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Blended learning in secondary schools is a start in the right direction

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Introduction

This position paper stems from a viewpoint which champions the integration of blended learning within secondary schools. It identifies the challenges and negatives of blended learning as well as its obvious benefits and concludes with a projection of how a blended learning classroom adopting a student centred approach may operate in the future.

Since the arrival of the internet there has been a lot of discussion surrounding the use of digital technologies in the classroom. Prensky's (2001) digital natives, who have never known a time before the internet and mobile phones, are already using many of these technologies in their everyday life, communicating across multi-media platforms (Snart, 2010). Yet, despite their widespread use, many educational institutions are slow to adopt these. The transition for both individuals and institutions can be complex; however, despite the often-identified difficulties associated with the use of digital technologies, the rewards can be many for those persevering with its integration. Furthermore, learning with digital technologies will equip young people with the necessary skills to participate in a dynamic digital society.

To endorse my case for blended learning in secondary schools I will firstly place my position paper within a New Zealand context. Subsequently I will offer an overview of several theories of change which reflect on the adoption of blended learning. Finally I

use a student centred approach as the basis for exploring pedagogies which leads me into a forecast of what a blended learning classroom might look like with in this time of participation and Web 2.0.

What is blended learning?

Blended learning, sometimes termed hybrid learning, flexible learning, or mixed mode learning, can mean different things to different people (Snart, 2010; Watson, 2008). For the purpose of this paper I shall use the term blended learning to refer to learning that involves a combination of face-to-face classroom time interspersed with computer/lab access, use of school networked computers, and use of students own mobile phones and personal computers.

Blended learning is not a new trend in New Zealand. Its nascent period started in the 1920s with the introduction of the Correspondence School which developed to meet the educational demands of New Zealand's rural population (Powell, 2011). Fast forward to 2011 and New Zealand finds itself in a very different climate: economically, socially and culturally. The New Zealand Government document, *Enabling the 21st century learner: An eLearning action plan for schools 2006-2010* (Ministry of Education, 2006) aims to reflect the needs and values of this evolving society. It identified the importance of developing digital literate citizens:

Just like the ability to read and write, ICT [information and communication technology] literacy will be an essential life skill – an economic and social necessity. ‘Without [ICT literacy], there is a risk that people will be cut off from job opportunities and unable to take part in the full life of the community’ (p. 8)

Offering a global perspective, Johnson, Smith, Willis, Levine, and Haywood, (2011), point to electronic books, mobile learning, augmented reality, game based learning, gesture-based computing, and learning analytics as being the emerging technologies that are likely to find their way into higher education over the next five years. Snart (2010)

contends that the ability to create in cross media platforms, from cell phone to Web browser, will progress people to be able to participate in a larger social narrative.

Given these predictions of change, and the changes that have already occurred, the question facing educators is how do we prepare young people for a digitally developing world? Similarly, how does a school or teacher make the transition from a traditional classroom with books, paper, and pencils to a mixed media one that maximises the ubiquitous nature of the internet and digital tools? There are many variables that must be considered in answering the questions. I will first look at the challenges concerning the adoption for new technologies in the classroom.

Changes associated with digital learning

There has been much written about the potential barriers and stages of successful adoption for a new innovation (e.g., Davis, 2010; Rogers, 2003; Sherry & Gibson, 2002. Davis (2010) highlighted the complexity related to the integration of information technology within education, explaining that it impacts multiple ecologies referring to the individual, the teacher, the classroom, the school, and the district. Similarly, those ecologies also impact its diffusion within an educational environment.

In line with Davis' (2010) view, Sherry and Gibson (2002) proposed that a systemic approach is necessary to ensure successful adoption. The essential components they identified were to develop a “convergence of resources” (p. 186) exposing “mutual benefits” to all, along with the creation of a continuous and extensive free flow of resources and expertise.

In his exploration of the nature of innovation, Rogers (2003) highlighted the issue that the rate of adoption is more complex when we are trying to move an organisation rather than an individual. He defined five stages of adoption that affect the uptake for a new innovation: relative advantage, compatibility, complexity, trialability, and observability. Further, he suggested teachers will be more inclined to adopt a new innovation when

“an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters” (Rogers, 2003, p. 240).

An educational environment that supports student’s learning through “adequate resources, strong supportive leadership and a community that encourages collaboration and application of new learning” (NSDC/NICI, 2001, cited in Sherry & Gibson, 2002, p. 185) will be better placed to meet those challenges. Furthermore, strong leadership and vision helps to guide a community of learners towards a specific goal (Barbour, Davis, & Wenmouth, 2011).

As these brief overviews show, a wide number of factors impact the adoption of a new innovation such as the integration of ICT. The intention of this paper, however, is not to analyse these or other theories of change, rather it is to draw upon these to provide a wider perspective on the many factors that may have an impact as a school transitions towards blended learning.

The student centred approach

One of the key benefits of blended learning is the shift from the “didactic, teacher centred paradigm” (Conrad, 2007, p. 191) to that of the independent and self-directed student (Nicholas & Ng, 2009). A blended learning approach consisting of a well constructed mix of face-to-face and independent learning components allows students to self-pace their learning (Rhode, 2009), can accommodate diversity, and can lead to more individualised learning (Alberts, Murray, & Stephenson, 2010; Bolstad & Gilbert, 2008). Furthermore, students are encouraged to take ownership for their learning (Watson, 2008), all of which encourages the development of 21st century skills (Bolstad & Gilbert, 2008).

This kind of approach has been termed a learner-centred constructionist approach (Smith, 2005). Social constructivism is the meeting of meaning-making and social interaction. As Rhode (2009) explained, “It is the delicate balance between independent

and collaborative educational experiences that fosters a thriving social constructivist learning environment” (p. 5).

The obvious differences between this learner-centred approach and a teacher-centred paradigm means that students new to this type of learning will need support and guidance around what is expected of them in terms of participation and self responsibility (Brophy, 2010; Smith, 2005). Teachers will need to be more like facilitators (Palloff & Pratt, 2000) and tasks can be project based giving students improved autonomy (Owston, 1997).

Utilising a learner-centred approach helps to dissolve the teacher dominance of the classroom and requires students to take responsibility for their learning. Incorporating blended learning to do this can involve using the diverse range of digital tools available, whether that involves a learning management system like Moodle, or software applications freely available from the internet, in ways that promote the goals of a learner-centred approach.

Nicholas and Ng (2009) promote one of the benefits of a social constructivist approach as the ability to scaffold students’ work, with them building on existing knowledge to create new knowledge. Carefully constructed blended learning has the potential to engage students in active participation either individually and/or in group collaboration. It can also be used for problem based learning, where students can experience “real life” scenarios and develop an original solution (Roblyer, 2006). In addition to the previously identified benefits, within this environment opportunities also exist for self-reflection, giving rise to meta-cognition and higher thinking (Sinclair, 2009).

The architecture of participation and web 2.0

Web 2.0 tools are those which focus on user created content, where participants are the architects. The use of Web 2.0 tools is promoted within a blended learning approach, as “There is evidence that user-created content software in particular encourages deeper

engagement with learning through the act of authoring” (Wheeler, Yeomans, & Wheeler, 2008, p. 987).

Interactive Web 2.0 tools can elevate students to be producers of content rather than passive consumers (Gilbert, 2005; Hazari, North, & Moreland, 2009; Wheeler et al., 2008). Provided the school has supportive infrastructure, the 21st century classroom has the potential to motivate students by utilising spaces they may already be using outside of school (Kajder, 2007).

Alexander (2006) suggests use can be made of Web 2.0 sites by actively encouraging “social tagging” or “folksonomies” and the sharing of “metadata”, for instance, through social bookmarking sites like Diigo.com and Delicious.com. The sharing and collaboration of information helps to deepen understanding and experience what it means to be part of a “Knowledge Age Society” (Gilbert, 2005; Hazari et al, 2009).

Wikis and blogs, available freely, are relatively easy to set up and can be used by an individual or to accommodate a number of authors, making it an ideal choice for a collaborative project (Kajder, 2007; Hazari et al., 2009; Wheeler, et al., 2008). When open for feedback, they introduce students to consider issues of voice, tone and style (Snart, 2010), and widen their perspective on relating to others. One of the benefits of using tools such as these is that students with an authentic audience, particularly one beyond the classroom, are more likely to be exercising metacognitive processes as they are aware of the premise that what they create is open for critique (Nicholas & Ng, 2009; Owston, 1997). It is relatively easy to add content, text, images or video, omitting the need for “sophisticated technical expertise” (Greenhow, Robelia, & Hughes, 2009, p. 249). There is always plenty of free help offered via YouTube tutorials or online forums meaning that technical problems should not be too much of an issue.

Creating a Podcast with a software tool like Audacity or a film with Windows Movie Maker (both free tools) is great for engaging the reluctant writer. As Kajder (2007) explained, “In creating audio content, students are scriptwriting, writing questions to

stimulate discussion...they can evaluate what to say, consider options, and make choices" (p. 221).

Students' mobile phones can also be utilised within a blended learning classroom. These phones are capable of much more than sending texts and taking calls. They can take photos and videos, be used listen to podcasts and to create voice recordings. In addition, smart phones have a plethora of applications available which add even more functionality. There are some who condemn mobile phones. Gilroy (2004) and St. Gerard (2006), (both cited in Turner, 2007) argued their disruptive nature was destructive "to the learning process of every student" (p. 6). Kolb (2008), however, is an advocate for making use of students' mobile phones and stepping into their world instead of seeing them as a distraction within the classroom. She suggests schools would do better to find ways to integrate them as a "collaborative communication tool" (p. 2), which potentially will serve them well in their future workplace. In addition, teachers can use sites like polleverywhere.com and twtpoll.com to set up interactive quizzes for students to reply to, which can be useful for formative assessment. (Vesisenaho et al., 2010) are also proponents of using mobile phones as a way to invoke social interaction. Their uniqueness lies in the fact that they are a mobile tool, hence facilitating contextualised learning.

The differing opinions regarding the value of mobile phones for the classroom highlights a broader argument regarding the use of technology in the classroom, and an alternative to the change theories identified previously. Greenhow et al. (2009) suggested that schools might be reticent to adopt new technologies may disciplinary experts' proposals regarding how and what students should be learning, and importantly, issues concerning the monitoring of their use. There are also critics of the use of technology in the classroom on other grounds. An article in the *New York Times*, "A Silicon Valley School That Doesn't Compute" (Richtel, 2011), describes a Waldorf school that sticks to their traditional teaching format with not a computer screen in sight and where students are discouraged from using them at home.

160 schools in America follow a teaching philosophy built on learning through creative, hands-on tasks. Those who endorse this approach say computers inhibit creative thinking, movement, human interaction and attention spans. (para. 4)

Interestingly, readers' comments that followed this article showed divided opinions:

We should not be so quick to flood grade school education with new technologies, simply because it's available or because we think it could give us an edge in global economic competition. Computers today are easy to learn to use at any age, quickly and effectively. (Yogen Kushi)

My stepchildren went to a Waldorf school --with disastrous results! Upon graduation, they were not at all prepared to meet the challenges of even a moderately rigorous university environment. They draw beautifully, though. Unfortunately, prospective employers are not very interested in their artistic skills. (A Reader)

Those of us who work in the industry know that the high tech competitive edge doesn't come from using computers from an early age, it comes from having the right kind of mindset and approach to problem solving. (Brian)

In recent months the *New Zealand Herald* ran the story "Why Parents Should Veto This School Tool" (Little, 2011). The article had identified, based on an Auckland Secondary School website, that their stationery requirements for Year 9 students included a "one to one computing device and our preference for that device is an Apple iPad 2" (para. 1). The story sparked a controversial debate, as the sample of comments below show:

The ipad and the android pads/tablets are low powered toys. They have their place, but it's not in education.

Rob (New Zealand)

Orewa College is trying to drag NZ Education into the current century by realising that IT literacy is now as important as reading and writing, which it does not replace but further extends into new realms. They have realised that 1:1 computing in a classroom is empowering for the student's learning, especially where the student's device is with them 24/7. It is not about having to go to a computer but about having a computer available on demand.

Robert Douglas (North Shore City)

It is clear that the debate for the use of computers in education is still in its formative years, however, it is likely digital technologies will grow to dominate many aspects of our lives. A New Zealand report by Bell et al. (2010) showed there was an increase in the number of people accessing the internet between 2007 and 2009, particularly with regard to using it for communication via email and Skype. In comparison, New Zealand schools use of the internet as a "teaching tool" for education in that time remains unchanged (Bell et al, 2010). Perhaps this is because of a "lack of modelling" (Greenhow et al, 2009. p. 252) by teachers, but if we are to place young people strategically in a world that communicates electronically, we must embrace the trend for internet use as a whole.

In conclusion, teaching innovation is the way forward for advancing tomorrow's citizens and preparing them for a digitally developing world. It is the precursor to making sense of one's world and will "play a key role in New Zealand's transformation into an innovative knowledge society" (Ministry of Education, 2006, p. 8). To reiterate the guidelines from the Ministry of Education (2006), digital literacy will be an essential skill that is not about knowing "where to click" (Kajder, 2007). Rather, it is the ability to know which technologies to use, when and how to manipulate and communicate within a variety of mediums (Greenhow et al, 2009).

Evidence discussed in this paper would concur with the fact that there are challenges to be considered when implementing blended learning in our schools, but these should not

outweigh the potentialities of integrating technologies in education. In a simplistic scenario, if attention is given to developing a supportive “systemic” (Sherry & Gibson, 2000) infrastructure which includes good leadership and vision (Barbour et al., 2011), secondary schools can move from a traditional teacher-directed approach to an interactive learner-centred pedagogy (Rhode, 2008). From this perspective schools will be preparing students for tomorrow’s world by helping them to develop 21st century skills that will make them employable and valued in a knowledge based society. The introduction of blended learning into secondary schools means students are learning new ways of working and communicating, and they are learning to learn independently, collaboratively, and autonomously, skills that will serve them well far beyond school and into their adult life.

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