologies (Beckem & Watkins, 2012). ‘Communities of inquiry’ are helping to articulate greater understandings into the future potential and capabilities of EOTs in recognition of how “portals into the virtual world are now surpassing the doors to the traditional university” (Gregory et al., 2010). Propelled by the need to become highly adaptive under changing economies and effective amidst student expectations, such institutes are seeking to gentrify traditional teaching approaches and rapidly assimilate the use of modern tools into programmes of distance learning.

Educationalists have responded “to the opportunities to harness” the potential benefits by developing their knowledge of rapidly evolving technologies and “by demonstrating innovative uses of technology to adapt or transform ... for future needs of learners and teachers” (Gregory et al., 2010). Technologies such as connective media, interactive gaming, virtual worlds and web conferencing, have gained value amongst those whose education ideologies entail an adaptive approach to improved learning and whose practical sense dictates that the needs of a greater number of distance students be accommodated.
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