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Social media as a learning environment: how, why, where and when people learn

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Abstract

This paper reports on an 18-month high school action research study and how this could be used to inform course designers and educators in other sectors of education. The high school study focused on the integration of social media into the face-to-face classroom. It used action research in a Victorian public high school in a total of 13 of the author’s classes. Data collection was in three phases over an eighteen month period. This involved the teacher creating one online social network and sharing this dynamic environment with up to seven classes in a semester. Blogs, groups, chats, discussion forums, Web 2.0 tools and a wide range of student-generated content were shared online, within a class and between classes. Students were encouraged to interact and to share their thoughts and ideas about planning as well as using their out-of-school skills and knowledge. Each topic, within each class, was one action research cycle. A number of the findings from this high school study were integrated into post-secondary education subjects at Deakin University. In an era of social media, this high school study has provided insight into how, why, where and when students learn, and by blending many of the findings into Deakin University courses, this study offers a new way of approaching teaching and learning in the broader notion of tertiary education and training.

Introduction

As a practitioner researcher, this study was part of my doctoral action research whereby I redesigned my curriculum programs to build social sites and I used the unique qualities of social media in an attempt to find ways to enhance my teaching and learning programs. This report discusses the findings from integrating social and participatory media into 13 of my high school classes. The study was conducted in the Victorian public high school in which I had taught for some years. I integrated social and participatory media into all of my classes during the 18-month data collection period, during 2010 and 2011. The action research study concerned the pedagogical and curricular changes that I (and my colleagues) created, negotiated, reflected upon and documented. Throughout the research I taught mathematics and information technology subjects to students in Years 7 to 10.

The research was a qualitative study. It required me as the teacher to rethink the curriculum delivery in order to take advantage of the many communication mechanisms that exist in common social tools and elements, such as blogs, chat, groups, forums, ‘friends’ and ‘likes’. I encouraged students to engage in classroom learning activities within the online environment and provided them with opportunities to interact and to be active participants in the learning process. In doing so, I developed a learning framework that integrated social and participatory media into my face-to-face classroom, while focusing on three questions, which are not mutually exclusive.
During the final year of my doctorate, I had the opportunity to become involved with lecturing and tutoring at Deakin University. This provided me with opportunities to somewhat explore how the findings from this study could be used to inform the curriculum delivery of a third and a fourth year teacher-education subject as well as two Masters of Education subjects. This experience is used to help discuss how the high school study might be used to inform further practice in post-compulsory education.

Online groups were used to post class projects and students were also encouraged to create their own interest groups to interact and to build online friendships with peers in their own class and across my other classes and subjects. During major projects students were asked to provide online and constructive feedback to three peers, in an effort to improve the quality of their project work. At times, students were also asked to create their own assessment criteria and to provide peer assessment as well as self-assessment.

The social network used was called a Ning (see http://ning.com) and this was similar to the popular social media environment called Facebook (see http://www.facebook.com), but it was owned and moderated by myself, as the teacher, and only students approved by me could become members. Students used pseudonyms when online, for privacy reasons, and they were also asked not to reveal their identity when in the face-to-face classroom. This added another dimension to the study and helped the students to make friends with those not normally in their classroom friendship groups. The Ning allowed students to communicate 24/7. It provided students with an online environment where they could interact informally while working on their project work. It also encouraged online friends, who evolved through informal interaction, to take an interest in the project work of their peers.

Many of the class projects posted on the social network encouraged students to use Web 2.0 resources to design, create and produce their own content and these resources helped students to become active in the learning process. The social site provided each student with their own ‘My Page’, where they could create a personal profile, including an avatar, pseudonym and page theme. It provided them with quick links to their online user-generated content, online friends, groups and comments. Students could upload files, including pictures and video to the social network and they could also embed, or link to, Web 2.0 content. Students could also participate in other online content such as surveys and polls. This social interaction, participation and the creation of user-generated content I refer to as ‘social and participatory media’.

This article will discuss social and participatory media in the face-to-face classroom environment. It will then look more closely at the high school study, while using examples of the research data to make connections to the research questions, before examining the implications of the findings of the study to the broader notion of tertiary education and training. The article will conclude by blending the research findings with the concepts of how, why, where and when people learn.

Social and participatory media

As time passes definitions evolve and change, but at this point in time I would define a social network as an environment that enables its members to engage in interaction through posting their content
(including comments). This is done using the social media tools and elements that are designed to help them connect, share and publish content and these include blogs, chat, discussion forums, groups, ‘Friends’ and ‘Like’. For the purposes of this research, I would define Web 2.0 as online software that requires students to interact and, hence, to create online content. This content usually has the ability to be embedded into a social network which contains social media tools and elements. Thus, I consider most social media tools and elements to be a form of Web 2.0.

Web 2.0 can be considered a platform for the evolution of social media (Kaplan & Haenlein 2010) and such sites are very complex places, where individuals are required to utilise a number of information technology and social skills to form a virtual representation of themselves and to interact effectively with others (Callaghan & Bower 2012). These environments are no longer simply communicational tools that allow one to make new friends, renew or maintain old acquaintances or establish romantic relationships.

Within the educational sphere, there are a number of online sites that incorporate a range of social networking features for classroom use. One such site is ‘Edmodo’ (see http://www.edmodo.com/) and this provides teachers with a secure collaborative environment upon which to post classroom materials, to share links and videos and to access various teacher tools. These sites work in a similar manner to school and college Learning Management Systems such as ‘Moodle’ (see http://moodle.com/). However for this research study, I chose to use a ‘Ning’ online social environment in my face-to-face classes because I found that systems such as Edmodo and Moodle were, by comparison with a Ning, onerous to use and structured more for the dissemination of information that is teacher-directed; I found them to contain strict parameters and were time-consuming to set up and edit. In a Ning, students were easily able to create their own groups and discussion forums without approval or organisation from the teacher and they had the ability to embed and upload their own user-generated content more easily and to share these informally with their peers. On the Ning, students could also remain anonymous and continue to change their own profiles and pseudonyms. This allowed them many chances to be accepted into peer friendship groups and to voice their opinions without the influence of their past.

The use of a safe social networking site was chosen for this study because it provided an online environment that could support a student-centred approach to learning. It could provide a learning space where students could actively participate and communicate. As discussed by Davidson and Goldberg (2009, p.8), modes of communication and, hence, of learning have changed dramatically over the past two decades, and our sources of information, the ways we exchange and interact with it, and how information informs and shapes our lives have also changed. In light of such changes, the classroom projects in this study were redesigned to take a knowledge-building approach that would encourage students to learn from each other and to build a shared framework for learning (Casey 2011). Within this study, a social learning framework for learning was created to:

- enable students to express themselves in different ways
- enable students to create supportive resources for their peers to access 24/7
- provide opportunities, with appropriate scaffolding, for peer-to-peer feedback and assessment that could be supportive and effective
- encourage the sharing of students’ prior knowledge and skills
- encourage creativity
- encourage students to take more responsibility for their own learning and that of their peers.
Over this 18-month action research study a partnership in learning evolved between the students and me, as content delivery moved from teacher instruction to peer-to-peer supported learning. The giving and the taking of information and the search for a peer who held new information often led to a social sharing of knowledge.

The high school study

The students, in the study, were 13–16 years of age and were from middle socioeconomic circumstances. The proportion of students with English as a second language was classified as low to middle. Classes at the research site usually included 25 students and, generally, each subject had five periods per week; one period was approximately 50 minutes in duration. I taught information technology (IT) and mathematics. Data collection was broken into three phases.

- Phase A: this occurred during Semester 2, 2010 and included seven classes.
- Phase B: this occurred during Semester 1, 2011 and included five classes.
- Phase C: this occurred during Semester 2, 2011 and involved 1 class.

This research was largely a qualitative study in which the data collected included teacher planning documents, classroom reflection and field notes, students’ online activities, students’ tasks, teacher weekly reflections, teacher mid-term reflections and teacher end-of-term reflections, as well as critical friend feedback. Figure 1 indicates the directions of the three research questions. Each of these was broken down into categories and data were tagged in relation to these categories, linking them to each of the three focus areas: students, learning and the teacher.

Figure 1 The directions of the three research questions

I created one Ning social networking site to share with my classes each semester. Although the ‘world’ could view each site, only members could post and be involved in the online activities. The one Ning site became the learning management system for my classes during each semester. Hence, three Ning social networks were made over the 18-month data collection period. Each Ning site
opened up opportunities for new literacies and multimodal methods of learning through the dynamic nature of Web 2.0, and its associated user-generated content. These became part of the day-to-day classroom activities.

This study was influenced by Nuthall’s (2007, p.16) argument that students learn a lot from their peers and that teachers cannot be fully effective unless they take these peer relationships into account. This concept helped to focus my teaching approach, through the action research cycle, to one where students were active participants in learning. Each cycle of action research from one class would inform the cycles of my other classes and a shift in the teacher–student relationship was identified in the research data. Figure 2 shows the wide range of elements that were embedded into my classroom practices and samples of each of these were captured in the data collection.

**Figure 2  The tools and elements embedded within the curriculum design of the class projects**

Designing the research to allow all of the students, at any point in time, to share the one online social network helped to integrate curricula as well as promoting interaction across all of my classes.

**Learning within social and participatory media**

Some researchers, such as Valenzuela, Park and Keek (2009), argue that investment in social networks enables individuals to develop forms of trust and reciprocity, and these support the successful engagement in collective activities. Valenzuela, Park and Keek (2009) assert that this builds social capital and allows individuals to access information and opportunities that would, generally, be unavailable. This research study looked to build such social capital and helped students to become valued and active participants in the learning process. As new teaching and learning contexts evolve there is a need to view these in light of what it means to teach and to learn in the twenty-first century and relate this back to the classroom context.

Throughout this study I redesigned my classroom projects to encourage and incorporate interaction through blogs, groups and discussion forums as well as encouraging students to create and publish their user-generated content. In using such online interactive methods within the classroom, I was
able to integrate many opportunities for students to create and share content. These encouraged students to express themselves differently and opened up opportunities for the use of new literacies and multimodal methods (Casey 2013b). Figure 3 shows a screen clip of the ‘Main’ page of the Ning social networking site, used during Phase B. Many links to the main social tools and elements can be seen within the various headings and links.

Figure 3  The main social network site during Phase two

To navigate this site the students largely used the main menu, shown in the top left-hand section of the screen clip. This main menu appears on every page within the site and provided them with quick and efficient access to class projects and their own content. Using the action research cycle over the 18 months provided a mechanism for continual improvement on how the site was designed, how the students accessed project material and how they posted their work for assessment.

Student focus

When working within the social networking environment, students were not confined to rows of desks with school bells marking the beginning and end of each learning period: students were able to continue their interaction, online, at a time that was convenient to them. In exploring ways for students to design, create and publish their work online they were provided with online sources and links to Web 2.0, such as the following, which usually engaged and motivated students and these also helped to encourage them to be active online.

- http://animoto.com/ — create a quick video presentation using an education account
  http://ghs2010.ning.com/group/digitalfootprints
- http://www.toondoo.com/ — fast way to make cartoons
- http://www.tagxedo.com/ — visually stunning word cloud
- http://www.voki.com/ — simple podcast with an animated avatar
  http://ghs2010.ning.com/profiles/blogs/project-4-by-rubyrose
- http://www.timetoast.com/ — create timelines
  http://ghs2010.ning.com/profiles/blogs/project-5-by-la0b0y167xg_sou...
  Internet Safety animation
- http://polldaddy.com/ — survey maker
  global project: http://blabberize.com/view?id=313842 or http://blabberize.com/view?id=313823
  — podcast animation

These sites became part of the scaffolding that was used to support the student focus question. Students were often given flexibility and choice within project work. Providing students with a variety of options online was aimed at supporting the different learning needs, interests and abilities in the classroom. Using the action research cycle, students were encouraged to do things differently and value the input of their peers. An example of this was a mathematics project in which students were asked to create help video tutorials to assist peers in revising for a maths test. These were posted online, and peers from another class were then asked to provide constructive feedback on these videos. This involved using the language of mathematics and showing mathematical steps and processes as well as demonstrating problem solving skills. Another example, shown in figure 4, involves a student, using the pseudonym ‘Lincoln Lewis’, who created a group called ‘Need Help with Maths?’ Lincoln Lewis used this group to offer maths support to struggling peers.

Figure 4  A student offering to share their skills and knowledge to support their peers in mathematics

Teacher focus

The teacher focus aspect of the research includes a consideration of things that teachers might do differently. One challenge throughout the research involved exploring how assessment could
incorporate a more student-centred approach while remaining accountable to school assessment and reporting requirements. An example of this can be seen in figure 5, which provides a screen clip of a blog posted by a student with pseudonym ‘O-o’. The students were required to develop their own assessment criteria for a major project and post it on their blog in readiness for three peers to provide the assessment. Students were also asked to reflect on their learning while undertaking self-assessment. This blog, shown in figure 5, was part of a project in information technology in which students were required to create a game using ‘Kodu’, a free programming software (see <http://fuse.microsoft.com/projects/kodu>). It should be noted that, as the teacher, I did not know how to use the Kodu software and I used my lack of knowledge to encourage students to support each other by sharing their knowledge and project investigations. This included activities such as searching the internet to investigate Kodu, finding examples of the software and finding online tutorials to help model the use of Kodu. The social networking site provided an ideal mechanism for students to share this knowledge and to help create a knowledge bank of open information to share with the class.

Figure 5  After a major project a student lists the things learnt

<table>
<thead>
<tr>
<th>0_o Major Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posted by 0_o on June 16, 2011 at 3:31pm</td>
</tr>
<tr>
<td>My 4 Criteria Are</td>
</tr>
<tr>
<td>quality of the game (if people like the game and it is fun)</td>
</tr>
<tr>
<td>epicness</td>
</tr>
<tr>
<td>how many people like it</td>
</tr>
<tr>
<td>use of all features</td>
</tr>
<tr>
<td>Thing I Have Learned</td>
</tr>
<tr>
<td>how to program things</td>
</tr>
<tr>
<td>how to make things creatable by other things</td>
</tr>
<tr>
<td>how to make paths</td>
</tr>
<tr>
<td>how to make things follow paths</td>
</tr>
<tr>
<td>how to make new ground</td>
</tr>
<tr>
<td>how to change game settings</td>
</tr>
<tr>
<td>this is my game</td>
</tr>
<tr>
<td>Defend The Town version 999 by 0_o</td>
</tr>
<tr>
<td>i didn’t put any screenshots on because i uploaded the game so far</td>
</tr>
</tbody>
</table>

Students were asked to post their games online and to use screen clips to help explain their game to peers. Throughout projects peer feedback was also used to inform the student about how to improve the quality of their project work.

Learning focus
Throughout the Ning students were able to ‘Lurk’: they were able to watch and learn from the interactions of their peers. The words from Thomas and Brown (2011, p.77) as they explain how tacit knowledge grows through personal experience and experimentation helps to explain how I felt as the teacher through some aspects of the learning process, ‘You can’t teach it to me, though I can still learn it’. The open nature of the Ning online site allowed students to learn by watching their peers and by exploring the social and participatory aspects of projects. When considering the Learning focus question, my mind turns to what is commonly known as twenty-first century learning. I also think of the informal learning that occurs in students’ out-of school activities and the critical literacy, multimodality and new literacies that are involved as students use their mobile devices. Within the social site, there existed many opportunities for the growth of tacit knowledge as students ‘lurked’
across subjects and age groups. This could be seen through the many peer-created interest groups and the changing of student personal profiles.

As the action research cycle continued, embedded within project work were opportunities for students to share their prior knowledge and use this as a stepping stone to extend themselves in their special interest areas. An example of this is shown in figure 6 where a student with the pseudonym 'Microsoft Sam' had a special interest and talent in programming using 'Visual Basic' software. This software was not specifically part of the class curriculum, but flexibility was built into the design of the classroom project to allow students to share their out-of-school interests and knowledge. Having used the software extensively outside school, the student was able create video tutorials in a class project to help others learn some programming skills using the Visual Basic software. Other students became interested in the software and this student became a valued resource for the class and across classes.

Figure 6  A student asks for peer feedback

The Ning social network supported, in many ways, an holistic approach to learning. In the data collection, students’ out-of-school skills, emotions and knowledge were often captured in informal discussions within and around class project work. These included discussions such as the death of a pet, the death of a popular international racing car driver, sport, music and computer games. Figure 7 shows a screen clip from the class social site of one student’s discussion post, which was used to air their frustration on a particular day. This student, at the time, used the pseudonym ‘Odd1’ and deleted the discussion after a few hours.

Figure 7  A discussion forum created by a student in need of self-expression

Through social media, my students could connect with others from around the world. They could also interact more readily with those more knowledgeable in their own classroom and, more generally, with my other classes. Through social and participatory media students could engage, simply and easily, in conversations and could gain feedback and support for class projects: anywhere and at any time. This aspect was demonstrated more directly through global classroom projects during the first
and third phases of data collection. During the third phase the social network was used for collaborative projects between my Australian class and other classes in Russia and Romania.

The social site provided 24/7 interaction easily and efficiently and this supported collaborative projects with schools around the world. It also provided opportunities for students to take more responsibility for their interactions and user-generated content. The use of the social site for global collaboration was acknowledged internationally for the innovative approach it offered to online learning and won first place in the online learning awards presented by the International Society for Technology in Education (ISTE) in June 2012. (The award description is given at http://www.iste.org/membership/awards-recognition/sigol-online-learning-award).

These global projects helped students to appreciate that classroom learning had the potential to be borderless and can occur anywhere and at any time. They began to realise that their interactions influenced their thinking and the awareness of others. This highlighted the global nature of their learning. Figure 8 provides a screen clip of the global projects offered to students during this final phase of the research.

**Figure 8** A screen clip of the global classroom projects offered to students

<table>
<thead>
<tr>
<th>Project ideas that have worked well globally include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What's in your closet?</td>
</tr>
<tr>
<td>What type of clothing are you wearing today? What does your school uniform look like?</td>
</tr>
<tr>
<td>What is the latest fashion? Do you follow the fashions? What do clothes tell you about a person? Can we tell the season by the clothes we wear?</td>
</tr>
<tr>
<td>2. What's for dinner?</td>
</tr>
<tr>
<td>Share what a typical dinner is like for your family. Share some of your favorite recipes.</td>
</tr>
<tr>
<td>3. School Days</td>
</tr>
<tr>
<td>What does a typical day at school look like for you?</td>
</tr>
<tr>
<td>4. What's so interesting?</td>
</tr>
<tr>
<td>Students will share what their hobbies are and what they do in their free time.</td>
</tr>
<tr>
<td>5. Get your game on!</td>
</tr>
<tr>
<td>What type of games do students like to play? (sports, electronic, board, etc.)</td>
</tr>
<tr>
<td>6. I bet you didn't know...</td>
</tr>
<tr>
<td>Students will share interesting facts about their area.</td>
</tr>
<tr>
<td>7. Celebrate good times!</td>
</tr>
<tr>
<td>What celebrations and traditions do you participate in with your family or community?</td>
</tr>
<tr>
<td>8. You have virtual visitors</td>
</tr>
<tr>
<td>If we were to come visit, where would you take us?</td>
</tr>
<tr>
<td>9. 'How do I spend my time' - a project where students keep a record of their what they do in their time for one week, produce a spreadsheet with graphs and develop a poll daddy survey from their results. They then publish their findings using a variety of Web 2.0 tools.</td>
</tr>
<tr>
<td>10. 'Let me help you'- a project where students produce resources that help others learn specific topics of their choice.</td>
</tr>
<tr>
<td>11. How can I use Google Earth to teach others about my town?</td>
</tr>
</tbody>
</table>

‘We humans keep adding to the mix of technologies and resources for enhancing, extending and transforming learning’ (Bonk 2009, p.15). These words from Bonk have encouraged me to develop new pictures of teaching and learning with technology in my classes. My pictures were also shaped through the ‘new culture of learning’ that Thomas and Brown (2011, p.17) explain is happening all around us, everywhere, and they assert that it is powerful. In looking at the online learning spaces used during this study, the analysis showed that students used a variety of ways to demonstrate their learning, and possibilities existed to support a more individualised approach to learning, while learning could occur across subject areas and age groups (Casey 2013a).
Implications of the research study

In opening a discussion regarding the implications of the findings of the high school study to the broader notion of tertiary education and training, I shall first summarise those findings and then discuss how this research could inform further practice.

The following provides a summary of the research findings.

The students

- Students gained confidence in their interactions when given more flexibility and freedom to build their own interest and learning groups.
- Students were able to work differently online, compared with the classroom, and some students behaved very differently when online.
- Students often changed their online identity, and the use of pseudonyms and changeable profiles allowed them to remain anonymous, take on different personas and, at times, provided them with another chance to be accepted within different peer groups.
- Scaffolding was needed to help improve the quality of peer feedback, but this type of feedback was appreciated and valued by students.

The learning

- Merely posting projects online that were written for the classroom did little to change the way students learned and hence teacher projects needed to be redesigned to take advantage of the qualities of social and participatory media.
- By posting their responses to teacher-directed tasks online, students became models for their peers and provided a shared learning experience that involved concepts of knowledge building.
- A changing mindset of the teacher took place over the 18-month action research process and a type of essential ‘unlearning’ occurred (for both teacher and students).

The teacher

- The action research process was necessary to maintain momentum for changing practice over an extended period of time.
- The concept of critical friends needed to be widened due to the global nature of the study.
- Parents appreciated the availability of the online help resources that the social site provided.
- An effective triangulation of student assessment data was possible through the development of peer-to-peer feedback/assessment, student self-assessment and teacher observations.
- Less time than expected was needed to monitor the social site once the teacher–student relationships were built.

Informing further practice

After the analysis of the high school study I integrated aspects of social and participatory media into my tertiary preparation and teaching responsibilities. The high school findings provide me with insight into how students can become active participants in class projects, the ways in which students are able to become resources for their peers and why the social environment offers a more global perspective for learning.
In 2013 Deakin University upgraded to a new learning management system called ‘CloudDeakin’ (see http://www.deakin.edu.au/current-students/study-support/dso/what-is/index.php). CloudDeakin provides the university with a structured system for curriculum materials and assessment for students. It also offers a range of social tools such as blogs, chat, groups and discussion forums to encourage interactivity and engagement in learning. Figure 9 provides a screen clip of a student’s Main CloudDeakin page. One red arrow indicates the links under the student’s ‘My Tools’ menu; this includes ePortfolio, locker, blogs, groups, chat and discussion forums. These indicate links to tools with the potential to offer social interaction within the structure of tertiary education. The second arrow in figure 9 provides the student with links to their other university subjects. The student’s CloudDeakin page shown in this figure could be considered similar to the ‘Main’ page in the high school Ning site, shown earlier in figure 3. On CloudDeakin, each student has their own ePortfolio, where they can reflect and share evidence of their learning with others within and beyond the university. In the high school study, this ePortfolio could be considered similar to each student’s ‘My Page’. Both face-to-face and fully online classes have access to CloudDeakin similar to figure 9, as necessitated by the lecturer and Unit Chair.

As found in the high school study, incorporating an online environment in the face-to-face classroom can open up opportunities for 24/7 access to resources. It also allows students to use their mobile devices to access the learning system and encourages them to explore their learning anytime and anywhere. The high school study showed that this has the potential to create a more personalised learning approach, whereby students have further options to explore and incorporate their interest areas and to connect and collaborate to support their class projects. In more structured learning environments such as CloudDeakin, social tools such as ePortfolio, chats, blogs, discussion forums or groups provide opportunities for peers to interact and learn from each other, as in the high school study.

Figure 10 shows a screen clip in CloudDeakin of part of the front page for the subject called ‘EXE734 New Technologies in Education and Training’. The three arrows near the top of the screen clip identify links to ‘Messages’ for the student, ‘Updates’ of news items from the student’s subjects and
‘Subscriptions’ to specific groups or discussions that a student has chosen to follow. The fourth red arrow points to the student’s ‘Site Tools’, which provide links to the discussion and group pages that have been set up by the lecturer or Unit Chair and are subject-related. Note that the blog and ePortfolio shown in the ‘My Tools’ in figure 9 are not subject-specific but can be controlled by the student.

**Figure 10** When logged as a lecturer, the main screen for the Subject ECX703, showing the ‘Site Tools’ menu

Online tools and elements within the CloudDeakin site can allow students to access a range of audio and video resources, collaborate through talk and chat with individuals or groups and check the academic integrity of their assignments, to name just a few of the options available. Each lecturer has access to many tools that enable such opportunities in the learning environment, some of which can be seen in figure 11.

**Figure 11** ‘Other Tools’ menu (from the ‘Site Tools’ in figure 10), available to lecturers
Figures 9, 10 and 11, in conjunction with the discussion regarding CloudDeakin, provide an example of how formal educational institutions are building social tools into their learning environments. Some of these are specifically set up to be used within a subject, while others hold more flexibility and contain options determined by the student. In looking at figure 11, the set-up options for lecturers largely appear oriented towards administration and assessment, but the three red arrows help to identify opportunities for a more social learning to take place.

It should be noted that the high school Ning social sites evolved over the 18-month data collection period and the curriculum projects were redesigned to take advantage of the social tools and elements within the site and incorporated a range of Web 2.0 tools — a hybrid environment. The findings from the high school study evolved through a continual process of improvement, generated by the action research cycle. Within these cycles of improvement the teacher mindset continued to evolve and moved to support a more student-centred approach. The changes that occurred and the findings that came from the three phases of the high school study hold significant potential for other online learning management systems, including CloudDeakin. In the high school study I redesigned class projects to take advantage of the unique qualities of the social tools and elements of the social site. Many project examples have been published demonstrating ways by which students design, create and publish their knowledge and by doing this they provide models of learning for their peers. In the redesign of project work students were provided with opportunities to work in a real-world context, adding authenticity to projects and this enabled peer-to-peer sharing to move past concepts of cheating and into the realms of knowledge building. The social tools and elements offer a mechanism by which students can interact, share and learn from each other. However, it was through the redesign of the class projects that I could take advantage of these mechanisms, enabling a more student-centred learning to take place.

In my tertiary experiences it has been difficult to redesign curriculum programs, but I continue to seek opportunities for students to find resources, to connect, to share and to learn from each other. One example of this was in my online master’s subjects, where I instructed students to respond to at least three of their peers in the weekly discussion forums. This encouraged students to interact more closely rather than merely posting responses to their curriculum content, and these peer-to-peer connections evolved into critical and supportive feedback. Peer-to-peer relationships were built and these were valuable during online group work. Students discussed their prior knowledge and skills in their learning and this allowed the class to acknowledge some peers with very interesting backgrounds, hobbies and talents. One student was found to have produced a website that publishes creative drawings and this provided an excellent example for project work. The students were able to share interesting journal articles that were more in line with their particular field of interest; these could then be critiqued by peers and a valuable contribution to the learning of the others could be noted.

Integrating social and participatory media into tertiary classes enabled students to explore a more global perspective of education and to discover a wealth of educators who publish resources and course content online. Students were encouraged to explore further collaborative sites and to share these with their peers. Using learning management systems such as CloudDeakin allowed for a type of home base to be built and there are extensive opportunities to link external resources into such environments. This helped to build a bank of knowledge and resources that could be shared with others, one where a more student-centred learning system could evolve. As in the high school study, peer-to-peer knowledge-building approaches were possible because the teacher/lecturer was able to move away from the one-to-many and into a shared approach to learning.
In the future, I aim to incorporate a more supportive social environment to encourage my pre-service teachers to stay connected with their peers while in the, so called, ‘heat of the moment’ of their teaching practicum. This will offer a supportive community, one that allows them to share ideas and resources and to provide opportunities for collegiate support and encouragement. It may also help to move them out of their teaching comfort zones and into zones where they can explore a new culture of learning, as discussed by Thomas and Brown (2011). Opportunities now exist for many educators to incorporate social and participatory media into their curriculum.

It is hoped that this research and the connections it makes to my tertiary experiences will provide encouragement for educators to explore the use of social and participatory media within their education programs. This research clearly identifies that, when such media are incorporated, there is a need to redesign student projects to focus on a more active student-centred approach to teaching and learning. From my experiences, I recommend that practitioners take an action research approach, whereby the cycles of learning provide an excellent mechanism for improvement.

Final comments

The rapid advancement of information and communication technology, and its pervasive use in work and daily life, has dramatically changed the way we live, the way businesses are conducted and the way knowledge is constructed, distributed, challenged and improved upon (Lim, Chai & Churchill 2011). Such advancements challenge, as argued by Lim, Chai and Churchill, teacher education programs to prepare teachers who can constantly learn, unlearn, relearn and construct new practices with technologies.

The high school action research study involved the pedagogical and curricular changes that needed to be created, negotiated, reflected upon and documented, as social and participatory media was incorporated into the face-to-face classroom. The action research process was used to redesign projects that incorporated the use of social media in a contemporary pedagogical approach to schooling. The social online environment also offered students the capacity to take on a new persona, as well as a more equal playing field for those less confident in the face-to-face classroom. This opens up the possibility for further discussion and research involving equity and social justice. Many of the social tools and elements used in the high school research are available in other learning management systems and all of the high school assessments and reporting for all classes participating in the research were accepted without question by the school community. Many of the findings from the high school study can be used to inform course designers and educators in other sectors of education.

I note the following in regard to the use of social media as a learning environment.

- **How?** Students are able to learn by watching, doing, experimenting and simply absorbing knowledge from the events and activities and context around them. By redesigning curriculum projects to take advantage of the interactive tools in social and participatory media, educators can create a valuable student-centred environment, one that is connected globally to a wealth of resources.

- **Why?** All students today are increasingly expected to develop technological fluency, digital citizenship and other twenty-first century competencies, despite wide variability in the quality of the learning opportunities provided by schools (Greenhow & Robelia 2009). It was not sufficient to use the social site to simply post curriculum projects and allow students to post responses and interact through project work. Social sites have the potential to offer rich and engaging real-world learning opportunities whereby students can use their skills and knowledge to become active in the learning process. Social media, as a hybrid environment for learning, moves past mere engagement and into building skills and knowledge, and is more able to personalise the learning experience.
Where? Although a Ning social network was used in the high school study and CloudDeakin was used as an example in the tertiary sector, many of the social tools used are now common in educational learning management systems. Through such networks and tools, learning can occur with experts and peers anywhere in the world. The learner has the flexibility to be located anywhere.

When? This article offers an approach to teaching and learning that encourages students to express themselves in many different ways. In such online environments learning can occur through computers, laptops and mobile devices anywhere and anytime.

Social and participatory media offer education and what appears to be a continuous development of online interactive applications. These can help to add excitement and possible new dimensions for learning. Such environments support students to become active contributors to the learning of others while building links between students’ real-world activities, their classroom curriculum and informal learning. In this way learning has the potential to become multilayered and better enmeshed with the needs of the learner. Further research is needed into how the unique qualities of social and participatory media can be used to support the learning process. This will also help us further understand how, why, where and when people learn.

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References


Davidson, C & Goldberg, D 2009, The future of learning institutions in a digital age, Massachusetts Institute of Technology, Massachusetts.


Thomas, D & Brown, JS 2011, A new culture of learning: Cultivating the imagination for a world of constant change, Charleston, USA, Amazon.com.