Abstract

Online learning and teaching is rapidly increasing in many countries, including high schools in the USA and teacher education worldwide. Online and blended approaches to professional and organizational development are, therefore, becoming essential to enable effective and equitable education. Authentic project-based learning to support the evolution of best practices in online and blended learning in the professional contexts of the students is the current practice shared in this paper. Through a description of our postgraduate course, its pedagogy and student artifacts, its impacts are illustrated in K-12 schools and teacher education within and beyond New Zealand. Authentic online formative assessment is at the core of the pedagogy described.
Online and blended learning in K-12 schools can expand educational opportunities and improve student outcomes and skills (Cavanaugh, Barbour & Clark, 2009). However, while student motivation, educational choice, and administrative efficiency can be enhanced with effective design and partnerships (Barbour & Reeves, 2009), the quality of education is threatened when they are lacking. Blended online learning by K-12 classroom teachers has the potential to encourage personalized learning opportunities, provided that teachers aim to address different student needs, rather than to supplement teacher-centered practices (Christensen, Horn & Johnson, 2008; Elbaum et al., 2002).

For K-12 schools, the challenges to innovations with online learning are teacher resistance; lack of institutional planning, support, and recognition; and the need for professional development in the areas of both technology and pedagogical understanding (Covington, Petherbridge, & Warren, 2005). Administrative and teacher concerns focus around the length of time needed to learn to use the new technologies effectively and to develop and implement courses and the adverse effect on other work. Few schools in New Zealand are currently organized to provide teachers with the support they need to move to online teaching (Barbour, Davis & Wenmoth, 2011). One of the challenges to those who offer professional development is to design opportunities that are attractive and fit with the professional contexts of participants (Macdonald & Poniatowska, 2011). Which is consistent with Rogers' (2003) characteristics of successful innovations, including relative advantage and trialability.

Embedding relevant professional activities is at the core of professional development, particularly when innovations are involved. A recent review of the literature on online formative assessment indicates that it can foster a learner- and assessment-centered focus through formative feedback and enhanced learner engagement with valuable learning experiences. Ongoing authentic assessment activities and interactive formative feedback were identified as important characteristics that can address threats to validity and reliability within the context of online formative assessment (Gikandi, Morrow, & Davis, 2011). Peer learning and feedback provide many opportunities for participants to contextualize new approaches in education with validation by others in the same profession (Beaumont, Stirling & Percy, 2009), which also resonates with Wenger's (1998) notions of Community of Practice.

Blended and online learning are stimulating organizational challenges in many countries, including the dispersing of the K-12 teacher's role across a number of people, such as the online course designer, the online teacher, and students' mentor or coach (Davis & Niederhauser, 2007; Hannum, Irvin, Lei, & Farmer, 2008; Harms, Niederhauser, Davis, Roblyer, & Gilbert, 2010), and greater distribution of leadership within and across schools and the partnering organizations (Stevens & Davis, 2011). Therefore, professional development must be carefully negotiated and scaffolded to model best practices for online and blended teaching and learning for K-12 educators and teacher educators.

In New Zealand, the government is currently implementing an action plan to equip most schools with Ultrafast Broadband (see http://www.beehive.govt.nz/release/ultra-fast-broadband-investment-proposal-finalised). This move has both equity and economic drivers. It builds upon earlier adoption of video conferencing by rural schools and the nationwide correspondence school (Lai & Pratt, 2010; Stevens, 2003). The Ministry of Education Virtual Learning Network (VLN) has enabled clusters of mainly rural schools to develop online programs using synchronous or asynchronous methods (Bolstad & Lin, 2009). In 2010 the VLN offered more than 160 online courses and connects clusters, schools, groups, and individuals who learn online through asynchronous methods and videoconferencing.
Larger networks are also forming. For example, CantaTech, the first rural e-learning cluster of schools, has joined with two others to become a regional cluster encouraging the implementation of blended teaching and learning approaches across the south island’s central divide. Nearby, the Greater Christchurch Schools Network includes over 30 schools that are actively implementing blended learning with an added impetus from recent earthquakes (Davis, 2010a). The need for professional development to implement effective online and blended learning is, therefore, rapidly increasing in New Zealand as the rollout of Ultrafast Broadband across New Zealand’s schools is unlikely to bring the planned educational gains without professional development for teachers, their leaders, and support staff and teacher educators (Davis, 2010b; Eickelmann, 2011; Owston, 2003).

Online learning is spreading responsibilities across people and locations (Davis, 2008) so that many more staff members need to be prepared and creatively engaged with online learning in ways that support their disciplines and teaching beliefs (Larreamendy-Joerns & Leinhardt, 2006). Moreover, it is necessary to ensure that their schools and tertiary organizations co-evolve with the developments in digital technologies to include this new mode of teaching and learning (Davis, in press; Davis & Ferdig, 2009;). However, the innovation of online learning is extremely challenging for teachers, especially those who are the first to step forward in their school (see for example Parkes, Zaka, & Davis, 2011).

Unfortunately, the professional development available to teachers is often done poorly and is typically in the form of workshops to develop teachers' technical skills with relevant technologies such as a learning management system (LMS; e.g., see Lai & Pratt, 2010); however, such professional development cannot support the complex professional and organizational development that is necessary for successful preparation to teach online.

A more practical and useful approach to professional development is to support teachers to develop effective practice using authentic project-based learning, preferably embedded within their own context and to include strategies that promote relevant organizational development. This paper illustrates one such approach by describing the course we offer in best practices in online teaching and learning to enhance the quality of blended and distance learning for all ages of learners. We showcase our teaching strategies and exhibit our outstanding students’ work aiming to inform and speed the spread of good practices.

The authors include the program leader (Davis), course leader (Dabner), designer/teacher (Dabner/Davis), and a student (Zaka). While this description focuses on the current and previous offerings of this course, the first two authors are reflective practitioners who have been reflecting on and studying our online teaching practice for many years individually, and our publications describe the literature that inform our course design (e.g., Correia & Davis, 2008; Dabner, 2006, 2010; Dabner & Davis, 2009; Davis, 1995; Davis, Li & Nilakanta, 2001; Davis & Rose, 2007; Gikandi, Morrow, & Davis, in press). However, this is the first time that we have sought to identify our best practices for professional development in online learning and teaching.

**Postgraduate Programs**

The course described is an optional course within the University of Canterbury Masters of Education degree program. It may also be studied as one of the four courses within our Postgraduate Diploma of Education (e-learning and digital technologies) or as one of two optional courses that comprise our Postgraduate Certificate of Education. Finally, students who opt to take it without any other courses may request a Certificate of Completion without enrolling in any program. A previous, more limited version of the
course, was offered at the graduate level in the same institution. The second author previously developed courses with a similar project-based approach in the UK and in the USA (Davis & Nilakanta, 2003).

The approaches of all four courses within our Postgraduate Diploma of Education (e-learning and digital technologies) are similar. All are offered without the need to attend campus, and the central virtual classroom is in the university’s Learning Management System, which is currently a version of Moodle. All courses are carefully designed to develop a community of learners (Correia & Davis, 2008) and to enable participants to engage simultaneously with their professional community of practice in their workplace.

Earlier research into the graduate program by colleagues Julie Mackey (2009) and Donna Morrow (Morrow & Bagnall, 2010) provided a range of evidence of the benefits of this approach for both the students and their school or other organization. Morrow and Bagnall (2010) provided evidence of the importance of the value of local communities and student choice. Mackey (2009) provided evidence that the blending of teachers’ workspaces and other communities with their online learning experiences increases the impact of professional development.

This paper focuses on one course within the Postgraduate Diploma of Education (e-learning and digital technologies) designed by the first author, to illustrate our response to the increase in demand for online and blended learning in K-12 schools in New Zealand and abroad. These often-overlooked blends provide reciprocal benefits for learners and for their organizations.

The Online Course

This section is an overview of the approach and impact of our online professional development course for those in education and training, including school teachers and their schools in New Zealand and abroad. A description of the pedagogical design is followed by some detail of the embedded assessments. These assessments are then illustrated with some examples drawing on the work of students to provide evidence of the impact on their students and their organization, which promote sustained development of high-quality online learning.

The Design

The online classroom for each offering of this course, as cognitive instructional design methods suggest, is carefully designed so that the students will be able to relate their learning to their existing schema. It is structured into sections that relate to the elements of online learning (see Figure 1). Keeping information in clearly identified, brief, easily accessible chunks, presenting some information as steps to take in their planning and learning, and utilizing shared reflective journals improves assimilation, application, and reflective practice. The course environment provides rich, responsive information and material related to the students’ tasks supported with discussions of current research, relevant literature (e.g., Kerhwald, 2010; Ko & Rossen, 2001), and emergent practice shared by both the teacher and students.
Figure 1. The home page of the course in the Learning Management System in 2011.

An authentic problem solving context in which constructivist learning can take place is a key component of the course activities and assessment. Students are facilitated to design and create their own online learning space for two courses that they pilot with their own students. This is the problem to be solved. To portray the task accurately, the learning has been presented using our university LMS, and then the same tools (and additional
multimedia objects providing course design support) were made available to each student by giving them a Moodle site of their own for their own courses.

Some students negotiate to create their courses in their own LMS, which is encouraged where adequate support is available. Some students choose to work on a course that they have taught and are supported to improve it and to undertake their first action research in this field; others take the opportunity to develop new courses and material for their present students. Students who are not currently teaching are supported to design courses for their future context or to work jointly on the design and teaching with a peer.

The course has been designed to model an approach that includes the formation of an online community of learners who establish an online social presence (Kerhwald, 2010), with the objective to become tightly knit by the end of the course. Through the LMS the teacher gives leadership and support, facilitates some discussions, makes suggestions, and encourages, critiques, and provides further relevant resources to support emergent themes and issues.

Other pedagogies for online learning are illustrated with accompanying pedagogical reasoning to give students the opportunity to grasp the process behind the learning and increase their experience of online learning and practical solutions to some of the problems they might encounter. The creation of a community of learners provides the opportunity to work with others in solving problems and is fostered through the conversation and collaboration tools, including online discussion forums and Web 2.0 tools.

Table 1 presents an overview of the course content and design (see also Presentation 1 (PowerPoint download), a virtual tour of one semester of this yearlong course). The academic year in New Zealand normally consists of two semesters of 12-14 weeks, starting in February and ending in October. The first semester provides students with an overview and lived experience of learning online, including establishing their social presence and the community of learners. Each student conducts a small literature review, facilitates a discussion forum as part of the first assignment, and undertakes an institutional review in their own professional context before creating their first small pilot course and teaching it.

The second semester is mainly project based, with the goal of creating and teaching a more comprehensive second pilot course, enhanced by their review of the first pilot and additional relevant literature. The schedule of the first semester had to be adjusted to adapt for the earthquake in February 2011 (Dabner, 2012, provides account of the immediate impact of the earthquake on the University and its use of Facebook in addition to the LMS and university webpages).

**Authentic Assessment**

Authentic assessments are embedded and central to the course design, and earlier assessments aim to develop capacity for the culminating project. Summative assessment is carefully scaffolded from the outset with supportive formative feedback by the teacher and peers, complemented by assignments that build each participant’s capability. Throughout the year there are three summative assignments plus a requirement to participate in individual and collaborative activities, including online discussions. The first two assignments in the first semester lay the foundation for the second pilot study in the second semester.
Table 1
An Overview of the Course Content and Its Design

<table>
<thead>
<tr>
<th>Diverse Learning Communities</th>
<th>Course Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>● K-12 teachers</td>
<td>● Introduction to online and blended learning</td>
</tr>
<tr>
<td>● Tertiary educators</td>
<td>● Review (and student presentation) of research/literature in self-selected areas of interest</td>
</tr>
<tr>
<td>● Community-based educators</td>
<td>● Investigating Institutional readiness for the adoption of online/blended learning</td>
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<tr>
<td>● Professional development facilitators</td>
<td>● Virtual schooling</td>
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<tr>
<td></td>
<td>● Learning management systems - site and content design/development</td>
</tr>
<tr>
<td></td>
<td>● Conceptual design, assessment and evaluation</td>
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<tr>
<td></td>
<td>● The lead learner (teacher) in an online environment</td>
</tr>
<tr>
<td></td>
<td>● Student success and engagement in an online environment</td>
</tr>
<tr>
<td></td>
<td>● Alternative lenses on online learning (e.g. MOOCs, open courseware, expert capture, RSS feeds)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key Teaching and Learning Strategies</th>
<th>Application</th>
<th>Assessment Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Authentic learning and teaching contexts</td>
<td>● Student review of organization’s readiness for online teaching/learning</td>
<td></td>
</tr>
<tr>
<td>● Research-informed practice and reflection</td>
<td>● Teaching site development (in Moodle or own institutions LMS/web-based environment)</td>
<td></td>
</tr>
<tr>
<td>● Collaboration</td>
<td>● 2 x pilot course developments: conceptual design, implementation, evaluation and reflection</td>
<td></td>
</tr>
<tr>
<td>● Community of practice (including invited experts)</td>
<td>● Collaborative developments: Shared literature Wiki, presentation &amp; repository/ Web 2.0 tools repository</td>
<td></td>
</tr>
<tr>
<td>● Constructivist learning</td>
<td>● Depth and breadth of knowledge/understanding</td>
<td></td>
</tr>
<tr>
<td>● Use of web 2.0 tools</td>
<td>● Active involvement in research and research- informed praxis</td>
<td></td>
</tr>
<tr>
<td>● Modelling by lecturer/peers</td>
<td>● Engagement in reflective practice</td>
<td></td>
</tr>
<tr>
<td>● Peer appraisal</td>
<td>● Communicative and collaborative skills</td>
<td></td>
</tr>
<tr>
<td>● Authentic assessment: including formative and summative feedback</td>
<td>● Engagement in critique and debate</td>
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</table>

The three assignments are clearly outlined for the students at the beginning of the course. In addition, extensive guidance and support are provided with many scaffolding tasks and formative feedback from the teacher and the course community of teacher and peers. Appendix A includes an overview of the assignments. The rubrics for all assignments are presented at the start of the course and used for both self-assessment and the teacher’s
summative assessment. Appendix B contains the rubrics for the first two assignments in 2011. The third author, Zaka, has provided two examples to illustrate the major assessments. Appendix C contains an example of Assignment 2a, which is an institutional review. Appendix D contains an example of Assignment 3, which is a report on the design, teaching, and evaluation of an online course.

Formative feedback is also central to the course design; it is provided by both the teacher and peers in a variety of ways. Opportunities for students to provide timely, focused peer feedback include (prior to the submission of two summative assessment tasks) review of conceptual designs/teaching sites and course materials prior to implementation, as well as examination of wikis as each student develops a literature review in an area of interest. Students are teamed up by the teacher and provided with a scaffold for each form of peer review. This form of feedback has proven valuable to extend students’ understandings of assignment content and quality and broaden their understanding of e-learning across a range of educational contexts (from higher education to K-12 schools). Formative feedback in the areas of site and conceptual design, literature reviews, and course progress is provided by the teacher via forums, private emails, and phone or Skype calls, as appropriate to the context.

Three Illustrations of Student Work and Organizational Impact

The course work of three students provides brief illustrations of the impact of this course on its participants and their organizations. These illustrations are drawn from the offering taught by Davis previously, which had a more intensive design to fit into one semester rather than a whole year. For ethical reasons these illustrations have been selected to exclude current students to avoid conflicts of interest. Also, the students volunteered to make their work and learning public. The illustrations are

- Home economics teacher (Parkes) and the impact in her high school (Parkes et al., 2011).
- Full time international student Zaka, the third author, and the impact in a biology teacher education course (see appendices B and C).
- Deputy principal of a regional school for sick children and the impact in her school.

Stimulating Interest at a High School: Home Economics Teacher. In 2010, an experienced high school home economics teacher, Parkes, enrolled in this course as part of the completion of her masters of education degree and to provide knowledge and skill in online and blended learning. A longer account of her professional development is provided in Parkes et al. (2011). Parkes realized that a blended approach to online learning would be most appropriate for her small upper secondary examination class in home economics (New Zealand National Certificate of Educational Achievement Level 2), who were not independent enough to engage in a fully online program and a reduced allocation in her teaching timetable (due to the small size of the class). As part of the requirements of this postgraduate course, Parkes developed an online learning environment for these students, based on recommended practices discussed throughout her online course that were adapted to address the needs of a practical course such as Home Economics.

After the end of the course, Parkes collaborated with another postgraduate student (Zaka), who had also completed the same course as part of her full-time masters of education work. Both students undertook an independent study, in which they investigated further the implementation of blended learning in Parkes’ home economics
class. Zaka observed the teacher and the students in the online and face-to-face learning environment and interviewed selected groups of pupils, as well as conducting several interviews with the teacher.

The whole process of implementing blended teaching and learning for the first time in that school was informed through postgraduate studies as well as the research process. Their journal paper highlighted the positive outcomes and challenges of blended learning implementation and further stimulated the school’s interest in the use of blended approaches, as illustrated by decisions taken by the school leadership to improve the school infrastructure and to engage more teachers in professional development on the use of digital technologies in the classroom (Parkes et al., 2011).

**Enriching a Teacher Education Biology Course: International Student.** A postgraduate online course in biology provided meaningful and valuable learning opportunities in teacher education, as well. One of the full time students in the 2010 course, Zaka, worked in collaboration with a peer (Sonja Bailey) who was teaching biology curriculum to preservice teachers. They further developed an existing online learning blend for the university’s undergraduate biology curriculum course to incorporate some Web 2.0 tools. The aim was to develop preservice teachers’ ability to use Web 2.0 tools in their own secondary school classrooms. The institutional review carried out by the team of postgraduate students before the design and implementation of the unit of work gave a deeper understanding on the context (see Appendix B).

Both postgraduate students based the development and facilitation of the biology curriculum blended course, including the newly embedded unit of work, on best practices already discussed in this postgraduate course’s forums, as well as themes that emerged in their previously assigned literature reviews. The blended biology teacher education course was improved and enriched with a variety of activities that the preservice teachers found meaningful and useful. Their feedback on their blended learning experience provided valuable information to improve and adapt aspects of the blended course in order to better address their needs (see Bailey’s report in Appendix C).

**Engaging Professional Teams: Deputy Principal of a Regional School for Sick Children.** In 2010 the deputy principal of a regional school for sick children in New Zealand led three of her staff members through this course, one from each of the four campuses of this distributed school. Both Dabner and Davis visited the regional school premises in Christchurch to assess needs and talked with teaching staff on all sites (using a national education video conference service). Dabner knew the school well, having helped to redesign the premises as an educational expert and as a parent of a sick child. As a participant in our course, the deputy principal's brief literature review on professional development was outstanding. She applied that learning to her online course pilot in collaboration with her staff.

As an assigned activity the four school teachers created and team taught online a short professional development course for colleagues in their distributed school that modeled some of the best practices using tools adopting strategies that were also relevant for their sick students. In this way they introduced their colleagues to the school’s Moodle LMS and a few Web 2.0 tools.

A year later, a return visit to the school provided evidence that the teachers had continued to adopt and adapt relevant learning activities for selected students with needs that online and blended activities could address. For example, literacy activities and resources in the LMS were being found increasingly useful. In addition, they had started to use online services with motivating activities in which teachers can select topics and monitor
student performance, such as Mathletics. The school’s main campus is now on the Ultrafast Broadband and other sites are scheduled in the future; however, the teachers recognized that access to online learning was likely to remain challenging for many of the students attending this school. They also reported that their understanding of what is possible and worthwhile was also being spread to similar schools in other regions of New Zealand.

These three examples are fairly typical of the outcomes for participants in our course in that the piloting and development of online or blended learning courses stimulate further innovation and reflective practice in the postgraduate student’s institution. Mackey’s (2009) longitudinal research of students in the earlier graduate diploma indicated that they valued the online community within each course. More importantly they also discussed their course-led innovations with colleagues in their schools and, at times, collaborated with colleagues to promote organizational development for e-learning. Morrow and Bagnall (2010) also found similar effects, which they identified as a hybrid effect: “hybridising online learning with external interactivity.”

Conclusions

The three illustrations presented in this article provide anecdotal evidence of the impact of this course on teachers’ professional development for online and blended teaching and learning approaches, both on the individual participants and their organizations. The importance of engaging more professionals in online and blended learning has been recognized in the USA and New Zealand (Barbour et al., 2011; Larreamendy-Joerns & Leinhardt, 2006) to which this course responded by providing meaningful and valuable opportunities to educators from multiple disciplines and educational contexts. The online learning experience developed a deeper understanding of the challenges that students new to online learning frequently experience (such as those described in Smith, 2005). More importantly, the opportunity for all participants to focus individually on selected topics and professional contexts while interacting with other members of their profession, as well as the occasion to reflect on the related readings and recommended practices, is clearly beneficial. These benefits are consolidated through additional opportunities to apply and adapt their knowledge in their own authentic contexts. In this way these students often become agents of change in their own educational settings. This paper supports colleagues’ earlier research (Mackey, 2009; Morrow & Bangnall, 2010) with anecdotal evidence of the benefits of blending postgraduate students’ online learning with their everyday professional work and the hybridizing of communities of practice in a university course with the professional communities of practice in schools and teacher education.

Practice with online and blended learning during this course appears to have contributed to participants’ rate of adoption of similar approaches in their own professional contexts. Applying Rogers’ (2003) characteristic of innovations, the design of this postgraduate course can be seen to enhance relative advantages and trialability of online and blended learning in each student’s professional work, while also reducing the complexity of these innovations. Davis (in press) provided an expanded discussion of this co-evolutionary process. Appendices C and D provide illustrations of these instances of online and blended learning and evaluation to inform best practices. We have also illustrated many strategies of ongoing authentic assessment activities that “foster a learner and assessment centred focus through formative feedback and enhanced learner engagement with valuable learning experiences” (Gikandi et al., 2011, p. 2335) These strategies provide many opportunities for participants to contextualize new approaches in education with
validation by others in the same profession with peer learning and feedback, as recommended by Beaumont et al. (2009).

School leaders who have taken our course found it valuable, but the number who would find the creation of an online course useful to their everyday work may be limited. The New Zealand Ministry of Education has recognized some of these challenges and recently included online learning and professional development in school leadership (D. Wenmoth, personal communication, September 25, 2011). Importantly, feedback has suggested that the institutional review designed for our course is relevant for school leaders; therefore, we recommend that it be adapted for aspiring school leaders to undertake during their professional development, which may already include an online community of practice. Another authentic activity would be the construction or adaptation of the annual review process to incorporate blended and online teaching and learning (Stevens & Davis, 2011). This strategy might enable the school sector to address some of the challenges of the 21st century. It may also be relevant to teacher education, but we have no experience of such leaders in our course, unless we count ourselves as leaders as well as lead learners.

References


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Macdonald, J., & Poniatowska, B. (2011). Designing professional development of staff for teaching online: An OU (UK) case study. *Distance Education, 32*(1), 119-134.


**Author Notes**

Thanks to our students, especially those who have permitted us to use illustrative material. Also thanks to the University of Canterbury Electronic Media Learning services team, particularly Jess Hollis and Susan Tull who have supported this course in the university’s LMS for us and also for our students’ courses. We also acknowledge the institutional support provided for all our students by their colleagues and their schools.

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Appendix A  
Overview of the Three Assignments for This Course in 2011

Students are encouraged and supported to apply their learning to their professional context(s). Course participants are encouraged to negotiate access to a group of learners to practice their own online teaching for around three weeks, including approval from relevant managers. This may include work to improve an existing online course. Alternative arrangements may be negotiated with support from the tutor.

<table>
<thead>
<tr>
<th>1. Literature Review (20%)</th>
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<tbody>
<tr>
<td>- Select a topic or area related to learning and teaching online</td>
</tr>
<tr>
<td>- Summarise and analyse one research article in this area</td>
</tr>
<tr>
<td>- Present this to the course members and facilitate an online discussion related to the research topic. (1a)</td>
</tr>
<tr>
<td>- Identify and review in the group wiki four articles in your selected area (includes the one above).</td>
</tr>
<tr>
<td>- Complete, present, submit and self-assess this mini literature review. (1b)</td>
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<table>
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<tr>
<th>2. Course Pilot Study 1 project (30%)</th>
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<tr>
<td>- Conduct an audit of ICT in your school/ institution/ organization readiness for online learning. (2a)</td>
</tr>
<tr>
<td>- Design an effective online teaching space, then design and facilitate a unit of learning with a group of learners (approx 10-15) over a period of two weeks.</td>
</tr>
<tr>
<td>- Critically appraise the effectiveness of the teaching site (e.g. design and navigation features), evaluate the course facilitation, course content and participant learning, and make recommendations for future developments. (2b)</td>
</tr>
<tr>
<td>- Include links back to readings/ literature/ research explored in semester 1 throughout this assignment.</td>
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<tr>
<td>- Identify a focal area for your second pilot study</td>
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<tr>
<th>3. Course Pilot Study 2 project (50%)</th>
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<tbody>
<tr>
<td>- Maintain a researcher journal throughout the semester and provide comments/ suggestions to other course members within their journals.</td>
</tr>
<tr>
<td>- Extend your literature review in the selected focal area and share this in your journal for the benefit of the group</td>
</tr>
<tr>
<td>- Building upon your findings from pilot study 1, (re) design an effective online teaching space, then design and facilitate a unit of learning with a group of learners (approx 10-15) over a period of four weeks. (3a)</td>
</tr>
<tr>
<td>- Critically appraise the focal area of the course and make recommendations for future developments. Also include a general evaluation of the course.(3b)</td>
</tr>
<tr>
<td>- Include links back to relevant literature explored in both semesters</td>
</tr>
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Appendix B
Rubrics for Assignments

Assignment 1: Literature review (including online facilitation)

Please submit this completed rubric in the Drop Box for Assignment 1 for EDEM628
Please enter the number of credits in the right hand column plus a note or highlight text in another column to explain your assessment.

Self review by (name):
Topic:
Date completed:
Discussion Facilitation Week/Fortnight:
Literature review shared/posted in a Learn Forum: Yes/No

<table>
<thead>
<tr>
<th>Assessment Dimension</th>
<th>Category</th>
<th>Resubmit</th>
<th>Minimum Pass Criteria</th>
<th>Additional Credit Criteria</th>
<th>Additional Credits Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>The description of research reviewed</td>
<td>The chosen topic is unclear. One or more of the following are missing or inadequately explained in empirical studies: research question, subjects, methodology. Readers would find it difficult to understand the review.</td>
<td>The topic and approach are clear. The review includes at least 4 relevant items including: an empirical study with primary data, a literature review, a theoretical article, a course text. All elements of the research/paper are included in the description and all of these elements are adequately explained.</td>
<td>More than 4 relevant items are reviewed and linked to themes within the topic selected. The research is clearly described, and includes its positioned within the literature on this topic.</td>
<td>0</td>
</tr>
<tr>
<td>Research</td>
<td>The synthesis of the research.</td>
<td>The description of the results/paper is missing or the results are inadequately explained.</td>
<td>The review helps the reader understand how and what was found in the literature reviewed. The analysis is partly accurate. Themes have been drawn out.</td>
<td>The review and its applications are explained very clearly and completely, including if appropriate table, so that the readers’ understanding of the results/paper is enhanced. The review includes critique of research and application to the chosen topic.</td>
<td>0</td>
</tr>
<tr>
<td>Research Reflective practice</td>
<td>The conclusions and implications are either missing or inadequately presented.</td>
<td>The conclusions and implications from the article are reasonable and include application to the field.</td>
<td>A clear grasp of the conclusions and implications is evident. All information is reasonable, complete and clearly presented. The implications have been considered beyond the information given in the literature. Reflections on new situations / application to the New Zealand</td>
<td></td>
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</tr>
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</table>
education system/ classroom contexts have been considered and included.

| Communication Paper Presentation | The design of the review | The presentation shows little consideration for the reader. There is minimal attention made to the use of design elements (e.g., spacing, bullet points) to enhance the readers' comprehension | The report and online facilitation of a discussion on a paper are adequately presented. Most design elements are well placed and support the message. Presenter has made adequate use of some of the following: spacing, headings, font size, bullets, colour, and images. | The design elements are well integrated and clearly enhance the presentation of the information, without distracting and intruding. The viewpoint of the online reader has been carefully considered, and this is very well supported by the overall design. References and citations follow APA. |
| Communication Paper presentation | Mechanics | Problems with spelling, syntax of language | There are one or two minor spelling or syntax errors. | No errors throughout. |
| Communication Paper Presentation | The facilitation within the group following the presentation | No questions are included for the group within the presentation. There is little or no online facilitation. | Appropriate questions are included for the group discussion. The presenter follows the group discussion and responds to participants. Questions posed are adequately answered. A concluding summary is posted. | The questions included are well framed, challenge the groups and extend their thinking. They clearly encourage the group to consider the results and implications of the research to new contexts. The presenter follows the discussion closely and facilitates well by probing, prompting and redirecting the discussion throughout the week. Comments are inclusive and all opinions are acknowledged/valued. Facilitation is timely, ongoing and engaging. A useful and concise concluding summary is posted. |
| Total | 1 resubmit permitted | 0 | 20 |  |
**Assignment 2A Investigation of Institutional Resources**

**Name:**
**Group (if applicable, and note your role(s) in your report where relevant):**

<table>
<thead>
<tr>
<th>Assessment Dimension</th>
<th>Category</th>
<th>Resubmit</th>
<th>Minimum Pass Criteria</th>
<th>Additional Credit Criteria</th>
<th>Additional Credits Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Research</strong></td>
<td>The description of the situation at your institution</td>
<td>One/ more of the following are missing or inadequately explained: Staff, admin/management, staff attitudes, driving force, threats, and resources.</td>
<td>All elements detailed in the brief are included and all of these elements all adequately explained.</td>
<td>The situation at the institution is thoroughly and clearly explained, demonstrating a thorough investigation in all areas noted on the assignment.</td>
<td>6</td>
</tr>
<tr>
<td><strong>Reflective practice</strong></td>
<td>The possible implications for your online teaching</td>
<td>No evidence on the implications for your future online teaching experience during the course.</td>
<td>Some possible implications for your future teaching during this course have been identified and included.</td>
<td>The possible implications for your future teaching during this course have been identified and included. Reflections on how you may overcome some of these limitations have been considered and included.</td>
<td>5</td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>The design of the presentation Mechanics</td>
<td>The presentation shows little consideration for the reader. There are significant problems with spelling, syntax of language.</td>
<td>Most design elements are well-placed and support the message. Presenter has made adequate use of some of the following: spacing, headings, font size, bullets, colour, and images. There are one or two minor spelling or syntax errors.</td>
<td>The design elements are well integrated and these clearly enhance the presentation of the information, without distracting and intruding. The viewpoint of the online reader has been carefully considered, and this is very well supported by the overall design.</td>
<td>6</td>
</tr>
</tbody>
</table>

| Total points | 1 resubmit permitted | 0 | 10 |
## Assignment 2B

**Online Teaching Experience: plan, trial and evaluate an online teaching and learning experience**

**Name:**

**Group (if applicable, and note your role(s) in your report where relevant):**

<table>
<thead>
<tr>
<th>Assessment Dimension</th>
<th>Category</th>
<th>Resubmit</th>
<th>Minimum Pass Criteria</th>
<th>Additional Credit Criteria</th>
<th>Additional Credits Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active involvement in research and development</strong></td>
<td>Description and planning (Due by the beginning of week 8)</td>
<td>One or more of the following are missing or inadequately explained: the intent, subjects, purpose of the project, and connection to learning theory. Readers would find it hard to understand how the content will be taught online</td>
<td>The project is adequately explained and includes, an explanation of the purpose, a description of the learners, how the activities will be accomplished, and the learning theory that underpinned the activity. Some application of the texts and lit review.</td>
<td>The project is clearly and completely explained (as in pass column) and the learning/ teaching experience is also positioned within the broader context of both the students and teachers education/ curriculum/ schooling context. Clear application of the texts and lit review.</td>
<td>3</td>
</tr>
<tr>
<td><strong>Active involvement in evaluation and development</strong></td>
<td>Implementation (Written report week 13)</td>
<td>Description of the implementation and/or results is missing or inadequately explained</td>
<td>The implementation of the activity is explained adequately so that a reader can understand how and what was done and what happened.</td>
<td>The results are very explained clearly and completely, including such artifacts as journal entries, charts, graphs, pictures or children’s work so that the readers’ understanding of the results is enhanced. Analysis linked to literature.</td>
<td>3</td>
</tr>
<tr>
<td><strong>Critique</strong></td>
<td>Links made to literature from the field (Written report wk 13)</td>
<td>Very little or no references made to literature on the topic included.</td>
<td>Some reference to the literature related to online teaching and learning is included within the report</td>
<td>Very clear evidence of a strong understanding of how this online experience fits into current literature; supports results and conclusions with evidence</td>
<td>3</td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>Structure</td>
<td>The report is missing one</td>
<td>The report follows the guidelines for</td>
<td>The report contains the required</td>
<td></td>
</tr>
<tr>
<td>Reflective praxis</td>
<td>Content (Written report wk 13)</td>
<td>or more parts (introduction, overview, implementation observations, evaluation, conclusions and/or bibliography. Sections may not be marked. Content in some sections may be missing or incomplete</td>
<td>structure and content as set out in the requirements for the assignment. Material is covered in the sections as described in the requirements and the bibliography is in correct APA formatting. Content in all sections is adequately covered according to the requirements of the assignment</td>
<td>structure and all explanations are very clear. Links are made between sections and there is an overall cohesiveness to the essay that demonstrates a clear understanding and purpose to the writing. Coverage of content goes beyond the basics listed in the requirements</td>
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<tr>
<td>Reflective praxis</td>
<td>Conclusions and implications (Written report wk 13)</td>
<td>Conclusions and implications are missing or inadequately presented and/or explained. There is no evidence of original or reflective thinking.</td>
<td>Conclusions and implications from this activity (teaching online) are presented. There is evidence of reflective thinking about the results. Some recommendations for improving this activity are included.</td>
<td>Evidence of a clear understanding of the activity (teaching online) is shown by a concise reporting of results including changes/suggestions for improvements and reasons that things happened as they did. A clear grasp of the conclusions and implications of the results is evident and clearly presented. Implications have been considered</td>
<td></td>
</tr>
<tr>
<td>Reflective praxis</td>
<td>Reflection (Written report wk 13)</td>
<td>There is little to no evidence that reflection about the process was employed. Conclusions are not included or are inadequately drawn.</td>
<td>There is evidence that reflection was employed to evaluate both the online teaching and the process of designing the online class. This evidence appears in the evaluation and/or conclusion.</td>
<td>There is clear evidence throughout the essay that reflection was included in the project from beginning to end. Thoughtful reporting of implications is evident and conclusions are strong. Philosophy about ICT and learning on line comes through in the writing.</td>
<td></td>
</tr>
<tr>
<td>Knowledge and skill</td>
<td>Pedagogical aspects of the site/ facilitation</td>
<td>The site design, course materials and learning activities</td>
<td>Most of the site design, course materials and learning activities are</td>
<td>The site design, course materials and learning activities reflect a deep</td>
<td></td>
</tr>
</tbody>
</table>

The Design aspects of the online site/ facilitation
<table>
<thead>
<tr>
<th>Knowledge and skill</th>
<th>Facilitation</th>
<th>Site navigation is too difficult: students cannot understand the content and/or the process. There is little or no attention to the use of such elements as spacing, headings, fonts, bullets, etc. to enhance the readers’ comprehension of the material. The onus for understanding the material is on the reader.</th>
<th>Students will find navigating around the site reasonably simple. There is good use of some of the following: clear instructions, use of notes, headings, a range of appropriate document types for the context, use of appropriate LMS features for the context. Most visual design elements are well placed and support the message and learning.</th>
<th>The viewpoint of the students has been considered throughout and the students’ understanding of the material is supported by the design of the site, uploaded material and very clear navigation features. Visual design elements are integrated throughout and provide an extra element to the site, bringing style, energy and dramatic effect without distracting or intruding.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge and skill</td>
<td>Technical design aspects</td>
<td>activities are not appropriate for the age group/ do not support sound teaching and learning principles</td>
<td>appropriate for the age group and reflect an understanding of sound teaching and learning principles</td>
<td>understanding of sound teaching and learning principles. These relate back to ideas imbedded within the literature from the field.</td>
</tr>
<tr>
<td>Total points</td>
<td>1 resubmit permitted</td>
<td>0</td>
<td>30</td>
<td>4</td>
</tr>
</tbody>
</table>
At the institution’s teaching rooms there are video-projectors and computers for the educators to use during their lectures.

ICTS (Information and Communication Technology Services) give academic staff the option to hire equipment to support audio conferencing. Additionally, the UC provides video conferencing facilities where point to point or multi-point connections can take place.

Each staff member and students have their University email address and access to the internet from any of the College’s computers. They can also access the University’s network remotely, using their own username and password.

Resources

What is in place

- At the UC College of Education there are computers for every staff member available at their offices. Students are also offered computers at Okaro building, two rooms with 21 PCs, one room with 21 Macs and two rooms with 21 dual boot Macs and PCs are in place. There is a research room at the Education Library building with 16 PCs. Also, a computer workroom at the Roost building with 44 Macs is available to students. In total, there are 123 computers available to students.

- The Operating System in use is Windows XP for the most of PCs and Mac OS for Macs.

- The network that the College of Education provides full high speed coverage relieved on Ethernet, under the standard of Category 5 UTP, meeting the demands for high bandwidth. On some areas of the campus here is wireless broadband network available.

- Among the College’s resources there is UC Live which is a set of online services based on Microsoft’s Live/EDU technology, providing students access to their email accounts and file storage of 25GB. UC Live service also includes access to announcements from the University, Outlook Calendar with information about lecture timetables, exams, social events and much more. Moreover, help services are provided as well as important links for students.

- At the UC College of Education, distance learning is already in place. In fact, this institution is in a leading position regarding online teaching and learning. Distance courses began to be offered approximately 8 years ago through StudentNet. One other LMS used at the College of Education was Blackboard.

- The LMS that the College uses from 2009 is Learn by Moodle. Most of the College’s Courses are supported by Learn and others are fully taught by distance. The transition from Blackboard to Moodle was a decision of a committee consisted from staff members among the colleges of UC.
Learn is an open resource used by the whole UC to support online learning. It provides the academic staff with many tools to support their face-to-face teachings, as well as set up for fully online courses. Such tools include uploading files, adding audio and video, wikis, databases, glossaries, online discussion forums, calendar, online assignment submission and Gradebook.

Among the assessment tools that Learn provides is Turnitin. Turnitin is a software used by course lecturers to detect plagiarism in students’ assignments. It gives the opportunity to check the originality of a document. In order to use Turnitin appropriately, academic staff is given support from UCCT (University Centre of Teaching and Learning) staff.

QuestionMark is a browser used for online quizzes and offers a supervised testing environment. The results from these quizzes can connect directly to the Gradebook. Students get feedback from the quizzes which can include activities such as multiple choice, matching, calculated, short answer, true/false or numerical questions. Lecturers design these quizzes setting up their properties, such as the grade, the number of attempts, the reviewing options and the feedback received by the students.

In some courses MyPortfolio is used within teacher education programmes, which is an open source electronic portfolio that includes collaboration and communication tools. Its use is not that widespread among courses in the College of Education, it is mentioned as a resource, as it is used in the course I and my team will further develop.

Resources
Support

The Learn site has a lot of helpful resources for the educators and students as well, such as quickstart guides and helpbooks giving information about the use of Learn site, how to navigate, how to share files, how to use the forums and much more. Lecturers can even have access to some sample courses and get a better idea on what they can do for their own course.

The ICT service desk is offering to the staff members and students help with any technical problem and they are willing to visit staff offices if necessary. Many students and staff members are calling or visiting the ICT help desk every day and among the most common issues they have is limited access to UC Live or technical issues about logging in to Learn. Most times these problems occur because of faulty attempts to log in, but sometimes it is because of the system’s malfunctions. The fact is that most of the appearing problems, are solved in a short period of time.

ICTS webpage has many useful resources for students and staff, giving information about its services, such as PC or Mac hiring, frequently asked questions, common issues, workshop and training requests.

ICTS and UCTL (University Centre of Teaching and Learning) organize workshops for teachers and students as well. Such workshops offer a wide range of guidance, from basic computer skills to more complex skills using enhanced tools. Moreover, there are workshops that provide training on using the Learn site as well as some more specific tools that it incorporates. During the transition from Blackboard to Learn a lot of workshops took place, helping the lecturers get used to the new LMS.

Apart from the workshops, whenever a staff member or student needs special training services, there is an individual training request form which can be submitted to ICTS and get an immediate feedback.
Resources
Level of resourcing

- The UC College of Education has advanced infrastructure consisting of high technological resources available. It has developed online teaching and learning in a very large scale, compared to the other Colleges of the UC. It has many courses offered online, while the majority of the courses taught at this institution are web-supported. It could be said that it is in a leading position compared to other institutions in New Zealand, even in the rest of the world.

- Its level of resources is high and this gives online or blended course designers the advantage of having a ready-to-use Learning Management System (Ko & Rossen, 2001). Moreover, the College has already developed an enhanced support system to help academic staff and students keep up with the new teaching and learning tools available to them.

Staff
Administrative/Management position

- At the UC College of Education there is a mixture of the ways decisions are made regarding delivering online courses. Decisions can be made from the part of the Administration by the Associate Deans, especially for whole programmes that will be taught by distance, such as the Bachelor of Teaching and Learning (Early Childhood; Primary) which is offered through the Flexible Learning Option (FLO). On the other hand, many courses are taught online after student demand indicates that students want to learn by distance. Finally, for the postgraduate courses it is the lecturers who decide whether their content will be delivered online or face to face.

- The College of Education visions, by the end of 2010 to have all its courses supported by Learn, as there are only few who do not have a Learn site yet. They find that there’s been a variety in the development of online learning, as there are some courses that have used creatively most of the available tools, while others are still utilizing the basics.

Additionaly, educators have access through Learn to Susan Tull’s online course called ‘Educational design classroom’ where they can learn how to build an online classroom and get assistance to develop their own materials. It was the College’s initiative to hire a course designer to lead this course and its contribution to the regular transition from Blackboard to Learn has been well recognized among staff members.
Moodle is considered to be more functional than Blackboard, as it is an open source and has made it easier to share resources and participate in online discussions. Compared to Blackboard, which needed financial support to work at new developments, Moodle has given the opportunity to overpass such obstacles, being an open source.

Comparing face to face and online teaching and learning, it is a common attitude that both methods have advantages and disadvantages, but using both can help us get the best out of each. Blended courses offer a combination of both methods’ positive outcomes, but it depends on the type of the course which one option will be more effective. For example, theoretical courses can be easily delivered online, while there are some limitations for courses that need more practical work from students. However, the administration acknowledges the options that technology has to offer, such as video recording or synchronous tools and seems to be optimistic in the opportunities lecturers are given to develop online courses.

For the teachers, administration finds that online learning helps them deliver flexibly and creatively. Their preparation time changes and they are given the opportunity to be more flexible on the time they will spend on their course. Furthermore, because of the variety of tools they are offered, teachers can choose those that best suit the needs of their students and try out some new methods that they could not use in a face to face classroom.

From the administration/management staff’s perspectives there are some issues that need to be considered, such as the fact that sometimes lecturers and students are expected to have a certain amount of experience regarding online teaching and learning, when most times this is not the case. Support must be offered in such a way that it is not assumed people are already familiar with technology and online education.

On the other hand, people get often overwhelmed by the new tools that they have available and as a result they get carried away. Administration staff underlined the importance of being creative and realistic at the same time. Teachers need to find a balance between creativity and reality and manage their time better, as they have other obligations too.

The support offered to academic staff to get used to Learn is considered to be efficient, since lecturers have previously used Blackboard and Moodle which have many similarities to the new LMS. However, more support is needed, as the College recruits new staff members who might not have previous experience in using Learning Management Systems.

Administration acknowledges that one of the most efficient initiatives of the College for support was Susan Hall’s “Educational design classroom” which is an online course where teachers have access to learn how to build their own courses.

Some of the benefits from the part of the administration that online learning offer to students is flexible learning. Students can learn at their own pace and the institution expands its educational act outside the borders of New Zealand.

Staff
Academic Staff attitudes
Among the interviewed academic staff members, all of them seem to find UC College of Education in a leading position, compared to the rest of Colleges in the University of Canterbury.

It is a common view that online learning offers students flexibility to learn anywhere, anytime. Learners interact more with each other, since in an online environment there is less “noise” than in class. Students are also more encouraged to ask questions and participate in conversations, as they have more time to think and organize their thoughts. Moreover, educators find important the fact that in blended courses learners can revisit some ideas that were discussed in the classroom without being obliged to do so. Thus, they choose if and how much time they will spend studying. However, some teachers underline the fact that students are different and the benefits one might have from learning online depend on his/her needs.

From the part of the academic staff, it is also believed that online course delivery has advantages for them too. They can have an ongoing access to their courses and they are able to interact with their students anytime from anywhere.
Comparing online course delivery to traditional face to face classrooms, was not easy for academic staff members to decide which one is better. It is a common view though that both have different strengths and it depends on the teacher’s and student’s needs, as well as the course’s aims whether online or face to face is more effective. Some of the staff members feel more comfortable in a face to face classroom, as they are not used yet to online interactions, while others enjoy teaching online and have found ways to manage effective discussions from distance.

Most of the interviewed academic staff members believe that the transition to Learn was necessary, since it was difficult to understand how Blackboard works and the majority of them were using just the basics in their courses.

They agree that they were given much support for the transition from Blackboard to Learn, and continue to be supported, although the help they are given is more than they can use, since they do not have much time during the day, as there are other obligations for them as well, being academic staff members.

Another problem they find relates to the accessibility of the online content, since there are many distant students from regions with poor internet access. Furthermore, there is a common view that students are not given as much training as the educators, and this makes them feel frustrated, at least at the beginning of the courses.

Finally, an issue that educators think that rises, is that they are expected to know more than what they actually know. Teaching online presents many challenges to them, as teachers are expected to think about a lot of issues when they teach online. Considering the limited time they can actually offer to workshops and training, it is very difficult to confront all these challenges.

Most of the students have their own computer, but not all have internet access at home. Some of the students who have remote access are sometimes facing poor internet connection problems. They can all use the College’s facilities to have access to a computer and to be online.

It is interesting to point out the elements that students find useful and assist their learning process. Most of students believe that in order to learn, their online course needs to include learning outcomes, instructions on the activities that they need to do, explanations on teaching strategies, revision quizzes and links to discussions used in class. Only one student finds the use of forums helpful for his learning.

Finally, The majority of students acknowledge the importance of having many resources available through the Learn site. Some of them are concerned though on how their progress will be accessed.
Staff
The driving force

- It seems that there is a mixture of driving forces for online teaching and learning, coming from the Administration, the students and the lecturers.
- The Associate Deans are responsible to decide on which programmes will be offered by distance as a whole through the Flexible Learning Option and the lecturers are the receivers of these decisions.
- Students’ demands are also pushing the College of Education to deliver more courses online, as there are many people for which studying at a distance is the only option.
- Finally, for postgraduate programmes it is the teachers who decide how their courses will be delivered.
- As a conclusion, I could say that the driving force is coming from all directions, although it is believed that the whole online teaching and learning initiative resulted from the strong demand from the part of the students who wanted to be flexible and have access to knowledge from any part of the world.

Staff
Threats to the vision of online teaching and learning

- In order to deliver online courses effectively, an institution has to provide high quality materials so that “course instructors include the widest feasible range of media and activities to appeal to different styles of learning” (p.11) (Elbaum, McIntyre, Smith, 2002).
- The institution must also ensure that all students and academic staff members have computer and internet access.
- Furthermore, ongoing support must be in place, so that students and teachers get the training they need. Some support might need to be provided individually.
- For teachers, extra training must be in place, as they need to “create effective online courses with many specific elements that contribute to sound pedagogy for inquiry learning” (p.11) (Elbaum, McIntyre, Smith, 2002).

Possible implications

Considering the findings of the institutional review for the College of Education, there are some implications that might occur during the two weeks of teaching the online course designed by my team.

- There are some students who do not have access to a computer. These students use the computer rooms that the College of Education provides. However, sometimes the demand is higher than the offer and students can not use the computers any time or day of the week, as they are all occupied. Perhaps, computer hiring services will be useful for them.
- Furthermore, high speed internet access is required and some of this course’s students have either none or poor internet access. Using the computer rooms provided by the College of Education might be a solution, but still these students have to check on what time of the day there is not that much “traffic” in the rooms, so that they can use the computers.
One more possible implication might occur by the fact that students for this course are more comfortable using MyPortfolio rather than Learns, as they will continue to have access there after the course finishes. MyPortfolio is an open source as well where students can create online communities and share resources and ideas. It seems that they prefer using an environment where they can have ongoing access for more than one semester. This is one disadvantage of Learns. Because it could be an ongoing source of learning helping not only pre-service teachers, but also teachers during their professional career.

Perhaps students must be given instructions on using both Learns and MyPortfolio to upload files, but also facilitate online discussions on the Learns site, by setting up discussion forums with specific topics.

Finally, students seem that they do not acknowledge the strengths of online discussions and their contribution in learning. Not participating in online discussions might be an implication. Through exposure and effective interactions, students can expand their knowledge and think more critically.

Discussions, if designed appropriately, “keep students on task, promote full participation and encourage peer collaboration” [p. 81] (Elbaum, 1999). The facilitator needs to encourage participation and guide students to think and contributed to the discussion. Questioning of students in discussions might be the roles that can be assigned to them, the instructional tasks and the load of the information (Vanderwell, Zacharias, 2005). So, as a moderator of online discussions, I need to help students acknowledge the contribution of effective dialogue in learning and support reflective discussions in the group.

References


Appendix D

An Example of a Final Report of Online Learning and Teaching

EDEM 628 – Best practices in online teaching and learning
Assignment 3 - Online teaching experience: plan, trial and evaluate an online teaching and learning experience, by Author3

Introduction
The University, College of Education offers the course TECS383 – Biology curriculum years 11-13 to students who are pre service teachers of Biology in secondary schools. This course was running from February 2010 with 14 enrolled students, most of them majoring in Biology, while for others Biology was their second major. Students varied in skills, ages and expertise level.

As this course was already running from February 2010, I was part of a team consisting of three teachers that were going to design, trial and evaluate this course for the period of May 17th – June 13th. My part was to incorporate some Web 2.0 tools (Quizlet, Animoto, VoiceThread) and show my students how they can use those in their own classrooms.

I intended to teach each tool at different face to face sessions and give students enough time for their online study. Elbaum et al. (2002) suggest that five hours of online study per week is the minimum time students can spend in order to engage meaningfully in an online course. As this was a blended course, I estimated that for their online study, students would need approximately 3 hours per week, granted that the instruction would begin in our face to face meetings.

Students needed to have basic ICT skills, in order to use the Online Learning Environment and to be able to explore the Web 2.0 tools that were going to be implemented in our course. Prior
knowledge on the New Zealand Biology curriculum and its basic objectives, as well as basic biology knowledge was also required, in order to be able to apply each tool in a specific hypothetical context.

The learning outcomes were formed according to Bloom’s taxonomy and will be further discussed in the next section.

Course design

Curriculum area: Biology curriculum years 11-13.

Topic: Implementation of Web 2.0 tools in the classroom (Quizlet, VoiceThread, Animoto).

Target group: 14 pre-service biology teachers with varied skills, experiences and ages.

Goals: Enabling students to familiarize with each tool and create their own tasks for their hypothetical biology classroom, by providing them with adequate support. Motivating students to effectively apply these tools in their own classroom in the future.

Learning outcomes: I based my course’s learning outcomes on Bloom’s taxonomy at cognitive domain (Krathwohl, 2002), in such a way that higher levels of mental skills could be achieved. Specifically, after the completion of the 4 weeks of blended learning, students should be able to:

a) Apply their knowledge to design tasks using the Web 2.0 tools Quizlet, VoiceThread and Animoto.

b) Evaluate their work and provide peer feedback on other classmates’ tasks.

c) Critique each tool and discuss about the usefulness of Quizlet, VoiceThread and Animoto for teachers and students in the secondary biology classroom.
Implementation and evaluation

a. The course site

According to Ko and Rossen (2001) the first step in order to teach online is to “scout the territory” (p.18). After conducting my institutional review, I realized that many things were already in place, as this course was running from February. The LMS and the appropriate infrastructure were already set up, students were enrolled and they were familiar with the Learn site and the course objectives. Also, adequate support from the institution was in place and students had already a good level of the required background knowledge. Finally, they had developed good relationships with the course leader, the content and between them.

The basic structure of the course was already designed by the course coordinator and passed Susan Tull’s “health check”. The main course menu is illustrated in the image below:

For my part of the course, I used a variety of resources in order to achieve my goals. In the main section of the
course, I embedded videos to trigger and motivate students, illustrating the use of each tool in a classroom or examples of tasks. The main section also included hyperlinks to the web pages of the tools, as well as more examples of tasks. Finally, for each tool I created a discussion forum including two threads, one for technical questions and one for our online discussion.

Students could also revise what was introduced in our face to face meetings, in the *How to.....* section (Appendix 1). This is where I created three web pages, each one of them referring to a different Web 2.0 tool. I used a similar structure for every page in order to make the web pages predictable to my students, so that they could know where to find each element (Elbaum et al., 2002).

To avoid information overload I organized the content in such a way that students could get easily oriented in the web page (Vonderwell and Zachariah, 2005). The headings created a more organized structure for each page and I also used lines to separate each section from the others. In each section I provided guidelines organized in steps, using images not only to make my instructions more comprehensive, but also to add colour, variety and eye-pleasing white space for my students (Elbaum et al., 2002). Additionally, I included active hyperlinks where needed, in order to make navigation easiest, as well as emoticons to subside non-verbal cues and enable better communication (Vrasidas and McIsaac, 1999).

According to Elbaum et al. (2002) having experience in learning online enables the teacher better understand students’ needs, the challenges and rewards of online learning, as well as the course design. For me it was much easier to design an online course, as I was already familiar with Learn’s interface and features through the EDEM628 course. Moreover, Susan Tull’s
“Educational design classroom” was really helpful to me, as well as the structure of Learn itself which includes activities and resources that can be easily understood and implemented in a course. Therefore, I did not face any difficulties during the design of the course.

What I really valued was the implementation of a variety of resources, as I could embed images, videos, hyperlinks and different types of files. This gave me the opportunity to gather different types of material to support learning and reach out different learning styles (Elbaum et al., 2002). It seems that students also valued the opportunity to access multiple resources, as illustrated in the feedback they provided for this course (Appendix 3) and therefore, I consider this as the main strength of the site.

I also found that composing web pages in the How to..... section (Appendix 1) would be suitable for my instruction, as students could revise what was included in our face to face instruction, in case they needed it. This was some kind of “safety net” I used to prevent disorientation from students who might not have been covered from our face to face meetings. However, according to students’ responses on the feedback they gave us (Appendix 3), they rarely used this section. Those who used it found it clear and helpful, but the majority of the class did not use it at all, probably because the tools were explained in our face to face meetings and it was easy for them to explore them without further support. Therefore, if I could change something in my site that would be the purpose and the form of the How to..... section. I would redesign this section as a wiki, or as a book, so that students could add the instructions themselves. This way they would be able to reflect on how they would teach their own students in the future to use these tools and create their own guidelines collaboratively.
In general, students reported that once they got used to the structure of the course they really found it organized. However, they felt overwhelmed many times by the variety of resources and this makes me further reflect on the initial support students need to get oriented in a course, as well as the importance of a simple structure, in order to avoid information overload (Vonderwell and Zachariah, 2005). Finally, from the beginning, students need to have enough time to familiarize with the course and being the instructor I will need to take advantage of the face to face meetings, in order to explain the basic online components.

b. Teaching and learning process

The instruction of each tool had the same pattern, as I wanted my students to know what to expect in each face to face and online session. The steps I followed for each tool are shown below:

- Students were asked to sign up for each tool, before our face to face meeting. They could follow the instructions in the How to….. section if they needed.

- Instruction begun with a face to face meeting for each tool which included:
  - Triggering videos illustrating the use of each tool in the classroom.
  - Demonstration of example tasks using the specific tool.
  - Individual exploration of each tool, after oral instructions.

- For their online study, students had to complete the following activities:
  - Complete their task using the specific tool we explored. If they needed further help they could visit the How to….. section to revise the instructions we discussed in class or use the forum to post questions.
  - Provide feedback to one or two tasks made by their classmates.
Post their comments in our forum about the usefulness of each tool in a biology classroom.

Some of the learning outcomes have been met, while others needed more time in order to be achieved. Students successfully applied their knowledge to design tasks using each of the three tools. It seems that the face to face instructions, combined with the self-exploratory character of the tools enabled students to understand their basic functions and successfully create their own tasks. For the “Quizlet” tool, students created flashcard sets, using biology terms and definitions. By the end of the instruction, the majority of students had created at least two sets and some continued to use it after the end of the instruction (Appendix 2).

Moreover, all students created photo stories of an experiment they performed in the lab. They took pictures of the process and they uploaded them on VoiceThread, adding comments on how they performed the experiment. Most of them used only text to add comments, as the computers in the computer lab had microphones, but they did not function correctly. I was aware of this limitation before the instruction and I told students that they could refine their task at home using their own equipment if they had. This makes me further reflect on the infrastructure that needs to be in place, as students need to be offered all the required equipment from the institution. Otherwise, it is not right to show learners a tool which they cannot use at its full potential.

Finally, all
students created Animoto clips, using images and text in order to illustrate some biological ethical issues. The structure and the content of the majority of the videos showed that students had carefully considered what they would include, in order to raise some issues for discussion in their class. Finally, they easily created their clips, but what seemed to be difficult for them was to wait until their video was processed.

The objective of peer feedback was partially achieved. During the first week, students did not provide any feedback to their classmates after watching their tasks. In order to avoid this for the other two tools, I reminded students in our face to face sessions the importance of peer feedback in order to show appreciation and feel motivated (Hew and Cheung, 2008). For the last two tools some students provided peer feedback, as tasks were significantly different one from another, in contrast with Quizlet where only the terms and the definitions were different. Oosterhof et al. (2008) argue about the importance of students’ familiarity with this kind of assessment. Therefore, in the future, I need to consider that students might need more time in order to get used to providing and receiving useful peer feedback.
Referring to the last objective, I tried to include questions in the forums with no right or wrong answers, aiming to probe students’ perceptions and engage them in discussions (Hew and Cheung, 2008). During the first week, only three students commented on the usefulness of the first tool. There was no online interaction between students and communication was only one way, between me and some students, although I intended to emphasize on student-to-student interactions (Rovai, 2007).

For the next two tools, I encouraged students to add their comments, along with the hyperlink of the
task they created. Again, few students commented on the usefulness of the tools. During this week there was a short online discussion, after a student’s comments on the usefulness of a tool. This student attracted some classmates’ interest, by approaching one of the tool’s limitations as strength.

To me, it was essential to assure that all students were provided with feedback, in order to encourage their participation (Vrasidas and McIsaac, 1999). I used this technique to almost every student, after reading their comments or watching their task. Also, during the first week where contribution in the discussions was low, I provided general feedback on students’ tasks and encouraged all of them to add their comments in the discussion.
ed in dialogue when they really felt that they needed to, as they were told that their contribution was optional. What was also interesting was that they did not seem to be influenced by my feedback. This makes me further reflect on what kind of feedback motivates students and if time is important in order to see its effectiveness. I assume that on the last week, where both VoiceThread and Animoto were introduced and students also had to submit their last assignment, information overload might have influenced student participation (Vonderwell and Zachariah, 2005). It was impossible to change the dates of these two tools, as I followed the official schedule of the TECS383 course. However, next time I would try to organize my course in such a way that students are given all the time they will need.

In general, I feel that meaningful learning was partially achieved, as on one hand, students had successfully applied what they learned for each tool, but on the other hand, not all aspects of the application of the tools were explored. I believe that through discussions, students would have shared their opinions and conclude in interesting remarks, regarding the implementation of these tools in their own classrooms. Unfortunately, students did not have enough time to do this, neither online nor in our face to face sessions. Therefore, this point would be the basic thing I would change next time, as I need to assure that students are given enough time to assimilate information, reflect and discuss.

Conclusion

It seems that in overall students found the course site very helpful and more than half of them reported that the implementation of Web 2.0 tools was the most useful aspect of the course (Appendix 3). For me, this was a valuable practice, as I used my experience of being an online
learner, as well as the knowledge I gained from our EDEM628 course, to apply what I thought that is important in online teaching and learning.

Through this course’s design, application and evaluation I realized some of the practical implications that might occur and further reflected on the way I can overcome those. Some of the most important points are the following:

- **Information overload** → On one hand I might be excited as a teacher to show my students all the things I want, but on the other hand I need to consider their pace and workload, in order to teach them effectively.
- **Flexibility** → I always have to reflect on students’ needs and adjust the material accordingly.
- **Infrastructure** → Even if the institution seems to have a high level of resources, infrastructure might be an obstacle. Therefore, activities should be organized accordingly.
- **Peer feedback** → Students might need more time to familiarize with peer assessment techniques.
- **Discussions** → Optional participation as well as workload might influence participation.
- **Teacher feedback** → The type of feedback might control its effectiveness to motivate students. Moreover, information overload might outweigh the influence of feedback.

It seems that the journey of online teaching and learning has just begun for me and although in this blended course not everything went as planned, I consider it as a valuable lesson to use in the future, in order to create my own “Best practices in online teaching and learning”. 
Below I conclude with a “word cloud” illustrating all those elements that challenged me further reflect on…

References:


