

TE WHAKATŪ KŌRERO WORKING PAPERS

***Experiences of Teaching Faculty Enrolled in the
Open Polytechnic of New Zealand's Certificate
in Designing and Facilitating E-learning***

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Abstract

In 2008, the Open Polytechnic of New Zealand offered a new programme in e-learning, the Certificate in Designing and Facilitating E-learning (Level 5). The programme consists of three compulsory courses. The courses are vocational in focus and build upon knowledge, involving an introduction to current e-learning theory, practical training in e-learning facilitation, and the creation of an individual e-learning course. The authors are lecturers at the Open Polytechnic, and were among the first students to complete the new qualification. In this working paper they summarise their experiences in completing the Certificate, as well as key lessons they learned while attempting to translate current teaching practices into an online learning environment.

Contents

Abstract	iii
Introduction	1
Programme details	3
About the participants in the study	4
OP5095: Transforming Learning Experiences	6
E-learning tool: Blog	10
E-learning tool: Social bookmarking	10
E-learning tool: Podcasting	12
OP5096: Facilitating Online Learning Experiences	13
OP5097: Instructional Design for E-learning	17
Conclusions	21
References	25

Introduction

The purpose of this working paper is to provide a summary of selected learners' experiences while completing the Open Polytechnic of New Zealand's programme OP5440, Certificate in Designing and Facilitating E-learning (Level 5), in order to:

- provide a subjective overview of the experiences of teachers attempting to upgrade their e-learning skills, as guidance for others who may be interested in this subject
- identify common learning outcomes that bridge the discipline areas of the learners who undertook study in the programme, as a way of identifying shared issues and generic e-learning solutions
- foster discussion among participants in the programme, and the wider teaching community, in order to generate ideas for further action research in e-learning.

This paper should not be construed as a critique of the Certificate programme. Rather, it attempts to synthesise key principles derived from the collective experience of e-learning students, in seeking best practice in e-learning. In this context, this paper can be broadly categorised as practice-based research, as it has been conducted primarily for practical, problem-solving reasons (Wilkinson, 2000). To the extent that the paper includes reflections on the part of the participants that may lead to improvement in e-learning work practices, it may also be categorised as action research (Wilkinson, 2000). The data within it, and the voices quoted from the learners, are derived in part from the assignments that the authors completed as part of their studies, and from post-completion reflection upon their experiences.

The Open Polytechnic of New Zealand is this country's only dedicated distance education provider. Its emphasis is upon open and distance education at tertiary level. The primary method of delivery is via print-based courses, with some blended delivery courses, and a growing number of fully online courses (Open Polytechnic of New Zealand, 2007). Moodle is the preferred learning platform, and there is a well-developed Online Campus for students.

Like other institutions in New Zealand and elsewhere, the Open Polytechnic is facing commercial and competitive pressure to diversify its teaching portfolio, in order to attract and maintain students (see, for example, the Ministry of Education's *Tertiary Education Strategy 2010 – 15* (Ministry of Education, 2009)).

This entails the Polytechnic building upon its current strengths in open and distance education. It includes scoping increased opportunities for e-learning. In making these decisions, the Polytechnic is guided nationally by the *Tertiary Education Strategy 2010 – 15* (Ministry of Education, 2009), and other obligations under governing statutes, notably the Education Act 1989. However, none of these include specific guidance on the future of e-learning.

Because there is at present no national strategy that deals with e-learning, there is little guidance available to institutions seeking to build capacity in this area, in the context of a regulatory framework. In the interim, the Tertiary Education Commission and the Ministry of Education have funded a project, coordinated by Massey University, to develop guidelines that may help institutions to improve their e-learning practice. The e-learning guidelines project (see <http://elg.massey.ac.nz>) includes advice for students, staff and managers, to promote best practice in e-learning design and delivery.

The current definition of e-learning provided by the New Zealand government is:

learning that is enabled or supported by the use of digital tools and content. It typically involves some form of interactivity, which may include online interaction between the learner and their teachers or peers. (Ministry of Education, 2004a, p. 1)

E-learning shares some of the characteristics of traditional distance education, such as the potential for geographical distance between teachers and students, and a shared requirement that learning is carefully planned and guided. However, there are also striking differences between e-learning and distance education (summarised by Fisher, 2009). The most noticeable of these is the provision of printed, mailed materials in traditional distance education. In addition, traditional distance education students have a very different learning profile than typical face-to-face students, and also different needs (including the need for education with applied or vocational value). Another key distinction is that there is no absolute requirement for online access, or even a computer, in traditional distance education.

As a result, the building of capacity in online learning must be approached with caution, and the blanket application of e-learning avoided (see, for example, Rumble, 2001). Realising this, the Open Polytechnic undertook new programme development to cater to the needs of teaching faculty at the Polytechnic and elsewhere. These relate primarily to professional development that provides vocational education in the ‘why’, ‘what’ and ‘how’ of e-learning. The result was the creation of the 60-credit, Level 5 Certificate in Designing and Facilitating E-learning.

The programme was opened for enrolment in 2008. Teaching faculty at the Open Polytechnic with an interest in e-learning were encouraged to enroll, as well as anyone else with an interest in the topic.

Programme details

The OP5440 Certificate in Designing and Facilitating E-learning is designed to appeal to a wide variety of professionals interested in learning more about e-learning theory, design and facilitation. A summary of its objectives, copied from a description of the Certificate on the Open Polytechnic website, states:

This programme is designed for education and training professionals such as teaching staff, trainers, community educators, instructional designers, learning support staff, librarians and knowledge managers, human resources staff, and other people in related support roles wishing to design and facilitate e-learning experiences within a variety of learning contexts. The focus is on the practical application of adult learning theories with an emphasis on e-learning methodologies, including the concepts of learner-centred, self-paced learning, supporting learners at distance, providing authentic learning opportunities and the development of meaningful learning relationships. This programme provides a professional development opportunity for those professionals who find themselves having to make decisions about incorporating e-learning into their practice or develop their skills in using e-learning. (Open Polytechnic, n.d.)

The three courses comprising the Certificate are:

OP5095 Transforming Learning Experiences

- A study of e-learning theory and communication processes.

OP5096 Facilitating Online Learning Experiences

- An introduction to good practice in online facilitation.

OP5097 Instructional Design for E-Learning

- An exploration of key factors that influence instructional design processes for effective e-learning, including the creation of an online course in Moodle, using appropriate e-learning tools.

The recommended text for the Certificate is Gilly Salmon's *E-moderating: The key to teaching and learning online* (2004).

About the participants in the study

Rick Fisher (Rick) works for the Natural Resources Centre, School of Workplace Learning & Development, at the Open Polytechnic. He teaches environmental science courses at certificate, diploma and degree level. Delivery is entirely by distance, involving mailed, print-based materials, supplemented by additional materials and guidance posted on Online Campus. Quite variable use is made of Online Campus by Rick's students. Some access the online course page regularly, and stay in close contact by email. Others have no online access, or voluntarily choose not to access online resources.

George Chipindiku (George) works for the Applied Technology Centre, School of Workplace Learning & Development, at the Open Polytechnic. He teaches light and heavy fabrication, and mechanical engineering. At present all of his students study by distance, using mailed materials. This is supplemented by occasional face-to-face teaching. However, George's teaching portfolio is moving more towards project-based, purely online teaching courses, with an accompanying need to become more aware of current e-learning design.

Sandra Maathuis-Smith (Sandie) works for the Open Polytechnic's School of Information & Social Science. She teaches information and library studies courses at diploma and undergraduate degree level. The majority of Sandie's courses are delivered in print, with the exception of a web-based electronic records management course.

Sandie: The student profile is mainly women in their late thirties, whose use of Online Campus is patchy. Completing this certificate has given me the skills and insight to utilise Online Campus and techniques to encourage regular use of it by students. I look forward to converting to blended delivery mode for my courses in the near future.

In summary, the participants had teaching experience covering a broad range of disciplines, involving potentially different student needs. Rick's teaching needs lent themselves to independent study, and a hands-off approach, while Sandie and George's students required regular intervention and guidance as they acquired practical skills, involving regular one-on-one interactions, including telephone conversations, and in George's case some face-to-face contact. However, at the time they enrolled in the Certificate, the authors all shared a common teaching thread, namely the use of Moodle as an online learning system. Moodle is the preferred online learning system at the Open Polytechnic. All of the authors manage their own online course pages. These pages include embedded content, email links, and various forums so that students can interact with each other and with the tutor.

Within their use of Moodle, however, the desired learning outcomes were different for the students enrolled in the Certificate.

Sandie: Unless I have an external motivator to learn a theory or use new technology, it gets put off. So my lifelong learning philosophy is to undertake projects or study that enable me to explore new concepts or technologies. My incentive for enrolling in the e-learning certificate was the opportunity to enhance my teaching and to investigate the e-learning environment. The variety of assessment encouraged the exploration and application of different theory and tools, to design and implement e-learning solutions. This approach matched my philosophy because the assessments offered an external motivation to experiment with a variety of techniques and tools to increase my understanding of the e-learning environment and improve my teaching.

Rick: Environmental sustainability is a theme that underlies much of my teaching. My research has shown that distance education can be a great deal greener than face-to-face teaching. In terms of legitimacy I was therefore drawn to e-learning as a possible tool for green education. On a practical level I was also interested in learning more about Moodle. Apart from using it to add recent materials to my courses, and to provide emailed advice about assignments, I didn't really know much about Moodle, or how to make better use of it.

George: The driving motive for tutors is the interest in enhancing the quality of teaching and learning in their areas and the urge to discover how e-learning can assist them. For an effective practice with e-learning, the academic staff need to develop new skills, embrace changes in the nature of our role, and then reassess the pedagogies we employ. Pedagogically sound and accessible ways of embedding e-learning into everyday practice can be achieved by linking theory with practice. For instance, in the engineering area that I teach, it is crucial to develop a shared understanding of how, when and where to apply e-learning to the best advantage of learners. All trades are practically oriented – hence, including practical simulations in the online content will raise the interest of our learners.

OP 5095: Transforming learning experiences

The aim of this course is to introduce learners to current thinking and practice in e-learning, and to understand the impacts of these approaches on their practice as an education and training professional. Learners will evaluate the implications of adult learning theories for e-learning in the distance education context and the implications of e-learning for learners in this learning environment, evaluating different learning approaches in order to make decisions about the mode of delivery. Learners will also explore e-learning communication processes and evaluate their effectiveness for good practice in distance learning and discuss a range of critical success factors in e-learning environments and then reflect on their own teaching and learning practice and how this translates into an e-learning environment. (Open Polytechnic of New Zealand, n.d.)

OP5095 is the first course in the Certificate. It is a prerequisite for the other two courses (although in exceptional circumstances other enrolment arrangements may be made). Student assignments in all of the Certificate courses involve the creation of independent student portfolios. The portfolios include completed assignments for individual work, and reflective essays that relate to learning outcomes associated with group work. Online group work is a significant component of all three Certificate courses. However, because there are no group submissions, the only opportunity to assess group work is by way of individual, reflective essays, which include copies of relevant contributions made by students to group tasks.

The major tasks in OP5095 are the creation of a television advertisement for a teaching institution wishing to promote e-learning, a case study of an organisation seeking to build e-learning capacity, and reflective work on teaching styles as they relate to current e-learning theory. There is also an opportunity for students to assess selected e-learning tools.

The primary learning outcomes associated with OP5095 involve subjective and objective enquiries into the issues associated with adult learning, and the ways in which e-learning may contribute towards fulfilling student 'needs'. Such enquiries require canvassing of the needs of stakeholders involved in e-learning course design, development and delivery, as well as the needs of the students themselves. Assessments for this part of the course are based upon role plays, scenario setting, and a literature review that confirms the distinctiveness (if any) of emerging e-learning pedagogy. Learning outcomes that bridge the gap between e-learning theory and practice are created via individual student research into the top 10 current e-learning trends, with a requirement to provide underlying explanations for the trends. As part of this research, students are asked to use an e-learning tool of their choice, and to report back on their experiences.

One of the primary results of the participants' experiences in completing this course was learning that constructivist learning theory is the primary pedagogical tool in the development of e-learning principles, with a number of studies devoted to it (Gruba, 2004).

George: Both in the story and the advert we witness the address of a situation whereby there are individuals learning on the job for the purposes of advancement or as a result of managers' expectations. Coupled with this motive is the fact that adults want to be the origin of their own learning and often they will resist learning activities they believe are an attack on their competence. As such, courses intended for professional development need to give participants some control over the 'what', 'who', 'how', 'why', 'when', and 'where' of their learning. Again, the advert for flexible learning addresses these issues. For instance, the courses offered for tradesmen are relevant and align professional development learning and their day-to-day activities.

Some authors have called the developments in technology applied to e-learning a revolution of new learning, particularly with regard to the joint influence of constructivism and information technology upon learning. Authors such as Martens, Bastiaens and Kirschner (2007) list characteristics of such learning, including collaborative work and learning, development of higher order skills, self-assessment, coaching, independent learning – all of them in the context of e-learning.

One of the first tasks in this course required the participants to engage in group work, in order to create a hypothetical television advertisement for 'The Flexible Polytechnic'. One of its key learning outcomes was the demonstration that e-learning design needs to address the needs of a diverse body of stakeholders. The overall result is potential conflict between the competing needs of the designer, content specialist, delivery agent, and student. One size certainly does not fit all, and it may be necessary to disentangle the needs and desires of the organisation seeking to implement e-learning solutions from the actual needs of the end user. For example, there are some types of learning that require face-to-face contact, notwithstanding the availability of online teaching, which could increase enrolments and cut costs – essentially doing the same job, but much less effectively. An example of this within the Open Polytechnic is the retention within engineering courses of opportunities for face-to-face contact, to ensure that students have direct access to tutors if required.

A learning outcome shared by all of the participants was that it is important to distinguish e-learning as a servant, not as a master. For example, distributed learning programmes have been driven by technology, in terms of availability and cost, rather than by learning goals linked to desired cognitive and behavioural competencies, to the extent that some providers have deliberately distanced themselves from pedagogical issues. There is even a term applied

to the mapping of new technologies on to existing platforms – ‘repurposing’ – which requires no reconceptualisation of learning (Kozlowski & Bell, 2007). Because the Open Polytechnic still emphasises the value of traditional distance education involving printed materials, to date this has not been a problem in course revisions.

The independent research the participants conducted pointed out key connections between e-learning and the needs of the adult student, including:

- The importance of blended delivery to ensure that e-learning supports and supplements, but does not monopolise, learning. The primary delivery method favoured by the Open Polytechnic currently involves paper-based materials, supplemented by the Online Campus management system. By default, most courses are therefore blended, with the Online Campus component being a supplemental learning tool.
- Offering educational opportunities so that adult students can earn as they learn, bearing in mind that most adult learners will be unable to afford to undertake full-time study. This ‘anywhere, anytime’ concept of learning applies equally to e-learning and traditional distance education.
- Using online technologies to allow adult students to learn remotely, with instant access to online library and other supplementary learning materials.
- The importance of creating an atmosphere of substantial student autonomy in order to promote individual, tailored educational goals.

A very powerful learning outcome associated with this course was an exploration of personal learning and teaching styles, using online personality-type tests. In their reflective essays, the students wrote the following:

Sandie: I have found that I am a balance of visual, reading and kinaesthetic modes and facilitator/delegator teaching styles. My aural style or any style that involves listening is always very low,. This is reflected in my learning choices, as I will not use voice chat options, preferring to type, and I will not choose podcasts or MP3 formats if there are other options. I seldom listen to music or use a telephone – preferring to email or have face-to-face interaction. My teaching styles are favourable for the online medium and value problem solving, and the development and practise of skills for the individual. Both my teaching and learning styles are evident in my courses. There is practise and application of skills by the individual across a variety of situations. Although I appreciate the potential benefits, there is no group work or audio content in any of my courses at present. This is a clear case of personal styles influencing teaching.

Rick: After doing the two tests I was able to confirm that my university learning does indeed favour a ‘visual’ approach, involving copious note taking, clarity in instruction, and the judicious use of overhead materials. Being a ‘reading/

writing' learner, I prefer the written word above all else. This raises the spectre that online learning may not serve me very well. I note with apprehension an observation by Feenberg and Xin in the course materials that 'online lecturing, either in print or video, lacks the interactive qualities essential to good teaching' [Feenberg & Xin, n.d.]. Uh-oh!

George: I am an auditory learner, who employs both visual and verbal learning styles. Essentially I learn best when information is presented visually and in a written language format – that is, I benefit from information obtained from textbooks and class notes, but at the same time experience a full understanding as I listen to the class lecture. The strengths of my learning style come from having a knack for ascertaining the true meaning of someone's words by listening to audible signals like changes in tone.

The above comments are personal to the participants, and may not acknowledge the ways in which e-learning, if properly designed, can replicate traditional learning and get around some of the issues that are raised. Indeed, some of these issues deal not so much with learning and teaching styles, but with recognising a whole new literacy associated with e-learning. This can involve a whole new set of skills associated with reading and writing online, all of which may be teachable, if properly designed (Leu & Zawilinski, 2007).

One of the course tasks was individual student research about current 'hot topics' in e-learning. The exploration of current e-learning trends uncovered fairly consistent results among the participants' independent research, including the growing use of open source software, and the potential for new technologies such as mobile learning. The latter is an interesting example of the uncertainty about whether e-learning must adapt to new technologies. Karrer (2006) argues that mobile learning will be disappointing because it will remain scattered, and focused on podcasts and video casts for audiences with easy access, rather than resulting in the uniform adoption of mobile as a learning platform of choice. Sharples (2007) advocates for mobile technology, but raises other issues, including the functionality of such a small device with regard to e-learning needs (for example, data exchange and information flow).

A key learning outcome associated with identifying individual teaching and learning styles was the difficulty in finding a balance between teacher-centred classroom learning and the student-controlled learning that is characteristic of the online classroom. An example of the power of the latter occurs where people may learn more from failure than by being shown what is expected of them (Sierra, 2006). This is easy in an online world, where no one can see you fail, and where there are easy opportunities to repeat tasks. The issue is complicated by research suggesting that there is some uncertainty about the value of the 'minimally guided approach' that is so favoured by current e-facilitation practitioners (for example, Salmon, 2003). Such an approach is

not supported in all situations, and a competing case may be made in some instances for direct, strong instructional guidance as a more preferable medium of delivery than the constructivist approach (Kirschner, Sweller, & Clark, 2006). Stated another way, this was the participants' first introduction to the debate about whether e-learning facilitation should be more 'a guide on the side' than a 'sage on stage'. Debate about this issue continued in the second course in the Certificate.

E-learning tool: Blog

The use of a blog as an e-learning tool was the topic of George's independent research. His primary conclusions were:

- Blog is a contraction of web log. A blog is often used as a personal diary, or a daily pulpit for sharing thoughts, collaborative space, or breaking news, or as a general outlet for speaking to the world. Basically, it is a frequent, chronological publication of personal thoughts and web links.
- Blogging can be a perfect medium for a person to keep track of the progress of their thoughts in various life instances. This is because a blog is more than just a journal, in the sense that it offers additional insight that writing in private does not provide.
- Engaging in a blog will keep a person constantly on the lookout for article ideas. Hence, it is a great skill to develop because it helps the person to become more observant, and therefore more interested in other facets of the subject-matter about which they are blogging.

E-learning tool: Social bookmarking

After exploring the del.icio.us social bookmarking tool, Sandie's conclusions on social bookmarking were:

- This was the ultimate in explorative learning and resource discovery. I found myself darting all over the Internet, then back to del.icio.us to slingshot off in a different direction.
- The potential for collaborative teaching, learning and research is huge. I added many resources to my account and linked to other users with similar interests.

- Adding existing bookmarks/favourites from other browsing software is automated. Adding web pages while surfing the Internet is effortless.
- This is like having research assistants, as other people have researched, retrieved and evaluated resources for you on specific subjects.
- Cognitive stresses have been mitigated by the collaborative nature of this system, one-click capture and a clean, simple site design with clear navigation.
- You can create your own keywords for tags or easily choose from the existing tags to the same site – this also preserves the linking relationships.
- The software soon becomes transparent and the discovery of networks, new keyword tags and the excitement of resource discovery take over completely.

Since being totally immersed in the social bookmarking phenomenon, I have experienced how it fits adult education principles:

- It allows self-directed, autonomous learning.
- It is ubiquitous – you can get to your resources from any Internet-connected computer.
- It allows informal learning
- It allows collaboration, sharing of resources.
- Control and choice is with the learner
- It supports the just-in-time and relevance aspects of adult learning
- It provides for respected opinions – when another user connects to your bookmarks they are indicating that they agree with your value judgement of a resource.

Even if these sources are part of a specific course they will be available to the network and learner way beyond the completion of a course, leading to a source for lifelong learning.

E-learning tool: podcasting

Podcasting as an e-learning tool was the topic of Rick's independent research. His primary conclusions were:

- A Google search of podcasting (Holtz & Hobson, 2007) garnered 24 hits in 2004 – a year later it reached 100,000,000 hits, fuelled in part by the recognised advantages of podcasting:
 - ability to subscribe, rather than merely download, through RSS (most commonly expanded as 'really simple syndication')
 - podcasts are essentially episodic, so you can commit as desired to ongoing instalments
 - podcasts are detachable via MP3 files, so you can listen to them wherever you wish, whenever you wish
 - barriers to producing podcasts are (purportedly) very low.
- iTunes is the preferred podcast interface at the Open Polytechnic. An hour takes up about 20–25 megabytes of memory, and it is very easy to download from iTunes to an ipod shuffle, for playback on headphones or in a car.
- Most podcasts are free, and there is a great deal of content coverage available, suitable for most disciplines.
- Podcasts can be added to a Moodle course page, but only with difficulty at present. Creating your own podcasts requires some specialised equipment, including not just a microphone but a mixer, and more importantly a website from which to launch the podcast. In this sense it is important not to confuse a podcast with a simple audio file.

OP5096: Facilitating Online Learning Experiences

The aim of this course is to introduce education and training professionals to good practice in online facilitation. The course offers the learner an opportunity to experience hands-on what it means to facilitate groups of learners online. The learner will explore and experience a variety of facilitation approaches and online facilitation methodology to support a diverse learner population in an e-learning context. (Open Polytechnic of New Zealand, n.d.)

The major tasks in OP5096 involve group work to resolve problems in hypothetical e-learning case studies. To do so, students research current best practice in e-facilitation. Vocational tasks include exploration of Moodle's features, and an opportunity for students to host chat sessions. The latter task includes practise in summarising chat sessions for assessment purposes.

The first assignment associated with this course is the preparation of a generic advertisement for an e-learning facilitator. In preparing the advertisement, the participants were required to review the primary needs of e-learners, using the learner profiles discussed previously in OP5095. Many of these are based upon the Salmon (2003) five-stage model for online education and training. The five stages describe a set of steps for online learners, leading from initial engagement in e-learning to an ultimate stage of student development that fully integrates their individual e-learning experiences. Each stage requires the acquisition of technical skills that in turn require different e-moderating skills. From a tutor's perspective, each stage also requires different approaches and e-learning tools. The first step, for example, is student engagement. This requires particular emphasis on a warm, nurturing environment that encourages students to contribute – slowly at first, and then with increasing critical comment. 'Ice-breaking activities', designed to foster group coherence and group identity, are important in these early stages. Consequently, an embedded, summative quiz would be inappropriate as an e-learning tool at this early stage, having greater effectiveness if used later on.

Another task in the course required the participants to demonstrate understanding of how meaning and mood are conveyed in online messages. Because there is no opportunity for non-verbal cues in online messaging, great care is required to ensure that meaning is accurately conveyed solely by written text. With practise, the participants were able to categorise different messages, using the four interaction types identified by Berge (1995). The four types of interaction are: (1) pedagogical (relating to the educational role, in focusing on concepts, principles and skills); (2) social (creating a social environment for learning); (3) managerial (setting the agenda and procedures for online conferencing); and (4) technical (making learners comfortable and minimising

technical obstacles to learning). Each type of message requires its own 'comfort level', and varying degrees of critical content. Participants are also required to make it clear to the facilitator what particular role they are fulfilling when a message is sent:

George: One other aspect that changed my perception about the role of an e-learning facilitator was the social support role. Previous experience showed that students in class can naturally develop social ties without much influence from the lecturer. Surprisingly enough, it is different with online facilitation, as the tutor takes the role of a social supporter. Essentially, this role is vital in ensuring participation by, and retention of, students. Hence, you are expected to provide emotional support, and facilitate collaboration, most importantly remembering that students need recognition, acknowledgement and positive feedback. Tied to this aspect is the mediator role, whereby the tutor should resolve any conflict that results among students.

The limited ability to convey meaning in written text, and the inability to ask for immediate clarification (as would occur in a classroom setting), results in potential difficulties for e-learning facilitators. The case studies and group work in this course offered the participants a plethora of learning difficulties that could occur when teaching online. Among the most nettlesome of these is the 'online lurker'. There is really no way for a facilitator to know that things are going wrong, unless the student says so. Unfortunately, silence is also part of 'lurking', which Salmon (2003) states is not necessarily a sign that something is wrong. She cites research in which 75 per cent of trainees reported active participation online, but half also pointed out the value of passive participation, also known as 'browsing', 'listening' or 'lurking'. This is more frequent among late starters, and may therefore be a bit easier to spot and distinguish from silence associated with things going wrong, which is probably more likely to occur at later stages of an online course.

Personal teaching experiences prompted particular research enquiries from each of the participants.

Rick: It occurred to me to ask: 'In determining the perfect e-learning student profile, is gender an overlooked issue?' Salmon (2003) refers to it, but only in the context of access [to a computer]. I took this question to Ormond Simpson, a professor of e-learning visiting the Open Polytechnic, who provided the following advice:

- There isn't a lot of data on this.
- While male students may be more technically savvy than females, females are more likely to engage in group work, which may explain in part why females tend to do about 5 per cent better on average in distance learning than men at the Open University (United Kingdom).

- In the context of establishing a good e-learner profile, Professor Simpson gave me a copy of a new study by Anagnostopoulou & Parmar (2008) that looks at student retention, and asks which learning skills differ between traditional and e-learning classes. Their study includes additional categories of 'communication' and 'problem solving'. They conclude that all of the skills noted above, and the additional two skills noted here, are needed in face-to-face and online learning. The two noticeable differences between traditional and e-learning skills appear to be in 'the context and the degree of importance of the skill'. They note things like 'writing', which in an online world extends to keyboard skills, and 'listening', which in an online context means much more selective learner control. Another interesting finding in their study is that the technological skills of learners differ depending on whether they are using them for personal or learning purposes. Synchronous communication, for example, is much more likely to be used in personal than in coursework settings. Therefore, it appears that an e-learner profile must be context-sensitive, in addition to identifying the degree to which the particular skill is to be relied upon in an e-learning environment.

Consideration must also be given to the development of the online voices of students in a course. This raises interesting issues about personality. The experiences of the participants in this study confirmed that personality can play an important role in determining who will contribute (sometimes too much!) to online group work.

George: Quite surprisingly, the [primary] approaches [used by students in group work] were not gender oriented; instead, it was a revelation of different personalities taking dominance over what was assumed to be the best approach.

One of the key learning outcomes for this course was commitment by students towards the development of their own personalised online 'voice'. This is a highly individual exercise, which was ably demonstrated by the requirement that every student host their own chat session with other students.

George: In the session that I facilitated I managed to arrange the time and date in advance, in order to give more time for the participants to get prepared. Preparation meant that each student was expected to have access to a computer at the same time, despite different time zones. This arrangement was made through the [group] forum [to which I had been assigned]. However, there is one mistake that I made during this process – I failed to inform the participants about my topic. The discussion was on group cohesion. Hence, it would have made it easier for the group to achieve better outcomes from the session if I had provided some background information. In addition, this could have created an opportunity for the group members to research the topic beforehand. This is not surprising if you consider what would happen during a traditional class if the teacher did not develop and implement some classroom management and discussion facilitation skills.

Sandie: I have facilitated many chat room sessions in the past and had my fill of this medium a long time ago. The chat session was a painful exercise, but it was interesting to look at the 'chattiquette' involved in this exercise. I had not thought of why I did things or responded in a certain way until faced with facilitating this

chat session. Metacognitive processes were invoked as I started to associate the techniques I was employing with the guidelines in the literature. It helped that the other students were scrutinising every move and technique I used.

I don't think that I would use 'chat' as an activity in my courses, as my courses are promoted as being 'study at your own pace', and forcing students into a synchronous activity is not conducive to studying at your own pace.

Rick: I had never been in a chat session prior to this exercise. I found that it took some time to establish a communication rhythm of sending/responding, and that chat hosting was surprisingly stressful. I reviewed the set text, Salmon's website and related links such as Flexitips (2001), White (Full Circle Associates, n.d.), and Hudson (2007) to confirm my understanding of what good facilitation should include. The single most challenging thing about this exercise was how to find ways to stay focused, but relaxed! Authors like White (Full Circle Associates, n.d.) point out that a busy chat can be exhausting, and boy they aren't kidding. As these authors point out, chat is immediate, unlike other learning, and you are on the court the whole time. My partner was watching me at home and said that my shoulders were absolutely knotted afterwards, requiring her to massage them after the chat. Tips to avoid this from the literature include working up slowly, especially to controversial topics, getting yourself a co-host, taking announced, online 'bathroom breaks' if absolutely necessary, and simply getting more practise.

Hudson (2007) identifies two particular difficulties with chat. The first is how to assess it. What constitutes 'A' grade chat, versus 'C' grade chat? One indicator is the extent to which the facilitator can keep a given discussion thread focused on the task at hand, ensuring that it receives adequate discussion before moving on. From a learner's point of view, a higher grade could be awarded to students whose chat transcripts demonstrated an ability to stay on the topic, reframe ideas, and comment critically about the subject-matter.

The second difficulty relates to how the facilitator summarises what has been said in a chat session, in terms of later providing feedback to a given group of students who were present in the session. Salmon (2003) advocates the use of 'weaving', which entails the selective use of student contributions to create an overall script, or summary, of what was said.

OP5097: Instructional Design for E-learning

The aim of this course is to introduce education and training professionals to the process of instructional design in e-learning. This course prepares the learner to design and use effective and engaging learning activities in the online environment. Learners will review key factors that influence the instructional design processes for effective e-learning and explore how technology can overcome existing issues and enhance the teaching and learning experience for learners. (Open Polytechnic of New Zealand, n.d.)

The most important outcome of this course is independent student work, leading to the creation of individual online course frameworks, with appropriately embedded learning tasks and associated e-learning tools. The ancillary tasks associated with the course are related to e-learning course creation.

One of the most important goals in course design is to make information purposeful for learning. This requires care in selecting the right context for the course audience. A course in machinery design, for example, could include a running theme of placing students on the factory floor of a hypothetical company, facing various problems that need to be overcome as the students make their way through the course. The best examples mentioned in the course materials are those that make learning real, by creating an environment similar to that in which students may find themselves upon graduation. 'Purposeful learning', in this context, refers to new learning models described by authors such as Oliver (2000) and Cole and Foster (2008) that now recognise that people actually transfer learning with great difficulty, and are constructors, not receivers, of knowledge.

George: Instead of having students receive information-loaded links devoted exclusively to the coverage of course content, I endeavoured to engage the students in the learning experiences, which were designed not only to enable them to learn content, but also to learn process, implying the process of 'learning how to learn' and developing empowering 'lifelong learning' skills. It is for this reason that I designed real-life scenarios, so that by going through the tasks the students will be self-equipping themselves to face life challenges. I also considered the fact that real-life issues are more interesting and extremely motivating, encouraging the students to engage more with the course material.

Designing an e-learning course requires much more than a series of embedded links and activities. It is for this reason that Johnson (2005) (among other authors) advises that content specialists should never be unleashed on course design, for fear that it will become a regurgitation exercise in reciting facts, rather than a process of constructive learning.

George: In designing my course I focused more on developing a learner's comprehension and expertise, rather than on improving useability issues. Technology developed through this process was meant to support the learner's needs by giving them a variety of tools to use to help them through adaptable tasks. In this respect I had to ensure that in the introductory phase of the course I laid out different links, such as 'Which resources will you have access to' and 'What do you need to get started'. These tools were added to ensure that the student had a smooth transition into the course.

In designing activities, students in OP5097 are guided by the advice noted in the secondary literature, including (after Johnson, 2005) designing activities that:

- require learners to combine course knowledge in new ways and within new contexts
- incorporate information without too much distraction from learning activities
- provide some entertainment
- avoid a set text (also mentioned by Oliver, 2000)
- provide strategies for learning, rather than solutions per se
- provide 'ill-structured tasks' – as noted by Oliver (2000), these allow students to flesh out difficulties in tasks, as they construct their own personalised learning outcomes.

In addressing these design difficulties, it is important to ensure that meaningful contexts useful for real-life situations are chosen, with plentiful resources and support. Quinn (2006) and Johnson (2005) offer good advice on creating a learner-centred approach, in terms of drilling into deeper motivational levels by providing a 'hook', telling students what happens if they don't 'get it right', and maintaining motivation through interesting game-like approaches.

Johnson's (2005) advice is to '[m]ake use of storytelling. This can range from framing the whole course within the context of a story, to sporadically inserting a brief anecdote which drives home a concept'.

Sandie: Records management, as you can imagine, is a prescribed discipline. To make it more interesting I decided to take the students outside of their 'office' and transport them virtually to 'Kiwiana Park'. The idea of a story appealed to me because there is so much scope for different environments. The principles and skills are the same in all the records management situations, but by dressing it up in a Kiwiana Park costume I hoped to make it interesting and a bit different, thereby maintaining the motivation of the students. Using 'characters' such as Koro the cheeky kea and stories of his antics, I added an emotional layer to the learning. The emotional content I hoped would engage the students' imaginations, while at the same time they will be inadvertently learning transferrable skills.

The Moodle tools trialled by the participants in this study included quizzes, frequently asked questions (FAQs), glossaries, the addition of photos and embedded videos, and the use of supplementary tools such as Microsoft Photostory 3. Samples of participants' subjective experiences in working with Moodle included:

Sandie: To help cope with workload issues I trialled a FAQs page. The FAQs page served its purpose well (see comment below) but also had a side effect – it became a tool for students to answer each other's queries. This in turn led to social interaction and became an example of the adult learning principles of recognition of prior experience and respect from the other students. The students started to show ownership of the course by responding to each other. (I have looked at the 'hit' statistics on my course and the FAQs page had over 3000 views – it was week 3! Many of the students were referring to the FAQs page to answer other students' queries! Fantastic! Imagine if even 10 per cent of those views were emails for the tutor to answer. Phew!)

Rick: I relied to some extent on the course materials and also on Cole and Foster (2008). They have a pretty good description of the various Moodle tools. It's on their advice that I included a glossary. I didn't know how powerful a tool it could be until I saw how it could be linked to student motivation to contribute to the course, to help them with learning, and even in assessment. Very cool tool.

In embedding text within their individual courses, the participants were guided by key advice available in the OP5097 learning resources. This included:

- keeping sentences short and simple
- using the active rather than passive voice
- using active verbs
- breaking up the writing into chunks, interspersed with photos and activities
- trying to be conversational
- doing more than merely reciting learning outcomes, by enlivening them in an easy to understand 'what you will learn' resource.

One of the major assignments in OP5097 is group work to establish marking criteria for the assessment of student courses. Massey University has conducted research in this area (Milne & Dimock, 2006). It refers to key areas for assessment, dating back to the Ministry of Education report *Taking the Next Step: The Interim Tertiary e-Learning Framework* (2004b), which suggests that a good online course should demonstrate:

- a consistent learner-centred approach
- good e-learning practice (notably a sound pedagogy)

- opportunities for collaboration and group work
- innovation
- affordability/sustainability
- a focus on New Zealand's unique identity/qualities (a learner-centred approach, a mix of face-to-face and distance education, geographic remoteness).

Online courses cannot be judged by the same criteria as face-to-face or print-based distance learning. Assessment is therefore based largely upon the goals of e-learning, and the success in achieving these goals. An assessment schedule for e-learning could thus refer to the following criteria:

Access and flexibility: How accessible is a particular technology (for example, Online Campus) for learners? How flexible is it for a particular target group – for instance, trade apprentices, working 60 hours a week?

Expense: What is the cost structure of each technology, including computers and software? What is the unit cost per learner? Does the organisation provide any form of assistance? How do costs differ between technologies within a particular context?

Teaching and learning: What kinds of learning are needed, bearing in mind some aspects of learning cannot be done without certain tools? What instructional approaches will best meet these needs? What are the best technologies for supporting this teaching and learning?

Usability: What kind of student interaction does this technology enable? How easy is the technology to use? How long will it take for a student to learn?

Organisational structure: What are the organisational requirements and the barriers to be removed (including technical support and funding) before this technology can be used successfully? What organisational changes need to be made? To me this has been an issue, particularly when dealing with the industry training organisations.

Sustainability: How new is this technology? How reliable is it? (In the past Online Campus has had some problems with the speed and grunt required from the computer.) How will this technology contribute to institutional renewal?

Speed: How quickly can courses be mounted with this technology? How quickly can revisions be made to materials?

Conclusions

A key component of action research is to derive recommendations to guide future decision making in the subject-matter area being studied. Two important recommendations arising from this research suggest the importance of further research in respect of workload. In particular:

1. How much time does it actually take to design an online course, or to supplement traditional distance education courses with online versions / supplements?
2. How much time does online course facilitation take?

The latter question is perhaps the easier to answer. The general thinking from authors like Salmon (2003) is that the more that students are engaged and involved, the less marking and other administration workloads will be for the facilitator. The participants in this study uncovered a number of tips for reducing facilitator workload. They include:

- Formation of small online working groups, tasked with delegated work that is more focused on subsets of the original, broader learning enquiry, in order to carve it into more manageable 'bites', with more ownership of the learning outcomes for students. This would also allow for more immediate feedback and assessment of how students are doing as they progress through the task, rather than a single, final assessment based on grading an essay.
- Creation of a discussion board forum for questions and answers associated with the task – for example 'What will my subgroup be researching?', 'How do we present our results?', and so on.
- Rejigging email under Outlook to create new 'rules', so that Outlook puts all related emails from the working groups that have been created into a folder that is easy to find.
- Greater use of course announcements rather than sending emails to all learners.
- Use of Moodle tips from authors like Northam and Sauls (2005) to save time, including saving course announcements rather than keeping them available for a limited time, so they can be used again the next semester, and seeing whether materials can be kept invisible to learners until needed, so they correspond with the course schedule associated with the task.

With regard to overall workload, there was considerable uncertainty as to how much time facilitating takes, as well as the time it takes to design an e-learning course from scratch.

George: What was different from a classroom teacher's role was that the facilitator had to monitor student participation almost all of the time, including the weekends. This is contrary to a traditional classroom situation, whereby student participation is only available during the lecture periods. At the same time, with online facilitation there are no physical cues that can indicate feedback from students, hence the demand for more monitoring tools. This included monitoring student contribution.

In terms of total time for course development, Rick spent approximately 120 hours designing his course. This is undoubtedly much more time than the Certificate contemplates, but was associated with Rick's desire to develop his online course to completion as a 'real' online course, and as part of his own e-learning research. It does raise the question, however, of whether Open Polytechnic faculty enrolled in the Certificate have a genuine desire to create a working course as an outcome of their studies. If they have, to what extent can they can seek professional development time to do so?

In terms of the facilitation workload issue, key lessons derived from the secondary literature include:

- The importance of asynchronous, threaded discussion groups as a primary tool in promoting critical thinking in online courses and reducing instructor workload (Mandernach, Dailey-Herbert, & Donnelly-Salles, 2007).
- The rapid fall-off in facilitation time for online compared with face-to-face teaching – but only after an initially longer period has been required for design and development (Northam & Sauls, 2005).
- How few studies have so far been devoted to the actual time it takes to facilitate a course. Mandernach, Dailey-Herbert and Donnelly-Salles (2007) was the only reference that could be found. The authors came up with an average figure of 3 hours per week in total to facilitate discussion groups. The result has been a shift among those faculty members who are facilitating towards a longer work week, with variable total work hours.
- How important it is, if at all possible, to consider the time constraints in facilitation delivery in the context of developing an online course (Brandon, Ganci, Hyland, & Lyons, 2003).
- How the delegation of certain tasks can be extremely helpful, including:
 - group work and the breakdown of larger groups into smaller, interactive subgroups (Salmon, 2003)

- injection of delegated debate subjects into online student discussions, rather than mere fact finding – debate also helps in encouraging motivation and personal meaning (Salmon, 2003)
- although not strictly delegation, use of tools like bulletin boards (Northam & Sauls, 2005) and chat. Provided that care is taken in ensuring an appropriate and consistent assessment, chat provides for a rapid marking of typed commentary among a group of students, and so avoids the tedium of marking long essays (Hudson, 2007).

When discussing the workload of students enrolled in e-learning courses, one of the subject areas that attracted the most discussion among the participants and others enrolled in the Certificate was the difficulty in creating consistently positive outcomes using group work.

Rick: It was difficult because my experience to date in group work for the Certificate suggests that group work can be a little like going to the dentist – necessary, useful, but not always very much fun, and not always engaging.

Sandie: I have found that group work is not for me. So even though I know the group discussions gave me valuable insights into others' views and perspectives, I prefer to have all the task requirements in front of me and be left to it. The feeling of being 'held back' or being forced to 'restart' with the class was very frustrating for me. It felt like being in a classroom and having to wait for the rest to catch up. As adult learners we have individual life responsibilities and commitments to contend with. Forcing a learner into synchronous or group work to a schedule dictated by the course leader, or even class consensus, is to me not conducive to e-learning or distance learning. There are facilities, such as forums, that can be utilised to facilitate the same learning gained from sharing of views and perspectives – without the tight time frames or added complications of marking shared work.

The issue of how to use group work effectively is a key recommendation for future research. In terms of other e-learning action research, the following areas are likely to be worthy of further investigation:

- Enquiries into student retention, and monitoring tools to evaluate why students might drop out. This subject was of particular interest to visiting scholar Professor Ormond Simpson from the Open University. Because students who drop out are not present for an end-of-course evaluation, a key question is therefore how to obtain earlier feedback. This issue also applies to most Open Polytechnic courses.
- Research into student perceptions of learning before, during and after a course. The New Zealand Qualifications Authority places a lot of focus on ensuring that course assessments include objectives, key learning outcomes associated with each objective, and a clear indication from students 'when

they've gotten there'. In an online course, how do you ensure that a student is 'getting it', even with regular feedback and assessment? In a classroom, immediate feedback loops are much easier to create.

- Further examination of e-learning pedagogies. The literature suggests that if you get the pedagogy correct from the beginning, the e-learning course design that follows will be better framed.
- Evaluation of activities / courses and taking on board student experiences early on in the course, so as to improve assessment within the course rather than at the end of the course.

Finally, in the course of the external review of this paper, the authors were asked to comment on the extent to which the learning they acquired in their Certificate studies has been translated into practice. In particular, they were asked whether there is at present scope within the Open Polytechnic to incorporate into their own courses such things as a constructivist approach to learning and assessment, and aspects of blended delivery, and to otherwise apply what they have learned in their own online course pages.

In the short term, the answer to this question is almost certainly 'yes'. Sandie, for example, incorporates 'weaving' into her course feedback, while Rick has moved towards a more active facilitator presence on his online course pages, and has attempted to incorporate tools such as Photostory to create a more dynamic learning environment. George has used the skills he acquired to develop additional online course resources for an engineering calculations unit standard, and is presently developing an engineering materials unit standard that will be delivered entirely online.

It is too soon to answer more general pedagogical questions, such as the extent to which the participants favour a 'guide on the side' approach to facilitated learning, rather than a 'sage on stage' approach. An answer to this question will likely require several iterations of online course delivery. The longer-term view of online course development is also more problematic, due to issues associated with the speed and ease with which course revisions can be made, as well as the money and time commitments involved in course development. Like other institutions, the Open Polytechnic will need to keep abreast of future trends in e-learning, as part of its overall strategic plan. It is within this context that questions about online course development and its integration into blended delivery are most likely to be answered.

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