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How Can Web 2.0 Support Academic Literacy Development?

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Early childhood educators enrolling in initial teacher education programmes in Aotearoa/New Zealand must learn about theories of education and how to be effective early childhood practitioners. They must also become academically literate students at the same time. How can Web 2.0 tools, such as wikis and blogs, contribute to supporting these students? This article begins by describing who these students are and then defines the skills which they are expected to possess in order to study at tertiary level and meet the Graduating Teacher Standards. Critical reflection on the potential benefits and implications of Web 2.0 use in tertiary education is necessary in order to understand how that technology can be harnessed by students and teacher educators for the development of student academic literacy. The article concludes with an invitation to a Cloudworks discussion on this topic.

Introduction

The number of students entering tertiary education who lack necessary academic skills is forcing teachers and institutions to support those students (Kirkness & Newall, 2005). Early childhood education (ECE) teachers enrolling in initial teacher education programmes in Aotearoa/New Zealand face challenges with not only learning about theories of education and how to be effective early childhood practitioners, but also how to become academically literate at the same time. Such difficulties are faced by many students new to study at tertiary level (Rolfe, 2011).

At the same time, the traditional notion of the teacher, who holds all of the knowledge, and the learner, who receives that knowledge from the teacher in a predetermined order, is being challenged by the complexity of 21st century living (Siemens, 2008; Yelland, 2011). Conole (2010) makes the point that "[I]n an information-rich, Web 2.0 world where the focus is on user-generated content, peer dialogue, and co-construction of knowledge, the notion of teacher as ‘expert’ and student as ‘receiver’ makes little sense” (p. 402).

Techopositivists claim Web 2.0 technologies are the holy grail of constructivist approaches to teaching and learning and that they provide magical new spaces for students to participate and collaborate. Perhaps those same spaces can facilitate the development of students’ academic literacy. Or, are these technologies another hyped up ‘next big thing’ that do not stand up to critical scrutiny?
Who are our students?

From the 1990s until the early part of the 21st century, the number of international students in tertiary education in New Zealand increased dramatically (Ward, 2001). After a decline, these numbers are again increasing, with a 6% rise in international enrolments in New Zealand between 2008 and 2009, and a further increase of 3% between 2009 and 2010 (Ministry of Education [MoE], 2011). Many of those international students are from non-English speaking backgrounds (NESBs). There are also considerable numbers of domestic NESB students in tertiary education in New Zealand. These students will have varying levels of English language proficiency and may also be unfamiliar with academic requirements at tertiary institutions in New Zealand (Kirkness & Newall, 2005). At my college, close to 60% of enrolled students in 2012 are NESB, split almost equally between international and domestic students.1

In addition, many students who speak English as a first language may also be unfamiliar with academic requirements, meaning that, at the start of their tertiary studies, many students lack the key skills that academic work demands (Kirkness & Newall, 2005). ECE practitioners in New Zealand are required to be registered teachers (and therefore must hold a level 7 teaching qualification), in order to continue working (MoE, 2002). Some domestic students entering tertiary education as mature students (over the age of 20) face mastering not only coursework and practical teaching skills, but also academic reading and writing, possibly for the first time.

This diversity in terms of academic preparedness has had pedagogical implications for learners, teachers and institutions. Learners are immediately under pressure to pick up key academic skills (especially for academic reading and writing) upon commencing their studies (Burns, 1991; Johnson, 2008; Khawaja & Dempsey, 2008; Sawir, 2005; Skyrme, 2007). Teachers must strategise effectively in order to meet the diverse needs of their learners (Bretag, 2007; Franken, 2005; Franken & McComish, 2003; Pantelides, 1999), while institutions must support the learners they enrol (Birrell, 2006; Smith & Rae, 2006).

In New Zealand early childhood teacher education, all three of these stakeholders must work towards ensuring that students meet the Graduating Teacher Standards (New Zealand Teachers Council [NZTC], 2007) on completion of their initial teacher education. In order for graduates to apply for provisional teacher registration, they must “demonstrate proficiency in oral and written language (Māori and/or English) ... relevant to their professional role” (NZTC, 2007, p. 1). Therefore, it is essential for all these students to develop their academic literacy during their studies, and for their teachers and the institutions to support that process.

What is academic literacy?

There are a number of different perspectives on what constitutes and influences academic literacy and the cross-disciplinary transferability of relevant skills

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1 Data retrieved from New Zealand Tertiary College student management system, 1st May 2012.
For present purposes, academic literacy includes: study and adult learning skills, such as effective time management and goal setting; research skills, such as using online research databases and evaluating sources; (Bennett, Dunne & Carré, 1999); digital literacy (Hegarty, Penman, Kelly, Jeffrey, Coburn & McDonald, 2010); academic reading strategies, such as scanning, skimming and note making; and academic writing skills, such as structuring essays, referencing accurately and the correct use of academic vocabulary (MoE, 2010).

What support is offered to students for academic literacy development?

The institutional shift to online (Harasim, 2000) and blended learning (Garrison & Kanuka, 2004), provides students greater instructional and learning options. Supporting students equitably across both modes of study is an essential determiner of the nature of that support; whatever support is offered face to face needs to also be available to online learners who may live geographically far from their institution, even in another country.

Academic skills support offered to students at New Zealand tertiary institutions includes: online information resources and interactive activities on essay writing, referencing and research skills; one-to-one tutoring and proofreading guidance (delivered either face-to-face, on email or over the phone); and group sessions during tutorials. Students may be referred to support staff by lecturers and other staff, or students may also self-refer (see Auckland University of Technology, 2012; Massey University, 2010; University of Auckland, n.d.; University of Canterbury, n.d.; University of Otago, 2011; Victoria University of Wellington, 2012).

According to Baik and Greig (2009), academic literacy support services offered by Australian tertiary institutions “can be broadly grouped into three categories:

1. extra-curricular generic language or ‘study skills’ programs provided by central university student services;

2. embedded faculty-based programs and one-off workshops; and

3. credit-bearing English for Academic Purposes courses” (p. 402).

Recent literature points towards the benefit of embedding academic literacy learning in content (Baik & Greig, 2009; de Graaff, Koopman, Anikina & Westhoff, 2007; Harklau, 1994; Hicks, Reid & George, 2001; Pantelides; 1999). Embedding research and writing skills (with accompanying formative assessment of those skills) into coursework is far more motivating and productive than taking a compulsory course on essay writing in isolation (Wingate, Andon & Cogo, 2011).

Developing academic literacy in the Net Generation

Student engagement with academic literacy development (and indeed all learning) is deeply influenced by the experience of belonging to the “Net
Generation" (Oblinger & Oblinger 2005). Net-gen learners are accustomed to instantly accessing information, which is usually readable and unchallenging. Teaching therefore must adapt to meet net-gen expectations of learning. Whereas tertiary teachers and academics are capable and competent readers of lengthy academic articles, many of their students will not share that level of kinship with literature, and at the start of tertiary study are in fact unfamiliar with academic literature (Kirkness & Newall, 2005). Tertiary teachers are therefore responsible for both understanding who their students are, and more importantly, for identifying activities and tools that will motivate and engage their students in appropriate academic reading and writing. In discussing the potential of technology and its influence on knowledge building in ECE, Yelland (2011, p. 34) calls for a rethink of curricula:

To be relevant to the lives of future citizens, education should cater for their diverse lifeworlds and recognise that our lives have become increasingly complex. In this way, the old basics of reading, writing and arithmetic, while remaining functionally relevant in different ways in contemporary times, have been supplanted by the need to be innovative and creative; as well as to work collaboratively and flexibly on authentic tasks that have been generated by the students themselves as well as by teachers.

Can Web 2.0 provide a space for learners to work on such collaborative and authentic tasks, and for them to develop their academic literacy in the process?

**The potential of Web 2.0 in education**

Many teachers and curriculum writers are engaged in developing their focus “on user-generated content, peer dialogue, and co-construction of knowledge” (Conole, 2010, p. 402). Such initiatives are clearly related to earlier research into communities of practice (Wenger, 1998) with the emphasis on the role of social interaction in effective learning. Online learning in general can provide benefits to learners in terms of ease of access to up to date learning materials (the anywhere, anytime motif), as well as opportunities for more situated learning (Anderson, 2008). ECE student teachers, for instance, need opportunities for practical experiences, alongside the academic courses they study. Teachers can also benefit from the anytime, anywhere and up to date affordances of online education, providing learning materials flexibly to their learners, and enabling them to guide learners to sources of information (Anderson, 2008).

The term Web 2.0 was originally coined by DiNucci (1999) and refers to the websites and tools on the Internet that create spaces for social networking and participation (O’Reilly, 2005). Examples of such websites are Cloudworks, Wikipedia, Facebook, Flickr, YouTube and Twitter, which all allow people to contribute and share content and comment on it. Web 2.0 tools include blogs, which are spaces for people to discuss and share ideas, and wikis, which allow multiple people to collaborate on tasks. A basic characteristic of all these websites and tools is that the content is generated by the users, rather than the companies that own the sites. Prior to such websites, content was only generated periodically. An example from O’Reilly (2005) is the comparison of Wikipedia with Britannica Online. Users, who may not be experts, generate the content on Wikipedia, with additions and corrections added by other users at
any time. In contrast, Britannica Online is generated by experts periodically; much like a book is published, and then updated with each new edition. Thus, for Wikipedia, new developments can be added almost at the same time as they occur, making it far more dynamic than Britannica Online.

McLoughlin and Lee (2010) point out that the use of Web 2.0 in education has significant potential for realising learner-centred curricula and that many students bring with them the expectation that their learning will be "social, participatory and supported by rich media" (p. 28). Clearly, a website such as YouTube offers all of these features and numerous institutions make use of it to stream course related videos embedded in their online study materials. McLoughlin and Lee (2010) go on to provide a number of examples of how Web 2.0 is being used in practice at different tertiary institutions in a number of countries, including New Zealand.

McCarthy's (2010) study into the use of Facebook in a blended learning environment for first-year tertiary students yielded positive results in terms of interactions between NESB learners and learners who had English as a first language; communities were started online and then those networks realised during face to face classes. This offers the exciting possibility of breaking patterns of cultural enclavism that tend to occur in culturally diverse face-to-face classrooms. Enclavism offers safety and familiarity with the cultural group that students most closely identify with, and overcomes verbal linguistic challenges, particularly for those whose English listening skills are at a nascent stage of development. Communicating online through text-based interactions can free learners from such limitations as they are interacting in far larger comfort zones that overlap to a much greater extent than they would do in a face-to-face situation. As those relationships develop online, they can then be continued and extended upon when learners meet each other in the classroom and, as wireless internet is increasingly available in classrooms, there are opportunities to create communities of practice (Wenger, 1998) using connected networks (Siemens, 2005).

English and Duncan-Howell's (2008) study of how Facebook could be used as a tool for supporting students on teaching practicum highlights that most problems experienced by students can be solved within the group, without teacher intervention. This is significant because graduating teachers are expected to maintain effective relationships with their colleagues (NZTC, 2007). Having opportunities to develop relationships, and work closely with peers while they are learning, can act as a useful model for learners of how they would achieve those relationships in their practice. This research evidence has echoed my experience with early childhood teaching students in face-to-face group tutorials. Ideas and experiences from the field, including challenges and/or doubts raised by the students often lead to potential solutions provided by the students themselves, with the tutor minimally involved. These learner-to-learner discussions are a very popular component of tutorial sessions because of the sharing opportunities they provide.

As Duncan and Howell (2008) found, Web 2.0 tools can help create spaces for learners to collaborate in their learning, without the requirement that they be physically present with each other. Before discussing the present or future potential of these spaces for facilitating the development of learners’ academic
literacy, it is important to acknowledge some of the theoretical arguments and critiques concerning the potential significance of Web 2.0 in education.

**Web 2.0 potential and constructivism deconstructed**

Gouseti (2010) is critical of the potential of Web 2.0 in education as the evangelising discourse that promotes it is characteristic of other developments in educational technology, such as television and the computer: "[T]he initial excitement for a tool or application usually fades away as the next technology emerges on the horizon – leaving little or no room for critical evaluation of how it may best be used in educational settings" (Gouseti, 2010, p. 351). This concern with the impact of Web 2.0 on teaching and learning, as well as the theoretical underpinnings of its pedagogy should therefore be considered critically.

Kirschner, Sweller & Clark (2006) argue that while there is evidence that guided forms of instruction are more effective than constructivist approaches, there is no evidence at all of the reverse. Reviewing the literature on online learning in higher education in Western universities, Chen (2010) found that “online flexible learning is often equated with constructivist-inspired pedagogies, and claims about the pedagogical value of this combination are characteristic of scholarly writing in this area” (p. 10). Any attempt to map out the landscape of Web 2.0 use in New Zealand ECE tertiary education must take account of the constructivist perspective of that sector. Te Whāriki, the New Zealand ECE curriculum, is considerably rooted in the socio-cultural theory of Vygotsky (1978). Thus, learning is seen to occur in a context, assisted by a guiding expert (the teacher), who facilitates the learning, as opposed to directly instructing. In ECE environments, one of the aims of the curriculum is that children are given the opportunity to follow their own interests and discover new knowledge, with the teacher attentively scaffolding when appropriate. For early childhood teachers in New Zealand, having such interaction and developing feelings of trust and belonging with and among young children are central to the ECE curriculum (MoE, 1996). Those teachers will bring these pedagogical preferences with them when engaging in online collaborative learning with their peers in initial teacher education programmes. Perhaps that sense of community can be created by teacher educators working with those teachers in online learning environments at tertiary institutions.

Krejins, Kirschner and Jochems (2003), however, point out that having the technology in place to facilitate collaborative learning does not necessarily result in learners engaging in social interaction, which is the keystone of collaborative learning (Gunawardena, 1995). Krejins et. al. (2003) argue that because social interaction occurs in face-to-face classroom environments, many educators incorrectly assume that the same interaction can be replicated when learners collaborate on computer mediated tasks. Njenga and Fourie (2010, p. 199) talk of a "compulsory enthusiasm" that permeates discussion of technology, building on Robertson’s (2003) concerns over how technology manufacturers claim that “technology ‘can and will’ rather than ‘has and does’” (p. 280).

Examining how ECE student teachers new to online learning engaged with online asynchronous discussions, Naughton, Roder and Smeed (2011) observed that student participation was strategic. The students, moving from a correspondence paper-based mode to online delivery, talked positively about
having the discussions available, but their actual participation centred on asking questions about the course assessment and establishing whether participation in the discussions was compulsory or not. Selwyn (2007) suggests lack of learner engagement with such technologies for educational purposes is a result of the on-going reliance of tertiary institutions on summative forms of assessment that encourage students to limit their engagement to what is required to pass get a desired grade. While net-gen students may bring experience of using online communication tools, Selwyn (2007) describes many learners “as ‘savvy’ but pressured consumers of higher education who often engage with their studies in ruthlessly pragmatic, strategic, and tactical ways” (p. 88).

Despite the presence of strategic learners and the use of summative forms of assessment, can tertiary teachers tease out online student participation? What is the role of the teacher in online learning? It is all too tempting, but understandable, for experienced tertiary teachers to transfer what they do with students in face-to-face classrooms to online environments. However, this common sense approach denies critical reflection on the opportunities of online learning. Salmon’s (2000) five-stage model, rooted in constructivism, describes the teacher as an e-moderator who scaffolds learners to use online tools, such as asynchronous discussions, and then gradually withdraws their participation as learner proficiency rises.

Vlachopoulos and Cowan (2010), concerned that such a model should not be considered as a “one-size-fits all product” (p. 24), sought to unpack what teachers, or e-moderators, do in practice when moderating online discussions through a grounded theory approach. Crucially, it was observed that the teachers played social, pedagogical and intellectual roles online, and that their teaching philosophies influenced their online facilitation. What teachers said they did while e-moderating, did not necessarily equate with their actual participation.

Responding to Moule’s (2007) challenge to the five-stage model, Salmon (2007, p.172), posed the following questions:

There is no evidence so far that there is an easy pathway between instructivist and constructivist approaches. Many courses report learners and teachers tipping into the abyss as attempts are made to move from information provision to knowledge generation. Can it be a choice, a step-by-step approach, or does it need evangelical support or lots of staff development? Can we explore this?

Whether teachers and institutions subscribe to Web 2.0 as the ‘next big thing’ in education, or if Web 2.0 tools are the holy grail of collaborative learning, the near ubiquity of this technology (Conole, 2010) makes it impossible for education to ignore. I wish to then at least partially pick up the gauntlet that Gouseti (2010) has thrown down, and explore what students do with Web 2.0 tools towards the development of their academic literacy.
Resarching the potential of Web 2.0 for academic literacy development

There is already a considerable body of literature on the use of Web 2.0 by tertiary institutions for the development of student academic literacy. A brief presentation of some examples of some of the research that has been conducted into this area now follows.

According to Lea (2004), individual, social and institutional factors influence what academic literacy is for an individual learner. Lea investigated the potential for postgraduate learners to increase their academic literacy through the use of online synchronous discussions within an institutionally provided virtual learning environment (VLE). The discussions were valuable to students as they facilitated "active participation in meaning-making and knowledge construction (Lea, 2004, p. 750).

Beckett, Amaro-Jiménez and Beckett (2010) observed positive outcomes for NESB learners who used Web 2.0 tools. Their study investigated the use of online asynchronous discussions to assist the academic discourse socialisation of new postgraduate students. The NESB learners reported that participating with learners whose first language was English improved their standard of academic writing. Pearce and Scutter (2010) podcast (broadcast audio content to learners for them to download on their computers, laptops, mobile phones and other devices which connect to the internet) audio recordings of lectures, which undergraduate NESB learners reported as being useful for revising lecture content. Kabilan, Ahmad and Abidin (2010) found that when English language learners focused on learning tasks more than socialising, they found Facebook useful for improving writing and communication skills, with the added incentive of not feeling embarrassed about making mistakes.

Given the observed gains in using Web 2.0 technology for the development of academic literacy summarised here, what could be some possibilities for the further use of tools such as asynchronous discussions, wikis and blogs, in tertiary education, and teacher education specifically?

Harnessing the potential of Web 2.0 for academic literacy development

Given that much of the literature on Web 2.0 emphasises its social and participatory nature, and that many students are competent users of Web 2.0 tools, teacher educators ought to be encouraged to engage with these tools and share their ideas regarding the efficacy of these tools to aid learning. Failure by teacher educators to acknowledge technology developments associated with the Internet will translate to inadequate preparation of student teachers. Indeed, the Graduating Teacher Standards apply equally to teacher educators, who must "demonstrate proficiency in oral and written language (Māori and/or English), in numeracy and in ICT relevant to their professional role" (NZTC, 2007, p. 1).

An example of an online platform that it would pay to investigate further is the wiki. Could the affordances of a wiki enable NESB students to develop their academic literacy? Roder and Hunt (2008) examined the use of a wiki in a
teacher education course and found that students who successfully build wikis are able “to evolve self-organising behaviours, where they learn about learning from the very collaborative networking processes that they are engaged in” (p. 226). Is it possible, for example, that learners could develop their capacity for referencing while using such a space? They might collaborate on creating a text (on a topic of their own choosing), but which must contain the use of paraphrasing with accompanying references. The learners would have to investigate themselves what the correct way to reference the work would be. Such a task can reverse the typical educational model in which the teacher prescribes the content to be read and tells learners what the rules are. In respect of a student-led model, “[i]n so far as there is content, it is used rather than read” (Downes, 2005, para. 32).

Teacher-led online asynchronous discussions can sometimes focus on rather theoretical or abstract notions which learners can find obtuse or inaccessible. However, in teacher education the same space opens up the potential for a more grounded curriculum (Dolan, 2011) in which learners can make connections between the theories that form the curriculum and their practical experiences in teaching environments by sharing them online. In sharing their practical experiences of teaching with peers in online discussions, students should be encouraged to reference relevant sources of literature on teaching and learning. To increase student confidence with referencing, teachers can ask students to quote each other during online discussions using the appropriate citation.

The issues and questions posed here indicate the paradigm shift occurring not only in education, but in culture (Wesch, 2008). Different forms of mutual interaction suggest a movement from conventional writer and reader discussions to the possible synergies associated with a larger and more dynamic group.

**Head in the clouds?**

During the process of writing this article, I signed up to Cloudworks, which is a social networking site created by the Open University in the United Kingdom as a place to share ideas and resources about teaching and learning. The motivation for starting the site emerged from Conole and Culver’s (2010) assertion that actual institutional use of new technology does not reflect its potential. Cloudworks was therefore created as a “space for teachers to explore and experiment and provide them with scaffolds, support and examples of how technologies have been used to good effect in a range of different educational contexts” (Conole & Culver, 2010, p. 680).

I have created a cloud that anyone who reads this article and/or is already on Cloudworks can comment on. Once you have found the site, you can look for my cloud, which is titled in the form of the question:

How can Web 2.0 support learners with academic literacy?

Once there, I invite you to contribute to the discussion or begin a new topic. To guide the discussion, I propose some critical questions:
1. What is academic literacy, what influences its definition and how does Web 2.0 contribute to that definition?

2. Is the teaching of academic skills, such as referencing, better left to teacher-centred, instructivist approaches or can learners collaborate with each other and construct their academic literacy themselves via Web 2.0?

3. What influences your decisions about whether or not to use Web 2.0 spaces, such as wikis, blogs and asynchronous discussions, in your teaching and/or learning?

Whether you are a technopositivist or a technosceptic, I am looking forward to seeing you on my cloud.

References


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