Learning Online – Questions of Quality and Impact

As learners increasingly engage online anywhere, anytime, in informal and formal contexts, there are questions related to the quality and impact of the learning. This Cover Story provides a conversation starter about learning online and questions of quality and impact.

I By Professor Glenn Finger I

Learners are increasingly mobile and online, enabled by anywhere, anytime access to information and communication. Mobile learning, eLearning, learning management systems (LMS), Bring Your Own Technology (BYOT) are all examples of the language used in this space which recognises that students are now participants in digital ecosystems – some of which are student-led, as well as school-led and teacher-led. However, questions are being asked about the quality of online learning and the impact on student learning outcomes.

This Cover Story, after providing a caution that we must make sure that we are asking the right questions, suggests that we need to look out the window to see the changes in the ways in which our nation’s young people access and use technologies. Subsequently, there is a brief examination of what relevant research suggests, including influences on student learning, and dimensions which are critical success factors in student satisfaction in eLearning. Quality Matters is referred to as an excellent approach to assessing the quality of online learning, and MOOCs and questions of quality are briefly discussed to portray that online learning does not guarantee improved student learning outcomes.

Ask the right questions

We need to ensure that we are asking the right questions. For example, this Cover Story takes note of Papert’s (1990) caution that questions, such as what is the effect of the computer on how children learn, are ‘barking up the wrong tree’. His criticism is that researchers “want to do experiments on how inserting a computer into a rigid school structure will change the way children will learn there.” (p.9) Rather, Papert argued that, ‘what we are interested in is how that technology helps us to rethink everything else… We have to move into cultural perspective that says what can new culture do, what is the culture of the new school and by culture I mean intellectual standards, ways of thinking, senses of humour, language, social relations and all of the rest’. (p. 9)

Therefore, we need to ask – what counts as quality? What counts as impact on student learning outcomes? Which student learning outcomes are we referring to and why? To illustrate, in the Education Technology Solutions Cover Story in Issue 33 (Dec/Jan 2009) – Education Under the Microscope How competitive is Australia? – I provided a report card for Australia. That report noted that Australia’s ranking on OECD indicators gets the attention of policy makers, and that we need to understand international trends, and that conversations about assessing Australia’s performance needs to be sophisticated and situated within a challenging, dynamically changing, exciting context in which school systems and schools are embracing learning in a networked world, and new forms of accessing, managing, sharing, and creating content.

This reflects a more sophisticated understanding aligned with Papert’s earlier thinking that, once the technology is introduced, everything else changes. The ways in which society, schools and individuals appropriate the technology have implications for curriculum, pedagogy and assessment. We do not ask questions, such as – will the printing press improve student learning? But we can ask questions about the quality and the impact of various approaches to teaching reading. Nor should we ask – will online technologies improve student learning? But it is appropriate to ask questions about the quality and impact of various approaches to learning online. In your various contexts, it is important to ensure that you are asking the right questions.

Look out the window

A powerful approach to ideas advocated by Drucker was to ‘look out the window, not in the mirror’ (Collins, 2007). For example, the NMC 2013 K-12 Horizon Report (Johnson et al., 2014) identified major trends in K-12 contexts, including education paradigms are shifting to include online learning, hybrid learning, and collaborative models, and that social media is changing the way people interact, present ideas and information, and communicate. That report highlighted the abundance of resources and relationships made easily accessible via the Internet is challenging us to revisit our roles as educators. Similarly, in relation to higher education, the Ernst and Young report University of the future A thousand year old industry on the cusp of profound change highlighted digital technologies and global mobility as two of five megatrends as drivers of change that will transform higher education (Ernst & Young, 2012).

Each of us should be aware of what these trends look like ‘in the real world’? Where, when, what and why are our students learning? In looking out the window, numerous sources provide evidence of pervasive technology use, illustrating what’s hot, what’s trending, and what’s in decline. For example, Social Media Statistics in Australia (Cowling, 2014) in its March 2014 report noted that, while the major social networks experience small gains and losses each month, Facebook tops the listing of the top 20 social media with more than 13,200,000 Australian users. Next in those recent rankings were YouTube (12,600,000), WordPress, Com (6,500,000), Twitter (4,700,000), LinkedIn (3,650,000), Blogspot (2,900,000), Instagram (1,600,000). In the top 20, these are followed by TripAdvisor, Snapchat, Flickr, Pinterest, Yelp, MySpace, Reddit, GooglePlus, StumbleUpon, Foursquare, Digg, and Delicious.

The important take home message here is that the world is changing dramatically, and our eyes need to be wide open so that the trends are in our vision. We need to keep looking out the window, and not in the mirror!

What the research suggests

The understanding here relates to the central question – who is responsible for student learning outcomes? We know from the research on student
learning, that quality teachers are critically important, and this is a signpost in relation to school leadership, technologies, learning and teaching for building the Technological Pedagogical Content Knowledge (TPACK) (see Mishra & Koehler, 2006; 2008) capabilities of teachers. The Australian Professional Standards for Teachers (AITS, 2011a) to complement these Australian Professional Standards for Teachers (AITS, 2011a).

Having quality teachers with the professional knowledge, professional practice and professional engagement that reflect TPACK capabilities is important. However, while Hattie (2003) more than a decade ago shone a light on the importance of the teacher, he identified six sources of variance and assigned an approximation of the relative influence demonstrates that each had on student learning; namely,
- students themselves (about 50%),
- home (about 5-10%),
- schools (about 5-10%),
- Principals (already accounted for in the school variance),
- peer effects (about 5-10%),
- teachers (about 30%).

In his well known work Visible Learning, involving a synthesis of over 800 meta-analyses, Hattie (2009) identified 138 influences. This research can guide an evidence informed approach to designing and implementing online teaching and learning experiences. To illustrate, if influences such self-report grades, feedback, teacher-student relationships, problem solving approaches make a difference, then these and other influences should be considered. That is, what the research tells us about learning and teaching in physical classroom contexts should also be used to inform the design of learning online.

Evidence informed approaches can draw also upon the technology acceptance model (Davis, 1989), and the expectation and confirmation model (Bhattacherjee, 2001), though these tend to focus on the technology. Elsewhere, in one of the most cited Computers and Education journal articles in the last 10 years, Sun et al. (2008) identified six dimensions from the eLearning research literature; i.e.
- student dimension
- instructor dimension
- course dimension
- technology dimension
- design dimension
- environment dimension

Their results indicated that learners’ computer anxiety, instructor attitude toward eLearning, eLearning course flexibility, eLearning course quality, perceived usefulness, perceived ease of use, and diversity in assessment are the critical factors affecting learners’ perceived satisfaction. Importantly, course quality was the most important concern in eLearning environments, and students’ perceived usefulness and ease of use of technology was found to impact on students’ eLearning satisfaction.

Importantly, assessment is likely to be conducted increasingly online, such as when NAPLAN goes online in 2016. To illustrate, in PISA 2009, the assessment of digital reading literacy was offered as an option for the first time. In Preparing Australian Students for the Digital World: Results from the PISA 2009 Digital Reading Literacy Assessment (Thomson & Di Bartoli 2012), Australia was reported as the second highest performing country in relation to this assessment of 15 year old students’ ability to read, understand and apply digital texts, with only Korean students outperforming Australian students. As assessment occurs online, it will be impossible for research into the impact of technologies on student learning to ‘bark up the wrong tree’, as technologies impact upon ‘what counts’ and impacts upon how ‘what counts’ is assessed.

Quality Matters
The author encourages all who are involved in the education of our nation’s young people to always look through a quality lens. In relation to online learning and quality, an excellent starting point for the quality of online courses is the Quality Matters (QM) Higher Education Rubric (Quality Matters, 2014) which highlights the importance of alignment of course components and how these enable students to develop and demonstrate the learning outcomes. These components include:
- The Learning Objectives
- Assessment and Measurement
- Instructional Materials
- Learner Interaction and Engagement
- Course Technology.

The rubric provides 8 general standards and 41 specific standards and can be used to evaluate the design of online and blended courses. Moreover, “The Rubric is complete with annotations that explain the application of each standard and the relationship among them” (Quality Matters, 2014, p. 1).

To demonstrate the usefulness of adopting a QM approach, earlier in 2012, the Gates Foundation which had offered grants to support the development of Massive Open Online Courses (MOOCs), engaged QM involvement with that grant program in what have been “the first effort to test whether MOOCs can meet quality design standards, incorporate proven methods of effective online instruction, and be effective for different learners” (Quality Matters, 2014, p. 1). The QM review involved MOOCs delivered through various platforms, including Blackboard, Jdacity, Coursera, D2Learn, and EdX. In relation to QM standards, the outcomes of that review were disseminated in December 2013. Twelve courses were completed by the review deadline, with three courses meeting the standards after the first review, one course met the standards after an amendment, and one MOOC is expected to meet the standards after changes are made.

Online learning does not guarantee successful learning outcomes for students. Karen Head commented on the outcomes of the Gates foundation funded MOOC she was involved in. She stated, “No, the course was not a success” (cited in Guzdial & Adams, 2014, p. 1). She questions whether or not student retention is a measure of success, but provides the following extraordinary statistics, “We had 21,934 students enrolled, 14,771 of whom were active in the course. Our 26 lecture videos were viewed 55,631 times. Students submitted work for evaluation 2.942 times and completed 19,571 peer assessments (the means by which their writing was evaluated). However, only 238 students received a completion certificate—meaning that they completed all assignments and received satisfactory scores” (Guzdial & Adams, 2014, p. 1).

Many of us would be asking serious questions about both quality and impact, if we achieved these outcomes in an online course. Similarly, Head indicates that they proceeded to investigate why these data occurred, and they suggest a range of influences, including students struggling with the technology, and the assessment design required students to complete all three major assignments to pass the course. Thus, a process of planning, implementing, reviewing and improving the design of this MOOC, used here as an example, is required. The key message in this section has been to highlight the need to use some standards for online courses, such as Quality Matters, and to continually adopt a quality lens. It is also evident that, without this quality lens, it is inappropriate to assume that simply going online will impact positively on successful student learning outcomes.

A full list of references is available by contacting editorial@interactivemediasolutions.com.au.
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References


