Abstract
The rapid development of the Internet and its emerging peer-to-peer technologies make different structures and educational organizations and settings a possibility. Proponents of Web 2.0 technology suggest that these tools could facilitate the transformation from an education model that is structured and controlled by the institution using a “broadcasting” model in an enclosed environment, to a model that is adaptive to learners’ needs. This chapter will analyze the changing nature of communication in distance education through the lens of an online learning program that created a comfortable online “place” by using Web 2.0 tools extensively. The aim of the research was to establish if the goal to build a learning and teaching model where learners increasingly take control and share information would be a realistic one.

Introduction
Much discussion has taken place about the impact of the introduction of virtual learning systems on education. The changed position of educational institutions such as universities due to the changed sense of space, place, and identity in a virtual learning environment has been lamented as a loss, as universities were seen as places where people came together, where minds met, and where new ideas were conceived as nowhere else in society (Edwards & Usher, 2000). Some academics have expressed reservations about the networked alternatives
Emerging Technologies in Distance Education

Greener & Perriton (2005), while proponents of the use of Web 2.0 technology in education have argued that tools such as wikis and blogs could facilitate this networking role, as the openness of the media and the willingness of people to share in such experiences encourage a similar discussion of ideas and collaborative development of thoughts and knowledge. The added advantage of the online tools would lie in their globally positioned communication forums, which would provide immediate responses on a scale unimaginable in the traditional university (Siemens, 2008).

The chapter will discuss the use of Web 2.0 technologies—blogs as reflective journals, wikis for group activities, chat to enhance the affective and social aspects of learning, and pod and video casts by students and tutors—to create a presence and immediacy of interaction. A tutor in this context is the person who is teaching the course, but who has also written the course materials and who has worked with the learning technologist to choose the most appropriate technologies and media to convey the subject knowledge. The chapter will explore the roles of the tutor, learner, and learning technologist in an online learning environment that was initially controlled by the tutor and the institution, and is increasingly adapted to become a place where the learner can feel confident to learn autonomously. In addition, the chapter will highlight the challenges and solutions a university department of adult continuing education faces in supporting students from socially, economically, and geographically disadvantaged backgrounds by using Web 2.0 tools in learning and teaching in a distance education environment.

Communication in Online Learning

Since antiquity, communication and dialogue have been seen as the crucial components in the creation of knowledge. Communication technologies, however, seem to be changing their nature. Dewey (1958) identified communication as the most important aspect in making people what they are: “mind, consciousness, thinking, subjectivity, meaning, intelligence, language, rationality, logic, inference, and truth—all of these things that philosophers over the centuries have considered to
be part of the natural ‘make-up’ of human beings — only come into existence through and as result of communication.” By communication with others, our inner thoughts will become clear: “It is because people share in a common activity, that their ideas and emotions are transformed as a result of and in function of the activity in which they participate” (Biesta, 2006, pp. 17–19). Online communication is quite different from face-to-face communication: online messages may be one-way, the receiver might not know the sender, his or her intentions, or if s/he can be trusted (Kop, 2006). Online communication is a fast connection between systems and networks, conveying messages produced by people. The mediated nature of online communication has been seen as problematic by many practitioners, particularly while using discussion boards in Virtual Learning Environments (VLEs). Issues of power and control, lack of autonomy, high level of tutor support required, and lack of options for personalization, on top of affective issues, have been seen to influence learning in a negative way (Kop, 2006; Mann, 2005; Mason & Weller, 2001). Conrad (2007) noted that some students may be overwhelmed by the number of messages on the discussion board, while other students may experience monologue confessions and tensions in online group activities. Salmon (2004) and Gulati (2006) emphasized the need for quality tutor engagement on discussion boards to cultivate a non-threatening and supportive community. Moreover, as Mayes suggests, “activity, motivation, and learning are all related to a need for a positive sense of identity shaped by social forces,” which is hard to achieve by using VLEs (Mayes, 2002, p. 169). A good VLE brings information and communication together and offers some structure to the tutor and the “not so technologically adept” learner. Good communication takes place through tasks set by the tutor, and because learners are dispersed, this will inhibit the forming of trust relations in the learning space and affect the quality of the communication and subsequently of the nature of the learning (Kop & Woodward, 2006).

The relationship the learner has to the community in which he or she learns is a determining factor in the learning process (Dron & Anderson, 2007); the more active the engagement in group communication
Emerging Web 2.0 technologies facilitate this development as they create an immediacy that has been missing from the VLE (Gur & Wiley, 2007). Podcasts and videocasts could be used to directly speak to tutor and learner, participants in the learning experience, and foster a close connection. Chat has also been highlighted as a powerful tool to create presence and to enhance the social and affective engagement (Carroll, Kop, & Woodward, 2008). Even though chat might not be seen as a Web 2.0 tool, its use in a social context and in combination with other Web 2.0 tools makes it into a powerful tool to enhance the learning experience. The idea of “transactional nearness” (the closeness, not in person per se, but in exchange of ideas by participants in a learning experience) resonates with the thoughts of critical educators such as Freire and Macedo (1999, p. 48) who emphasized that tutors should have a directive role. In this capacity, tutors would enter into a dialogue “as a process of learning and knowing” with learners, rather than the dialogue being a “conversation” that would remain at the level of “the individual’s lived experience.” Freire (1999) felt that this capacity for critical engagement is not present if educators are reduced to facilitators.

Siemens (2008) argues that the distributive effect of communication is an important feature of the new wave of emerging technologies. He highlights that networks offer opportunities for learning. He does not make clear, however, how the transactional distance between people on networks would affect learning. Dron and Anderson (2007) gave the transactional distance between participants considerable thought and make a clear distinction between learning in groups, networks, and collectives. They argue that there is a difference in “presence” and subsequent engagement in these three entities. They see the level of emotional engagement and presence being the highest in groups, which would be the typical classroom or distance education student group. Engagement and presence would be lower in online networks (e.g., the blogosphere or large, informal, online courses such as Connectivism and Connective Knowledge 2008/2009 [Siemens & Downes, 2008]); and the lowest in collectives, such as on sharing sites that use tags as connection, such as Flickr for photos, or Delicious for bookmarks.
Dron and Anderson (2007) emphasize that there is an interrelationship between “engagement in learning,” “transactional nearness,” and “emotional involvement”: the closer the feeling of connectedness, the higher the level of commitment to the learning activity; the closer the relationship with the people involved in the undertaking, the higher the inclination to engage in communication and learning.

Recent research in distance education has shown that a high level of interactional experience (i.e., dialogue between teacher and learner and among learners) is what leads to a rich and engaging online learning experience (Carroll et al., 2008). Moreover, Gur and Wiley highlight (2007, p. 7) that “instructional designers need to create structures in which a caring relationship might be enhanced and a dialogue can take place.” This is exactly what Carroll et al. (2008) argue for when they call for the development of a “Learning Place” as opposed to a VLE in online learning. They discuss Oldenburg’s concept of the Third Place (Oldenburg, 1989), and the ideas of Fisher, Durrance, and Hinton (2004) of an Information Ground. What these physical places have in common is that they are informal and that people feel comfortable being there. People come together and interact in informal places such as doctors’ offices or cafés, and Carroll et al. (2008, p. 3) highlight that “these environments could be transferred to the online space and are well suited to informal online learning, where learning occurs by chance and where participants feel comfortable in building their own presence while communicating with others.” In fact, these spaces have now materialized online in the form of online social networking tools, including YouTube, MySpace, Facebook, blogs, and wikis — tools that might be implemented and used in distance education.

Web 2.0 Technologies in Distance Education

Some argue that emerging technologies, and Web 2.0 tools in particular, with their intrinsic participatory features and user control, have changed the e-learning landscape (Duffy 2008) and are able to facilitate a new “pedagogical paradigm.” Others, however, question the level of “higher-order thinking” that can be achieved through these tools, as
communication — if not directed by a critical tutor — might remain at a superficial level (Kop & Hill, 2008).

A number of academics have shown an interest in blogs and have seen their potential in an educational environment (Halavais in Glaser, 2004; Lankshear & Knobel, 2006). Other academics and researchers have noted the bias and unreliability of material written in blogs, wikis, and personal spaces, but value the lack of restrictions and control by institutions so ideas can be freely expressed through the tools (Downes, 2003).

Educators have embraced blogs and wikis as tools for debate and have found out that they work differently from the traditional academic environment. Walker (in Glaser, 2004) notes:

Blogging alongside other academics in my field … is a form of indirect collaboration… . There is an openness and a willingness to share in blogging … that means I know more about many of my fellow bloggers’ research than I do about a colleague whose office is down the corridor. (p. 1)

Other comments from lecturers and tutors about the use of blogs in their classes include: “the push into critical thinking, critical reading, and reflection” (McIntire-Strasburg, 2004); “the ability to achieve active back-and-forth discussions outside the classroom” (Martin & Taylor, 2004); “Students are blogging about topics that are important to them. Students direct their own learning while receiving input and feedback from others” (Ferdig & Trammell, 2004). Mason (2006) used blogs for peer commenting and saw a high level of reflection as one of the positive effects of blogging as part of a course. On the negative side, Mason also saw blogs’ potential for shallowness and meaninglessness.

Lamb (2004) notes the openness of the wiki environment. He sees a number of possibilities to use wikis in an educational context: as spaces for brainstorming; as collaborative areas for teams to work on projects, outlining and managing activities or research; and as repositories of shared knowledge. Additionally, James (2004) and Lamb (2004) indicated the need for teachers to hand over control over content in using
wikis to ensure successful knowledge-building. The role of the tutor would lie in “setting the scene” and thinking up problems relating to the subject being taught, while allowing students to develop the wiki to their own liking.

While video podcasts seem to have been mainly used to explain difficult concepts, not much research could be found on their use in educational contexts. Kamel Boulos and Wheeler (2007) highlight the possibilities of podcasts in the creation of scenarios in health-care education, while Savel, Goldstein, Perencevich, and Angood (2006) report on the use of podcasts for the fast and cheap delivery of media content. It is through access to broadband, the availability of easy-to-use and freely available audio and video production and distribution software, and the explosion of social video sites, such as YouTube, that students and tutors can more easily become creators and distributors of video content outside the institutional control.

Jenkins (2007) argues that academia will have to engage with these technologies that are widely used outside educational institutions. He states that “the best thinking (whether evaluated in terms of process or outcome) is likely to take place outside academic institutions — through the informal social organizations that are emerging on the Web” (p. 1) and he would like educators to get involved in the discussion by using the tools. The challenge, of course, is to use the tools in a meaningful way that will enhance education.

The Research

In-depth research in Swansea, South Wales, UK, in the use of Web 2.0 technologies in an online adult education program had a particular focus on using Web 2.0 technologies’ “true dialogue” potential. The research conducted was a case study investigation in a project that developed and taught an online Higher Education Certificate at the undergraduate level, mainly at a distance, and made a concerted effort at creating an online “place” in which students would feel comfortable using Web 2.0 tools. The research results presented in this chapter will draw on semi-structured interviews with three of the tutors, three learning technologists, and nine students at different stages of the
two-year-long program, together with an analysis of the activities and interactions on the learning environment over a fifteen-month period. Particular attention was paid to the use of blogs, (video) podcasts, wikis, and chats. Interviews and online environment interactions were recorded, transcribed, coded, and analyzed using standard content analysis techniques (Hammersley et al., 2001). The students were non-traditional adult learners, employed (quite often under-employed) in small and medium enterprises and social enterprises dispersed over the South West Wales and the Valleys region of the UK.

The project took place in a “brick and mortar” university, and a curriculum was created relevant to student needs: in addition to business studies modules, course topics ranged from creativity, reflection, and action-research to critical thinking and information literacy. The tutors, together with the project team, decided on the course content, worked directly with learning technologists, and were also the ones teaching the students. The first module was classroom-based. It was a skills-based course in which learners were made familiar with communication tools such as chat and discussion boards and the application of Web 2.0 tools such as blogs, wikis, and the production of podcasts and videocasts. This was done to ensure a high level of proficiency in using the tools, as it was envisaged that throughout the program these tools would be used for communication and for the submission of assignments. A process of negotiation between tutors, learning technologists, and students was at the heart of the development, as learning technologists and the project manager were the tutors on this first module, while the technologists would provide help-desk support to students during the online modules to ensure that a level of trust was developed from the very beginning. The person responsible for the design of the (Moodle) learning environment was an expert in Human Computer Interaction, as it was felt that the technology should take into consideration the overall impression, feelings, and interactions that a user has; it is about supporting the creation of relationships with individuals and creating an environment that connects on an emotional level in addition to providing enough opportunities for both the learner and the tutor to create an exciting and dynamic learning
experience. Therefore, from the start, the project team has been very aware of the need to design a learning space where people would feel comfortable and in which all participants could have a “presence” (Carroll et al., 2008).

In the online place, several communication tools were used to create a sense of presence and for social engagement. These were “the lounge” (an informal place in which participants could chat, watch a course-related video, or give each other links to materials and information), discussion boards, chat spaces, wikis, podcasts, and blogs in the form of reflective diaries. It was quite often the combination of tools used that made for a quality learning experience. Clearly some tools are better than others at enabling the provision of individual feedback, while others are better at facilitating group work, or to ensure the social interaction of a group of students. In this program, blogs were used as reflective diaries, which were used extensively. Students were very open and honest in what they wrote about their learning experience. The tutors used the comment feature to give students personal feedback. Some tutors were particularly good at providing feedback, and on one particular course, it was clear that the students’ confidence levels and their knowledge and eagerness to participate increased because of the personal approach to feedback in the diaries. In the words of one of the students, “independently, you don’t know whether you’re making any sense or not. Then the tutor comes back and says: ‘Yes, you’ve got the point’ and will give you another kind of perspective on it then. Then you feel like you’re taking a step forward” (Student 9). The journal entries show that the students were benefiting from the strong tutor presence and were building up their understanding of the material and subject area, as expressed by student 3: “Tutor 1: Thanks for the recent feedback. I’m really heartened by your comments … I’d like to say that I really enjoyed this module, your openness, and positive support. Thanks/Diolch!”

It was through reading the personal experiences of students in the diaries, rather than the collective discussions through other tools, that tutors decided to produce videocasts and include these on the learning place. They used two types of videos: the first one to clarify
concepts, and the second to support students—to raise the level of confidence or lessen anxiety at particular moments in the course. Tutors required a high level of reflection on the learning and teaching taking place in the course, in addition to being willing to show themselves as real human beings, rather than as distantly removed tutors, as the videos were very personal accounts and observations about the course progress. Videos of this nature, made on the spur of the moment, were very much appreciated by students, who said the immediacy that the videos created made them feel they were part of a group of people they felt close to. This also led to students themselves responding with videos in different situations, as part of discussions or to reveal more about themselves.

“The use of video has had a positive effect on building up the programme’s online place; it has offered a multi-sensory approach to knowledge-sharing, reflection, and communication of ideas, which in turn has enhanced the relationship between tutors and students” (Carroll et al., 2008, p. 156). At that point in the program, some of the students were gaining confidence and were questioning the use of Web 2.0 tools: “The latest wiki in Section 2 of Action Research has unfortunately frustrated me, as once again, separate entries have been made” (Ibid., p. 157).

Wikis are seen to be valuable in carrying out collaborative activities involving the creation of a joint piece of work, but in the program this rarely worked well. The adult learners weren’t used to the concept of “collaborative knowledge creation,” and in most cases preferred to see visibly what their contribution to the learning task had been, rather than for it to become a joint venture. This resulted in discussion-board style participation. The idea of making changes to contributions by others was alien to students and they did not feel comfortable doing this. Lamb (2004) and James (2004) argue that for wikis to work well, the control should be handed over to the learners, but even though most of the students on the course were young adults, they didn’t feel at ease at all with shaping documents collaboratively, in particular in
tasks involving developing concepts, rather than more practical tasks. It was not until the tutor became involved and showed that it would be fine to make changes to the document by doing so herself, while also reinforcing the ground rules about using wikis, that students would engage collaboratively in producing a document.

Another major problem in the use of wikis has been their asynchronous nature, in addition to the different time management of students and their level of commitment to contributing at times that suited others in order to finalize a particular task on time. Not all activities carried out through wikis had positive outcomes. Conceptual thinking in a collaborative fashion was clearly much harder than the use of wikis to organize events.

Extensive use of weekly chats has been made in all modules, especially to create a sense of “togetherness” and to facilitate social interaction. After using a variety of Web 2.0 tools and more traditional ones such as discussion boards, all tutors involved mentioned that they had a good feel for who the students were as persons. The use of the chat tool and the reflective diaries in particular helped to foster affective relations.

This research indicates that before adult learners feel confident enough to venture to engage in online networks in order to find information and to communicate, they first need nurturing by a tutor who is genuinely interested in them as persons and in their learning. Yet, there is a fine balance between supporting and “letting go.” As Bouchard (2009) emphasizes, there are different aspects in and levels of self-direction while learning on semi-autonomous learning systems that adult students will have to reach before they feel comfortable directing their own learning.

Conclusion

Information Communication Technology is swiftly changing; new applications and innovations come to the fore nearly every day. The way in which global networks and communities of interest are currently being formed through emerging technologies is encouraging people in developing new and different forms of communication outside formal education.
This research has shown that communication and interaction with other learners and with tutors is at the heart of a quality online learning experience, and that this mixed use of multi-sensory Web 2.0 tools in a flexible manner, “if and when required,” can be very powerful. By creating an online place where people feel comfortable and relaxed, a place that affords communication and interaction at different levels and while using a variety of tools, both tutors and students develop a strong sense of presence that can help participants gain confidence in both their learning and teaching. The direct interaction between the designers and writers of content and the learners in an environment that allows for affective involvement and “transactional nearness” ensures that meaningful activities are created and meaningful communication can take place. The emergence of Web 2.0 tools and their combined use can help in the facilitation of authentic interaction and communication in the learning process.

The future of online learning lies in the hands of the empowered tutor, who has the control to send out podcasts to students or set up a wiki when s/he feels this will help in their learning; the engaged student, who also has the power to bring resources s/he finds on the Internet into the learning arena or to produce a video or sound file to make his/her voice heard in the learning community; and the negotiating learning technologist who through his/her close involvement with the learning process can help to facilitate technical needs. Through a flexible approach, where some control and standardization is being relinquished by the institution, the educational establishment will begin to allow new technological tools to be used to their full capacity ( chapters 10, 11). More research is required into the dynamics of the three actors in their development and experience of online learning, as the level of control imposed by the institution in an era where the affordances of Internet tools exert pressure for a different distribution of power in the educational arena.

Two other issues would be worthwhile exploring. Firstly, an examination of the impact of the changing communications environment on the quality of the learning experience and quality of knowledge created; this in particular in relation to the depth of communication
achievable through the use of social software. Secondly, an investigation into the level of control imposed by the institution on the learner, in addition to aspects of learner autonomy that would be desirable in order for students to thrive in the evolving and participatory model of distance education described in this chapter and in chapters 3, 6, and 7. Emerging technologies enable the transfer of more and more teaching tasks to the learner; yet, the learner may not necessarily be ready to accept these as his or her own without the help of a tutor.

REFERENCES


Carroll, F., Kop, R., & Woodward, C. (2008, November). Sowing the seeds of learner autonomy: Transforming the VLE into a Third Place through the use of Web 2.0 tools. In ECEL-European Conference on e-Learning (pg 152–159), University of Cyprus, Cyprus.


