The Trials and Triumphs of Adapting a Tertiary face-to-face Course to Online Distance Mode

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Abstract

The boundaries between social enterprise and the private sector are blurring; as such, it is fundamental that there are increased opportunities for education, communication, collaboration and networking. To this end, flexible, personalised training and education opportunities need to be designed in accessible online formats, although there are some caveats. This paper, after exploring relevant current literature, describes stage one of a small-scale pilot research study which aimed to guage the influence of affective and external factors on the participants of an online distance Governance course, as well as to evaluate the design and implementation. The course had been adapted from face-to-face because many Not-For-Profit managers and front-line employees were finding it a challenge to attend face-to-face classroom-based professional development courses.

Participant evaluation of the online distance mode was reasonably positive in particular with reference to being involved in new ways of learning, and sharing knowledge and experiences. This was in spite of a range of frustrations around access and communication. Mobility and flexibility of learning were identified as important, and participants indicated they appreciated being able to access the sessions and resources from anywhere with a computer and connectivity. The facilitator reported increased levels of stress, but suggested that this was in part due to having to learn different ways of designing a programme, as well as with interacting with and guiding students.
A discussion of the findings from this study highlights some recommendations for other institutions considering adapting existing face-to-face courses to an online mode.

Keywords: Not-For-Profit, distance, eLearning, programme design, situative learning design, new technologies in teaching

Introduction

The boundaries between social enterprise and the private sector are blurring, and as a result the range of contexts in which learners are studying is increasing. Education providers are responding by offering courses in online formats that exploit the potential of communications tools to enhance the learning experience.

This paper, after exploring relevant literature, describes stage one of a small-scale research study which aimed to guage affective factors and external factors influencing participants in a pilot online Governance course, as well as evaluating the design and implementation. The Governance course was adapted from an existing face-to-face format rather than being developed specifically for an online environment. A discussion of the findings from this study highlights a few recommendations for other institutions considering adapting existing face-to-face courses to online distance mode.

Review of the Literature

Learning technology itself has no intrinsic educational value (Armitage, & O'Leary, 2003), but rather offers opportunities to enhance learning experiences. Underpinned by theories of socially-shaped, situative perspectives, TEL is already increasingly being used in developed and developing countries (Stokes, 2010) to enable a wide range of learners to personalise their learning outcomes and learning environment (Grant, & Thornton, 2007).

Several meta-analyses of research projects have been conducted to consider the efficacy of TEL; for example, Means, Toyama, Murphy, Bakia and Jones (2009) who analysed forty-six studies for variations in online, individual and group design, and for synchronous and asynchronous activities accessed via a variety of technologies. Their findings demonstrated that 'in recent applications, online learning has been modestly more effective [in student achievement of learning outcomes], on average, than the traditional face-to-face instruction with which it has been compared' (p. 71).

Participation in social settings, online as well as face-to-face, also has the potential to enhance learning. Sociocultural theory has its foundations in work initially done by

Vygotsky (1986), which was later developed by theoreticians such as Wertsch (1998), and Engeström and Middleton (1996). Its central hypothesis is that human development, in particular higher order functions, arises from the social interactions of an individual with the external world which includes people, objects, and events (Tharp, & Gallimore, 1988). In this environment, assistance from and collaboration with more advanced peers or a teacher (a concept known as 'scaffolding') can be offered. Thus, opportunities can be provided where the gap can be bridged between a learner's already assimilated knowledge or skills, and knowledge or skills yet to be assimilated (Wertsch, 1998).

Frequently referred to in formal education contexts, Communities of Practice (CoPs) - a theory developed in the latter half of the 1980s and in the 1990s by Lave and Wenger (1991) and since extended (e.g. by Hildreth, Kimble, & Wright, 2000) - encompass the notion of 'situated learning' whereby learners construct meanings collectively in a community (Wenger, 1998). CoPs are differentiated from other social groups by having a practice and associated communal identity, a shared vision, explicit and implicit roles, procedures and rules, and mutual knowledge and learning (Duncan-Hewitt, & Austin, 2005).

A Community of Learning (CoL), in contrast to a CoP, can be defined as "a group of students and at least one educator who, for a while and motivated by common vision and will, are engaged in the pursuit of acquiring knowledge , abilities and attitudes" (Greer, 2009, p. 59). Membership of a CoL does not preclude membership of existing, associated CoPs. CoLs do retain a notion of 'situated learning' where a learner is seen as engaging in a community (Wenger, 1998). However, membership may also include aspects of self-survival and self-concerns as opposed to group concerns, because the the ultimate goal for most participants will be to graduate from the course.

Learning in programmes designed from a situative perspective is active (Hung, & Chen, 2001), and involves collaborative and individual participation in a variety of tasks (Kublin, Wetherby, Crais, & Prizant, 1989), peer assessment and authentic practices (Mayes, & de Freitas, 2004). Learners are encouraged to access a range of scaffolded activities tailored to their needs (Wang, 2008). These factors can be complemented by Computer Mediated Communication (CMC) in general, and synchronous

communication in particular (Tu, 2004) because learners can decide when and with whom they participate in learning activities. Benjamin (1994) suggested that through CMC "every learner can, at his or her own choice of time and place, access a world of multimedia material…[and] immediately the learner is unlocked from the shackles of fixed and rigid schedules, from physical limitations and is released into an information world which reacts to his or her own pace of learning" (Benjamin, 1994, p. 49). They are also "able to test ideas by performing experiments, to ask questions, collaborate with other people, seek out new knowledge, and plan new actions" (Sharples, 2000, p. 3).

Background

The School of Community and Social Practice at Unitec NZ pioneered four Not-For-Profit (NFP) management short courses to meet the specific needs of managers in the Not-For-Profit sector. These courses were designed to be intensive, engaging, highly participative one-day face-to-face experiences. However, due to time and location difficulties, many NFP managers and front-line employees were finding it a challenge to attend classroom-based professional development courses. Requests for other flexible study options were made by the students and the Ministry of Social Development (MSD). Unitec NZ is ethically bound to offer the NFP courses to all people interested irrespective of geographical location, and in a form that will neither disadvantage those who are working full time, nor overburden people working on a voluntary basis in the NFP sector. As such, it was decided to adapt the Governance in NFP Organisations course to an online format.

Adaptation for Online Delivery

The ICT Enhanced Learning and Teaching (ICTELT) model, framework and suite of tools offered an accessible approach for adapting curricula and/or resources, and were therefore used to structure the process of adaptation (Owen, 2010). The existing face-to-face course was divided into three, weekly thirty-minute synchronous sessions, with additional interim tasks that were to be completed asynchronously by students. A course was also created in the Learning Management System (LMS), Moodle informed by considerations such as cultural responsiveness, and learning preferences, which

would enable students to easily share their own stories, experiences and media, while exploring fundamental governance concepts.

It was acknowledged that many prospective participants may have not previously engaged in any form of **active** ICT Enhanced learning and teaching (Armitage, & O'Leary, 2003). Therefore, synchronous sessions were designed to gradually reduce the input from the facilitator, while incrementally increasing student-led activity as the course progressed. Activities were explicitly purposeful, learning outcome-focused, and, where appropriate, had accompanying models and examples.

Online students may not be able to easily access the support mechanisms provided by an education institution (Wonacott, 2002). Therefore, designed into the NFP Governance online course was an 'orientation' welcome week (Armitage, & O'Leary, 2003) where students would be able to participate in synchronous and asynchronous ice-breaker sessions so that they 'meet' their fellow learners. It was hoped there would also be opportunities for participants to set up and practice with the technology in a low-risk environment with support readily available. To encourage initial engagement in a CoL and in the online environments, a number of strategies were used (Barroso, & Gómez Cabranes, 2006), including:

- A welcome area in the LMS with a timetable; netiquette, course requirements; Learning Outcomes; links to support people and services; instructions and expectations; and approximate time and effort required for each task on the course (Armitage, & O'Leary, 2003);
- A request for participants to complete their profile using any multimedia they felt comfortable with; and
- A suggestion that participants post to a discussion forum the reasons they were involved in the pilot course.
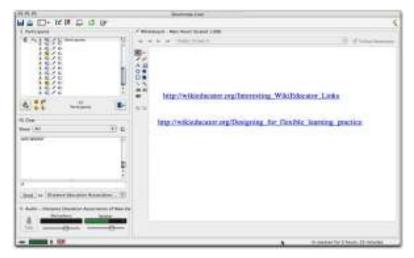
Figure 1.   A screen capture from the Welcome video (http://blip.tv/file/1554564)

The design team felt that web conferencing environments offered great potential for active participation, and Elluminate (see Figure 2 for an example of the Elluminate environment), was chosen as the web conferencing platform that would (in theory) work on dial-up. The drawback was that, even though it is a web-based platform, it requires a Java pack (downloaded when a user first attempts to run Elluminate) and a browser that supports Java, to enable Elluminate to function.

Before the start of the pilot course participants were sent in the post a ' Welcome Pack', which contained a flash drive loaded with a welcome from the course facilitator / teacher (in the form of a letter and a video – see Figure 1 http://blip.tv/file/1554564), and multimedia 'how to…' resources and instructions for most of the forums and tools that were used during the pilot. The pack also contained a headset with a microphone.

Figure 2.   An example of the Elluminate synchronous web conferencing environment

The pilot sessions

The pilot was conducted over a three-week period during which three synchronous sessions in Elluminate of thirty minutes duration were offered. In the first synchronous session in Elluminate participants introduced themselves, shared pictures, and added text and illustrations to the Elluminate whiteboard. They also discussed why they wanted to be involved in the pilot and their impressions up to that point. Conversations around the pedgagogy underpinning the use of the the ICT were encouraged. In the second session, the teacher introduced some initial governance concepts, and then facilitated activities during which participants were invited to provide real time input. The final session was an evaluation and feedback session.

Research Study

The following section will describe the small-scale research study, before reporting the results and discussing some implications.

Questions

The study focussed on evaluating the design of the online course, including the appropriateness of the LMS and the CMC tools used, as well as gathering data around external and affective factors that influenced the participants' experience of the online course. The main questions underpinning this pilot study included:

- How are participants' opinions around their own engagement (and ability to achieve the outcomes of the course) affected by the design and facilitation of, and ease of access to, the NFP pilot online course?
- Which external factors have an effect on access to and satisfaction with the NFP pilot course?
- Does a course that encourages social, collaborative learning and peer support, and which utilises a wide range of scaffolding and support, help with access and foster satisfaction?

Methodology and Design

To explore the questions posed above, it was necessary to generate a rich, examinable body of data that would permit an in-depth investigation into the design and facilitation of the NFP pilot course, including influential external factors. As such a mixture of qualitative and quantitative sources of data were collected (Phillips & Gilding, 2000, p. 2). Qualitative was interpreted as "any kind of research that produces findings that are not arrived at by means of statistical procedures or other means of quantification" (Strauss, & Corbin, 1990, p. 17) and uses a multi-method approach (Denzin & Lincoln, 1994).

Participants and procedures

The participants in the study comprised twelve people - one facilitator / teacher, nine students, and two designers / technical support personnel. The study was conducted in August and September 2009. The participant students were already active in the NFP sector.

All participants were sent an official invitation to participate in the research study, along with an information sheet and consent form. The student participants were all voluntary, and there was no fee for the course.

Data Collection

Data was collected using a range of tools. For student participants these were online surveys, blog postings, discussion forum postings, chat history, recordings of the synchronous sessions in Elluminate, and emails. The data collection tools used with the faciltator / academic pracitioner and the two designers were documents such as programme design documents, an online reflective journal, observations of the online synchronous sessions, discussion forum postings, chat history, and emails.

An online survey was completed by the nine student participants prior to the beginning of the Governance course, and another at the end. The pre-course ten-item survey was divided into two parts. In the first part the objective was to collect demographic information, levels of comfort and expertise with ICT, and the types of ICT to which

student respondents had access. The second part contained both closed and open questions designed to invite predictions about the online mode and what the students expected to encounter. The sixteen-item post-course survey had one section comprising closed and open questions which were designed to assess levels of satisfaction, interaction, technical difficulties, appropriateness of the online environment, and the influence of the online course on learning. Comments were invited around course design and suggestions for improvements.

Data analysis

- The quantitative online survey responses were exported into Excel, analysed and interpreted. The student respondents' pre- and post pilot survey data were analysed separately.
- A qualitative approach was used to interpret the open-ended survey responses, as well as the facilitator and student reflective journals/comments, and the observations. Recurring words were noted as possible emergent themes and used as codes. Comparative methods of analysis were used during coding (Charmaz, 2008).

Results and Implications

Surveys

The following section reports the collated responses from the pre- and post pilot surveys completed by the student participants, and discusses some of the implications.

Demographics

Nine respondents completed the pre-pilot survey and seven completed the post-pilot survey. The nine respondents to the pre-pilot survey were female, with seven aged between thirty-six and fifty, and two aged between fifty-one and sixty-five. While the connection between age and ICT ability remains controversial (Prensky, 2001, VanSlyke, 2003), studies have suggested that use of (and therefore associated skills

with) ICT is partly connected to age, with a rapid decline in access from age thirty-five (Fox, 2005, Demunter, 2005).

Technology: Hardware, software and connectivity

All respondents had access to a computer at home, with eight using broadband (256k or below), and one using dial-up. On their home computers, eight had Internet Explorer running on a Microsoft Operating System (OS), and one had Safari running on a Macintosh OS. Three did not have access to a computer at work or to an Internet connection through other means (for example at the library or via a mobile device).

Technology: Affective factors

In the pre-pilot survey, when asked about their level of confidence using technology, seven said that they had some confidence using technology, and one said that they had a lot of confidence using technology, which suggested some level of ICT competency as well as initial positive affective factors in this area. However, one responded that they were confused by technology. These responses, along with answers to the open-ended questions, suggested that guidelines and scaffolding for the online programme needed to be clear, well-designed (look and feel), succinct, and easily accessible. As a result the designers decided to add further resources in the first week the course was running. Even with this additional support, in the post-pilot survey respondents signalled that they had encountered issues, with four finding instructions marginally useful or not useful, and five either neutral about the multimedia (e.g. 'how to...' videos), or finding it only marginally useful.

Five of the respondents in the pre-pilot survey indicated that the idea of learning with people using technology was exciting, suggesting that participants were motivated and perhaps more likely to overcome possible frustrations - a factor that was reinforced by three strongly agreeing, and six agreeing that they were looking forward to collaborating online with other learners. However, two indicated that the idea of learning with people using technology was daunting, with one participant commented that they were "curious to learn but not that confident and a bit frustrated when things don't work easily". This distribution clearly shows that within a group there are likely to be a range of attitudes and experience; which was further illustrated by the responses to "I am worried that the

technology will interfere with my learning on this course" (five agreed or were neutral, and four disagreed).

Design and Communication

In the post-pilot survey, the seven respondents' opinions were varied when answering questions about design and communication (including community building, updates and requirements). For example, the provision of weekly announcements and reminders, and Elluminate sessions were considered very useful or useful by five participants, whereas two participants did not find them useful. As might be expected, there was a direct correlation between successfully participating in the Elluminate web conferencing sessions and expressing a positive reaction to the overall design of the online programme; (the number of students who successfully participated in an Elluminate session in this pilot was five).

When asked in the post-pilot survey about facilitation during the Elluminate web conferencing sessions, three respondents found it useful, two were neutral, and two found it either marginally useful or not useful. The responses to the open-ended questions suggested that more technical support was required. Overall, participants expressed understanding around the challenge of providing support around technical problems, although there was also a large amount of frustration as exemplified by the comment: "Couldn't get Elluminate to work because of Java issues. Difficult to resolve between sessions (lack of timely response to queries) and ultimately unable to resolve".

Overview

When asked about the most positive aspects of participating in the pilot, the respondents indicated that they had enjoyed being involved in new ways (to them) of learning, sharing knowledge and experiences, and using the Internet. Mobility and flexibility of learning were identified as important, and participants indicated they appreciated the opportunity to access the sessions and resources from anywhere with a computer and connectivity (when functioning). Commenting on their experience of the pilot, respondents' opinions ranged from "fun and exciting" to "frustration, frustration,

frustration!". One participant also indicated that they had enjoyed "trying to get to grips with technology".

Blog Postings and Associated Documents

In this section collated data from the blog postings and associated documents that were generated during the course of the pilot are described and discussed, in particular with reference to the synchronous Elluminate web conferencing sessions. In the first of these sessions a dedicated note-taker observed the teacher and the technical support person, and the online session itself was recorded. After the session the teacher and technical support person reflected on their experiences. Subsequent sessions were not observed, although the sessions were recorded, and the teacher and technical support person wrote up reflections.

The orientation period went well, whereby all participants logged in to Moodle, completed their profiles, and contributed to the ice-breaker activity. Time had been set aside before and after each synchronous session for technical support. The observation and reflections, however, revealed that both the teacher and students had problems connecting during Elluminate sessions. Recurring issues were related to skills and experience (something that could be addressed), as well as limitations of the technology being used by the students.

Skills / experience

- Not knowing where to plug-in the headphones;
- 'Simultaneous speakers' not enabled by the teacher;
- 'Enable sound' button not turned on by the student;
- Unable to work out volume control and setup; and
- Problems installing the Java pack on computers that did not have Java installed or where there was anti-virus software running.

In an attempt to address some of the skills/experience issues the technical support person requested 'remote access' to the student's computer to check if the settings were correct. (Remote access is a feature in Elluminate that allows teachers to control another user's computer remotely via the internet.) Students were at first apprehensive

as they feared a breach of security. However, five students were helped to overcome skills / knowledge related problems, and were ultimately able to log in to and participate in the Elluminate sessions.

Limitations of technology

- Time lag (audio and content);
- No sound;
- Inability to do anything upon connection due to limited speed;
- Connection to the server denied;
- Firewall settings at the office prevented connection to server being established;
- Java error, so connection refused; and
- Excessive download times for the Java pack.

A number of strategies were implemented by the technical support personnel but many problems were due to external issues and could not be solved.

A few students commented that they did not have enough information to get started with Elluminate even though they had been sent in the post prior to the pilot, instructions and a demonstration video on a flash drive. Further investigation, however, showed that some students only received the pack on the morning of the first synchronous session so had not had time to access the support resources or trial their equipment or the tools. Those who had received the pack in time, not having participated in online synchronous sessions before, did not realise that there could be issues with access, audio and video.

The five students who were able to participate in the synchronous Elluminate sessions described them as "lots of fun", and said that they enjoyed the interactivity and engagement. They also appeared to be curious and asked a lot of questions about the functionality of the space, the processes, and the content, and seemed fascinated by the fact that they could all be working on the same space at the same time. Students mentioned that they appreciated the fact that they could share thoughts and ideas in various media (text, images and sound), and one student commented that a "lot of learning happened".

The teacher, although she had good digital skills, had never facilitated an online programme or synchronous web conferencing session before. She professed prior to the pilot to being nervous. However, nervousness soon shifted to frustration as she felt split between trying to provide support for those students who were still having technical issues, while also facilitating those students who had successfully logged in. The teacher emphasised that having a dedicated technical support person there for the first few sessions was essential.

Discussion

Returning to the first of the key research questions, although the pilot study was conducted over a short time period the findings suggest that the foundations of a CoL were established. The five students who gained access to the Elluminate sessions interacted with each other, utilised the online resources, participated in discussion forums and other tasks, and started to offer peer support. In contrast, the four students who did not gain access to these sessions seemed to gradaully withdraw, did not access the scaffolding provided, and were less likely to form relationships with other participants. The strong indication here is that when a student encounters problems with equipment and connectivity while studying via an online course, even the best-designed scaffolding and support, and most supportive peer-network are unlikely to prevent the learner from feeling ostracised and unsatisfied, as they are unable to participate.

Overall, participants were extremely enthusiastic about the potential of a trialled and tested online programme (as opposed to a pilot) to enhance their learning, and agreed that they would participate in such a programme with the proviso that sufficient technical support (provided by the institution) was available. There was also reference to 'anytime, any place, any how' learning. However, for those students who experienced ongoing issues, they felt that the technology profoundly interferred with their opportunities to learn. Time and energy was placed into troubleshooting rather than participating meaningfully in the course and the CoL.

Based on this evaluation, decisions will need to be taken by Unitec NZ around future online offerings, and some strategies include:

- Sourcing an alternative web conferencing platform;

- Possibly sharing support and facilitation with another education institution who wish to offer the same courses;

- Developing a check-list of prerequisite technology equipment / connectivity requirements to enable prospective students to self-check before being accepted for enrollment;

- Sending welcome packs in the post earlier, along with an email / SMS message to stress the importance of trying everything out well in advance;

- Increasing the amount of professional development for academic faculty involved in synchronous sessions; and

- Initiating a support system of peers (Stokes, 2010) to help address gaps in skills and experience with ICT.

The findings from this study show that external factors have an extensive impact on access to and satisfaction with online learning experiences. While participants' ICT skills and experience could be augmented, some negative factors were technical and could not be resolved by the institution. In addition, the requirements for timely communication resulted in a time intensive approach when compared to traditional classroom experiences. These findings are consistent with those reported in good practices literature (Lovvorn, Barth, Morris, & Timmerman, 2009; Grant & Thornton, 2007; Hutti, 2007). For instance, in a study of nearly one thousand online instructors Shea, Pickett, and Li (2005) found that technical support was a crucial element in the success of effective online learning and teaching (effective here referring to improving outcomes for learners and/or teachers). In their conclusion, the researchers acknowledge the cost burden of providing these services. The indication is that even though online learning appears to offer a less resource intensive option than classroom-based sessions, there are external factors that are difficult to provision for and that may not be immediately obvious.

Conclusion

This paper after referring to current literature, has described stage one of a small-scale research study of a pilot online course, which aimed to guage affective factors and the

influence of external factors, as well as evaluate the design, facilitation and implementation used. The initial findings have illustrated that there are several caveats to be taken into consideration around the adaptation and design of a programme that is going to be totally online. However, the findings were also shown to be reasonably positive, in particular with reference to participants being involved in 'new' ways of learning, in spite of a range of frustrations around access and communication.

When designed effectively and accessed easily by learners, an online environment can be flexible and personalised. Formats, approaches, roles and activities can be developed to foster collaborative CoLs. The experiences of this pilot have, however, highlighted how challenging it can be to adapt a face-to-face course into an online course in a way that preserves a dynamic, experience-based-learning environment. The shift to online learning is not a simple process and requires wider understandings around "how to design and support learning involving technology" (JISC, 2009, p. 6), as well as discussions as to what strategies can be put in place to mitigate the effects of external factors that are outside of the control of the education institutions.

On balance, though, given the enthusiasm expressed by the participants and facilitator for the *potential* of online learning in this pilot, along with findings from other research studies that show significant improvements in student learning (Means et al., 2009), Unitec NZ will work out strategies to roll out the online Governance course to all students, as well as the adapt the three remaining NFP management courses. A research study will be conducted around the larger-scale roll-out, and it is hoped to consider the impact (if any) on student outcomes. Consideration around additional budget requirements will, however, need to be recognised (Stokes, 2010).

References

Armitage, S., & O'Leary, R. (2003). e-Learning Series - Guide for Learning Technologists. Retrieved August 19, 2005 from http://www.dur.ac.uk/resources/its/lt/elearning/ELN060.pdf

Barroso, J., & Gómez Cabranes, L. (2006). Face to face learning methodologies vs Distance learning methodologies: Case study online using qualitative analysis. RetrievedNovember 24, 2008 from http://www.formatex.org/micte2006/pdf/452-457.pdf

Benjamin, A. (1994). Affordable, restructured education: A solution through information technology. *RSA Journal*(May), 92-98.

Charmaz, K. (2008). Grounded theory as an emergent method. In S. Hesse-Biber & P. Leavy (Eds.), *Handbook of Emergent Methods* (pp. 155-170). New York: The Guilford Press.

Demunter, C. (2005). *The digital divide in Europe - Issue number 38/2005*: Eurostat.

Denzin, N. K., & Lincoln, Y. S. (1994). Preface. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. ix-xii). Thousand Oaks, CA: Sage.

Duncan-Hewitt, W., & Austin, Z. (2005). Pharmacy schools as expert communities of practice? A proposal to radically restructure pharmacy education to optimize learning. *American Journal of Pharmaceutical Education, 69*(3), 1-7.

Engeström, Y., & Middleton, D. (1996). *Cognition and communication at work*. Boston, MA: Cambridge University Press.

Fox, S. (2005). *Digital divisions*: Pew Internet and American Life Project.

Grant, M. R., & Thornton, H. R. (2007). Best practices in undergraduate adult centered online learning: Mechanisms for course design and delivery. *Journal of Online Learning and Teaching, 3*(4), 346-356.

Greer, J. (2009). From the classroom learning community to a web-enabled community of practice. *Distance Learning: For educators, trainers, and leaders, 6*(3), 53-59.

Hildreth, P., Kimble, C., & Wright, P. (2000). Communities of practice in the distributed international environment. *Journal of Knowledge Management, 4*(1), 27-37.

Hung, D. W. L., & Chen, D. (2001). Situated cognition, Vygotskian thought and Learning from the communities of practice perspective: Implications for the design of Web-based e-learning. *Educational Media International, 38*(1), 3-12.

Hutti, D. (2007). Online learning, quality, and Illinois community colleges. *Journal of Online Learning and Teaching, 3*(1), 18-29.

JISC (2009). Study of the effective use of social software to support student learning and engagement. Retrieved July 20, 2009 from www.jisc.ac.uk/whatwedo/projects/socialsoftware08

Kublin, K. S., Wetherby, A. M., Crais, E. R., & Prizant, B. M. (1989). Prelinguistic dynamic assessment: A transactional perspective. In A. M. Wetherby, S. F. Warren & J. Reichle (Eds.), *Transitions in prelinguistic communication* (pp. 285-312). Baltimore: Paul H. Brookes.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation.* Cambridge: Cambridge University Press.

Lovvorn, A., Barth, M., Morris, R., & Timmerman, J. (2009). Lessons learned from lessons learned: The fit between online education "best practices" and small school reality. *Online Journal of Distance Learning Administration, XII*(!V). Retrieved September 12, 2010 from http://www.westga.edu/~distance/ojdla/winter124/lovvorn124.html

Mayes, T., & de Freitas, S. (2004). JISC e-Learning Models Desk Study: Review of e-learning theories, frameworks and models. Retrieved July 01, 2008 from www.jisc.ac.uk/uploaded_documents/Stage%202%20Learning%20Models%20(Version%201).pdf

Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2009). Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies. Retrieved 25 August, 2009 from www.ed.gov/about/offices/list/opepd/ppss/reports.html

Owen, H. (2010). ICTELT in action: Applying ICT enhanced learning. *ACEC2010: Digital Diversity*. Retrieved April 10, 2010 from http://www.scribd.com/full/20717788?access_key=key-1c46fstqw62m17mv5tr8

Phillips, R., & Gilding, T. (2000). Approaches to evaluating the effect of ICT on student learning. Retrieved April 10, 2010 from http://www.alt.ac.uk/docs/eln015.pdf

Prensky, M. (2001). Digital Natives, Digital Immigrants: Part Two. *On the Horizon, 9*(6), 1-9. RetrievedMay 16, 2008 from http://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part2.pdf

Sharples, M. (2000). Disruptive devices: Personal technologies and education. Retrieved May 15, 2008 from http://www.eee.bham.ac.uk/handler/ePapers/disruptive.pdf

Shea, P., Pickett, A., & Li, C. (2005). Increasing access to Higher Education: A study of the diffusion of online teaching among 913 college faculty. *The International Review of Research in Open and Distance Learning, 6*(2), 1-8.

Stokes, P. (2010). What online learning can teach us about higher education, Retrieved September 12, 2010 from http://www.aei.org/docLib/Peter%20Stokes%20-

%20What%20Online%20Learning%20Can%20Teach%20Us%20about%20Higher%20Education.pdf

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage.

Tharp, R. G., & Gallimore, R. (1988). *Rousing minds to life: Teaching, learning, and schooling in social context*. Cambridge: Cambridge University Press.

Tu, C. (2004). *Online collaborative learning communities: Twenty-one designs to building an online collaborative learning community*. Westport, CT: Libraries Unlimited.

VanSlyke, T. (2003). Digital natives, digital immigrants: Some thoughts from the generation gap. *The Technology Source, May / June*. Retrieved September 29, 2010 from http://technologysource.org/?view=article&id=77

Vygotsky, L. S. (1986). *Thought and language* (Rev ed.). Cambridge, MA: The MIT Press.

Wang, Q. (2008). A generic model for guiding the integration of ICT into teaching and learning. *Innovations in Education and Teaching International, 45*(4), 411–419.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge: Cambridge University Press.

Wertsch, J. V. (1998). *Mind as action*. New York: Oxford University Press.

Wonacott, M. E. (2002). Blending Face-to-Face and Distance Learning Methods in Adult and Career-Technical Education. Retrieved November 24, 2008 from http://www.calpro-online.org/ERIC/docgen.asp?tbl=pab&ID=113