Abstract
This chapter assesses the value of Web 2.0 and its constituent social software tools in enhancing learning opportunities for distance students and addressing the traditional problems of distance education by enabling a greater sense of presence, community building, and participation. With reference to a number of examples of current innovative practices of distance educators, the chapter also outlines the transformative value of these emerging digital technologies, and signals emergent forms of learning and teaching that make use of the affordances of the new tools. The chapter focuses on three considerations that the authors believe are needed to effectively capitalize on the new possibilities of Web 2.0: (1) the use of social networking tools to build social presence; (2) the reconceptualization of the design approaches used to create and implement e-learning activities in distance education contexts; and (3) the consideration of pedagogical strategies used to support distance learners.

Introduction
“Web 2.0” (O’Reilly, 2005) is commonly used to describe an apparent second generation or improved form of the World Wide Web that emphasizes collaboration and sharing of knowledge and content among users. Characteristic of Web 2.0 are the socially based tools and systems referred to collectively as social software, which includes but is not limited to Web logs (blogs), wikis, Really Simple Syndication (RSS) and
podcasting feeds, peer-to-peer (P2P) media sharing applications, and social bookmarking utilities. These new tools make possible a new wave of online behavior, distributed collaboration, and social interaction, and are already having a transformative effect on society, triggering changes in how we communicate and learn.

The uptake of Web 2.0 and social software tools is gaining momentum in all sectors of the education industry. In particular, Web 2.0 is seen to hold tremendous potential for addressing the needs of distance students, enhancing their learning experiences through increased connectivity, customization, personalization, and rich opportunities for networking and collaboration. Several authors and researchers have adopted this perspective as they make a case for a new understanding of distance teaching and learning (see, for example, chapters 2, 5, and 6; Anderson, 2005, 2007; Dron, 2007; Shih, Li, & Yang, 2007). Emerging social networking technologies now offer richer and greater possibilities for people to connect, share ideas, and participate in global communities than were previously available. In combination with appropriate learning designs and pedagogical strategies, these technologies hold enormous promise for enhancing, enriching, and extending traditional paradigms of distance education.

The present chapter commences with a review of the longstanding issues and problems of distance education, before considering how emerging social software technologies might be used to mitigate these issues, enhancing learning opportunities for distance students and enabling a greater sense of presence, community building, and participation. Drawing on a number of recent international examples of innovative online learning practices, the chapter also highlights how digital technology and Web 2.0 social networks are serving as catalysts for pedagogical change. By fuelling a move towards new forms and conceptualizations of distance teaching and learning, the new tools promote the facilitation of socio-experiential and authentic learning experiences for distance learners that support their needs and are aligned with the demands and challenges of the knowledge era and networked society.
The Loneliness and Isolation of the Distance Education Student

Distance learners have been shown to have the highest risk of dropping out of their programs of study at tertiary education institutions (Peters, 1992), a phenomenon that can be largely attributed to the isolation experienced by these students (Delahoussaye & Zemke, 2001; Hipp, 1997; Lake, 1999; Okun, Benin, & Brandt-Williams 1996; Peters, 1992; Rogers, 1990). Students desire a sense that they are part of a larger university community, rather than simply being an enrollee or statistic in a course. For many on-campus students, their involvement in the campus community forms an integral part of their social lives and plays an important role in their personal and academic development.

The “distance” factor inherent in distance education has been identified as one of the major problems for students studying in this mode (Meacham & Evans, 1989; Suen & Parkes, 1996). This geographical isolation significantly detracts from the need for social interactions that are usually afforded by face-to-face situations. On top of the practical problems of contacting academic and administrative staff, obtaining study materials, and gaining immediate access to resources such as laboratory equipment and library books, distance learners endure the disadvantage of being unable to interact in person with other students, which can put a significant damper on their motivation and enthusiasm for study. As such, they are very often denied a sense of belonging to a scholarly community (Galusha, 1997).

Another related concern for the distance learner is the perceived lack of contact with and timely feedback from an instructor. To an even greater extent than other students, distance learners are likely to have insecurities about learning (Knapper, 1988), and need both a level of guidance as well as assurance that they are on the right track. Without this support, they may face difficulty in self-evaluating their progress and their understanding of the subject material. Time management can become a problem as they invest inordinate amounts of their study time in activities deemed unimportant or less important by the instructor, or in futile searches for answers to queries that could have been clarified or resolved in a matter of minutes by asking a simple
verbal question. Such issues can lead to considerable frustration with the distance education experience, and result in feelings of inadequacy as well as a lack of self-confidence (Wood, 1995).

Over the last few decades, large numbers of mature distance students have been entering universities with little idea of the institution’s culture and few avenues enabling them to acculturate (West & Hore, 1989). According to Lake (1999), these students include “recyclers” seeking to upgrade their vocational or industry qualifications; “deferrers,” who failed to take up offers of university places upon graduation from high school; “returners,” who discontinued their initial university studies, often as a result of perceived isolation; and “early school leavers,” who typically have negative memories of their past educational experiences. In his seminal work on distance education, Keegan (1996) asserts that the separation of student and teacher removes a vital link of communication between the two parties, which must be restored by means of explicit steps to “re-integrate” the teacher–learner interaction, albeit somewhat artificially, through measures such as ongoing electronic or telephone communication. In the absence of these measures, distance students are less likely to undergo acculturation into institutional life and are more likely to drop out (Sheets, 1992).

Another enduring issue in the distance education literature is the criticality of factoring into account the significant proportion of students who enroll with little or no experience in studying in this mode. This problem is compounded by the fact that many of these students may have had little or no experience with tertiary study in general, or have had prolonged absences from study. Unless they quickly develop academic “survival skills,” these students are at considerable risk of withdrawing or failing (Wood, 1995). Of particular importance is the design of distance study materials and learning activities (Meacham & Evans, 1989; Race, 2005; Simonson, Smaldino, Albright, & Zvacek, 2005), which must carefully consider the special needs of these students.

Galusha (1997) does an excellent job at painting a broad overall picture of the abovementioned and other issues by listing six major categories of problems from the distance student’s perspective:
> balance between costs (monetary and time) and motivators;
> availability of feedback and teacher contact;
> access to student support and services;
> feelings of isolation and alienation;
> lack of experience (in tertiary study and/or studying at a distance); and
> lack of (technical) training.

Garrison (1997) emphasizes the importance of social presence, which he proposes is the extent to which remote communicators can project themselves to others using any given technology or medium. Much research has been devoted to the creation and maintenance of social presence in technology-mediated distance learning environments (Rourke, Anderson, Archer, & Garrison, 1999). Without this dimension of connectivity between learners, in addition to teacher presence and rapport, distance learners will often flounder, become increasingly frustrated, and may ultimately withdraw or fail. The concept of social presence was first identified by Short, Williams, and Christie (1976), who defined it as the perception that one is communicating with people rather than with inanimate objects, despite being separated by geographical distance. The tendency and preference for people to work together in groups is a central tenet of social presence theory, so the model is of great interest to distance educators. According to Short et al., when social presence levels are low, group members feel disconnected, social cohesion is lessened, and group dynamics are weaker. Conversely, when social presence is high, members tend to feel more connected and engaged, and are motivated to participate in group processes such as collaborative learning. Research also shows that both individuals and groups will be better placed to accept technology-mediated communication as a substitute for face-to-face communication if social presence is high.

E-learning environments are now widely used to provide services to distance learners, and are capable of affording interactions that are needed to ensure learner-centered instruction and create a sense of social presence; with emerging Web 2.0 and social software tools, the potential is greater than ever before. The remainder of the chapter considers how the new wave of Web 2.0 and social software tools may
be used to design, enhance, and deliver distance education, alleviating the problems of loneliness and isolation experienced by many students studying at a distance, and promoting high levels of social presence in the online environment. The emphasis is on exemplifying models and approaches to distance learning that capitalize on the affordances of social computing tools to create personalized, socially engaging, and connected learning experiences for distance learners.

Designing Authentic and Relevant Learning Spaces and Experiences for Distance Students

The task of designing high-quality technology-supported learning experiences is a significant challenge for educators (Bennett, Agostinho, Lockyer, & Harper, 2009; Lockyer, Bennett, Agostinho, & Harper, 2008), as it entails application of instructional design principles and knowledge of how learners operate in the online environment in order to create the optimum conditions for learning. Herrington, Reeves, and Oliver (2006) describe the task of designing for online and distance learning as a particularly complex process that involves fostering synergies among “learner,” “task,” and “technology.” However, the challenge of creating engaging and immersive distance learning environments runs counter to the widespread practice of incorporating traditional classroom pedagogical strategies into the Web-based delivery of courses, for example, through a learning management system (LMS). Most widely accepted models of online higher education appear to entail reductionist approaches whereby LMSs are used to design easily digested packets of information, usually assessed by discrete, stand-alone tests and academic assignments. In contrast, Herrington et al. describe a model for the development of authentic tasks that can assist in designing environments of increased, rather than reduced, complexity. It provides a robust framework for the design of online, distance, and hybrid courses, based on the work of theorists and researchers in situated learning and authentic learning (Herrington et al., 2006; Oliver, Herrington, & Reeves, 2006).

The authentic learning framework describes characteristics of task design where it is the students who make the important decisions about
why, how, and in what order they investigate a problem and learn the required skills. Distance educators and curriculum designers worldwide have adopted the model, as it considers the particular need of distance learners for self-directed and self-regulated learning. Many of these learners also have substantial professional and life experience, and therefore bring to distance learning encounters a wealth of prior knowledge, abilities, enterprise, and resources. Authentic learning offers a means of addressing the needs and expectations of these students for learning that is meaningful, relevant, and applicable to their personal and professional lives.

While Herrington et al. do not consider the issue of social presence specifically, they emphasize that tasks must be set in real-world contexts and require students to collaborate meaningfully, engage in peer evaluation, and connect with mentors and buddies in order to engender social and cognitive support. Although preceding the Web 2.0 revolution, their work shows significant promise and could be adapted to learning design in Web 2.0 contexts. However, Conole et al. (2008) assert that there is an inherent tension between the rhetoric surrounding the potential of Web 2.0 technologies and actual practice. The principles inherent in Web 2.0 are about the user, i.e., active participation, citizen journalism, the power of the network, and user-generated content, and yet few of these are currently being applied by educational designers or incorporated into innovative designs for learning.

As Web 2.0 offers an array of tools and affordances for sharing photos, media, and bookmarks, people develop shared interests in these objects and have conversations around them. Engeström (2005a, 2005b) defines this trend as “object-centered sociality,” and the concept helps us to understand how Web 2.0 tools, the activities they facilitate, and the artifacts produced using these tools might be used in distance education settings to generate social networking and learning conversations. Bouman et al. (2007) have developed a design framework based on sociality. The principles they propose are intended to guide the design process and to ensure that learning environments enable the development of identities. They also suggest using metaphors and structures that resemble real life so that participants (learners) can
identify with the activities associated with them. In the categories that apply to individuals, Bouman et al. indicate that building trust and relationships and enabling conversational interaction, networks, and feedback processes are fundamental to the success of the online learning experience. Through the use of social objects and spaces, people maintain convivial relationships and share ideas. Many of today’s most popular and successful websites are built around the creation and sharing of social objects, for example, Flickr (photos), YouTube (videos), and Delicious (bookmarks). Weller (2008) explains that these social objects are valuable insofar as they stimulate and support conversational interaction, thereby creating a sense of immediacy among learners. In distance learning settings, there is a need to create tasks, content, and learning episodes that enable conversation and dialogue and the building of social rapport. These principles resonate with and extend the earlier work of Rourke and Anderson (2002) on the necessity of social, cognitive, and teacher presence in online communities needed to support distance learners.

The power and diversity of Web 2.0 tools is proving attractive for learners, who want to engage in immersive, participatory, socially involved, multi-modal experiences (Jenkins, 2007). Yet designers need to be cautious, as Moore (2007) indicates that “the overall effect of the new technology will be negative and counterproductive, if interest in the technology draws attention further from the need for reform in the way we design our courses and the need for better training and monitoring of instructors …” (p. 182). A recent approach to design, known as “universal design,” holds potential as an approach to the creation of distance learning environments. As discussed by Rose and Meyer (2002), the barriers to learning are not inherent in individuals but arise instead through learners’ interactions with inflexible educational materials and methods. Basically, the principle of universal design is based on the commonsense notion that we need to make designs inclusive, useable, and accessible by as many people as possible. In commenting on universal design, Moore (2007) notes that this approach leads to “designs that incorporate greater flexibility, multiple modalities, and an understanding that we do build truly optimal instructional and
Beyond Distance and Time Constraints

performance support systems and that we do not … limit by design” (p. 534). Sims (2008) supports the need to challenge existing instructional design approaches that centralize the power of the teacher and the institution, and search for radical perspectives that capitalize on the connectivity, collaboration, and communicative potential of social networking tools. In the following sections, we consider how the affordances of social software tools can be exploited to add value to and transform teacher–learner and learner–learner interactions to better meet the needs of distance students in the new millennium.

Web 2.0 and Social Software: Affordances for Distance Education

Web 2.0 and social software tools have tremendous potential to help address or alleviate many of the aforementioned problems and barriers of distance education, including those relating to teacher contact and student support. Yet at the same time, used inappropriately and in the absence of appropriate strategies, they run the risk of further isolating and alienating distance learners, in addition to introducing technical overhead that acts as a further impediment to learning. It is therefore necessary to carefully consider the affordances of these emerging tools and technologies, as well as the dynamics of the affordances and the limitations and constraints that may be present.

An affordance is an action that an individual can potentially perform in his or her environment by using a particular tool (“Affordance,” 2008); for example, blogging entails typing and editing, which are not affordances, but in tandem with other functions, lend themselves to the affordances of idea sharing and interaction. Salomon (1993) advocates analyzing information and communication technologies (ICTs) from the perspective of their educational affordances. According to Kirschner (2002), educational affordances can be defined as the relationships between the properties of an educational intervention and the characteristics of the learner that enable certain kinds of learning to take place. Conole and Dyke (2004) draw on social and educational theory to propose a taxonomy of the educational affordances of ICTs, which include the following identified themes: accessibility; speed of change;
diversity; communication and collaboration; reflection; multi-modal and non-linear learning; risk, fragility and uncertainty; immediacy; monopolization; and surveillance. They believe that the taxonomy will be useful as a “checklist” for practitioners, to assist them in making informed decisions about the use of different ICTs, and also to help increase their awareness of the properties of different tools and resources. This awareness will be beneficial as they design and develop learning activities and teaching plans.

What implications do the affordances of Web 2.0 have for distance education? boyd (2003) claims that the sociability aspects of Web 2.0 have the most potential, and identifies three key, distinguishing features of social software: support for conversational interaction between individuals or groups; support for social feedback; and support for social networks and relationships between people (Figure 4.1). These overlapping elements arguably also characterize student-centered learning in distance education, and each may be viewed as an essential ingredient of social presence. Web 2.0 applications that scaffold and enable social conversation and feedback (such as blogs and wikis) create a public space for discourse and the exchange of ideas, with commentary by others, and thereby support and sustain thinking and idea creation in a community of learners. Myriad Web 2.0 tools are available that support networking and cater to the affective dimension of learning by allowing personal,
engaging, and appealing interactions, and participation in networks that provide access to global communities where learners gain exposure to multiple, diverse perspectives and develop digital literacy skills.

**Support for conversational interaction**

At the heart of conversational theory (Laurillard, 2002; Pask, 1976) is a sense that learning and conversation are somehow linked. This idea can be connected to the theories of Vygotsky (1978), which suggest that people learn by participating in social situations, using language to share ideas and consider the ideas of others. People then internalize the ideas that are expressed in interaction, connecting these ideas into complex networks of knowledge. Though we have discovered a great deal about conversation and learning over the past several decades, we still struggle to precisely define the links between them, and the relationship of talk to reflection, concept development, and the stimulation of individual cognitive growth. Research suggests that conversation in classrooms (both face-to-face and virtual) that is less teacher-centered and more student-centered leads to improved learning. Ways of shifting the centre of attention from teacher to student include leading a discussion by asking open-ended, thought-provoking questions (Wells, 1999) and creating an atmosphere in which students feel safe enough to generate their own questions (Dillon, 1989).

**Support for social feedback**

The work of Lave and Wenger (1991) on learning communities and recent research on connectivism (Siemens, 2005) and communal constructivism (Tangney, FitzGibbon, Savage, Mehan, & Holmes, 2001) all emphasize the social nature of learning, and the centrality of social interaction for learning. Laurillard (2002) also mentions the importance of feedback for reflective learning, obtained through dialogic conversations that enable intrinsic and adaptive feedback processes. Laurillard believes that technology is incapable of providing customized feedback needed by learners, and emphasizes that the personalization and customization of the learning experience is essential for learning to be meaningful. Sharples’ (2005) work builds on that of Laurillard,
but no distinction is made between people and interactive systems such as desktops, mobiles, and ubiquitous computing devices, with the advantage that the model can be applied both to human teachers and learners, as well as to technology-based teaching and learning support systems (see also Doering, Veletsianos, & Yerasimou, 2008; Veletsianos & Miller, 2008). Nevertheless, in distance learning settings that rely on Web-based delivery, the provision of personalized feedback remains a challenge; fortunately, there are recent exemplars of designs that capitalize on the connectivity and social connectedness of innovative digital tools. Doering, Miller, and Veletsianos (2008) describe the design of adventure learning, a hybrid distance education model that enables different levels of interaction and collaboration between teachers, students, subject matter experts, and content, all occurring through the social affordances of the environment.

**Support for social networks and relationships between people**

Social networking sites (SNSs) and broader social networks such as the “blogosphere” allow individuals to connect, develop rapport, share interests, create community, and collaborate with peers. Many SNSs (e.g., Facebook at http://facebook.com) started among small communities of college students in the U.S., but they have now spilled over into the professional world of work (e.g., LinkedIn at http://linkedin.com). In the fields of information technology and business, these sites have multiple uses, from sales to project work, advertising and soliciting help worldwide for particular commercial ventures. Facebook connects users in multiple ways, for example, through shared virtual groups based on common interests, backgrounds, and musical tastes. Ellison, Steinfield, and Lampe (2007) maintain that the site represents a trend from offline to online relationship building as it was originally used within a bounded community. They investigated the relationship between the frequency of Facebook use by undergraduates and the development of social capital, i.e., the capacity to make and extend friendships and social acquaintances and to broaden one’s worldview. In their findings, Ellison et al. report that “Facebook serves to lower the barriers to participation so that students who might otherwise shy
away from initiating communication with or responding to others are encouraged to do so through Facebook’s affordances” (Discussion section, paragraph 4). In education terms, building social capital means that individuals engage in collaborative activity to build knowledge, and seek support from others to solve problems — such processes are intrinsically part of lifelong learning and cognition.

Thus social software tools can also be viewed as pedagogical tools that stem from their affordances of sharing, communication, and information discovery. Some examples of the affordances of social software tools that are relevant to distance education are listed in Table 4.1. These affordances stimulate the development of a participatory culture in which there is genuine engagement and communication, and in which members feel socially connected with one another. This participation and connectivity creates a sense of community for distance education students, and provides a gateway for wider community participation and the development of essential core skills needed for lifelong learning, such as self-directed learning, knowledge creation, and digital literacy. The tools of Web 2.0 invite participation by individuals (blogs) and by groups (wikis), and learning experiences are enhanced and extended by the multiple media through which to share and communicate (e.g., podcasts, vodcasts). These tools break down the isolation of the individual and encourage active participation, thus going beyond Web 1.0-based distance education delivery, or the traditional correspondence model where users read text (or Web pages) but cannot create and contribute content, and where social interaction is limited to discussion forums, ruled by a teacher.

Exemplars of Distance Learning Pedagogies that Extend Traditional Paradigms

Table 4.2 contains a number of exemplars of how educators around the world are using Web 2.0 and social software tools to extend traditional paradigms of teaching and learning, transforming the ways in which the teacher–learner transaction (Keegan, 1996) in distance education takes place. The examples provide evidence that social computing applications such as blogs, wikis, and podcasts are catalysts for change:
Social networking sites such as MySpace, Facebook, Ning, and Friendster attract and support networks of people and facilitate connections between them. They enable the creation of social capital, which refers to the capacity of people to build links and call upon others to help, test, and confirm ideas and co-create knowledge. This concept is essential to understanding why connectivity is important in distance education. The building blocks of social capital are similar to the requirements for social presence and require trust, engagement, connection, openness to others’ views, and a willingness to collaborate and share ideas. Social software tools allow individuals to acquire both social and communicative skills, and at the same time become engaged in the architecture of participation of Web 2.0. Using these tools, users engage in informal learning and creative, expressive forms of behaviour and identity seeking, while developing a range of digital literacies.

Data sharing is enabled through a range of software applications, by means of which experts and novices alike can make their work available to the rest of the virtual world; for example, through personal and collaborative blogs. Social bookmarking tools such as Delicious, Furl, and Digg allow distance learners to build up collections of Web resources or bookmarks, classify and organize them through the use of metadata tags, and share both the bookmarks and tags with others. In this way, learners and educators with similar interests can learn from one another through subscribing to the bookmarks and tags of others, and actively contribute to the ongoing growth and evolution of the “folksonomy” of Web-based information and knowledge.

Web 2.0 emphasizes the pre-eminence of content creation over content consumption, whereby learners can create, assemble, organize, and share content to meet their own needs and those of others. Open content initiatives and copyright models such as Creative Commons (2008) are helping fuel the growth of learner-generated content and changing the old paradigm of distance education to give learners more autonomy and scope for creativity. Wikis and other collaborative writing tools enable distributed individuals to work together to generate new knowledge through an open editing and review structure.

The large uptake of RSS, as well as related technologies such as podcasting and vodcasting, is indicative of a move to collecting material from many sources and making it available for personal needs. Hilton (2006) describes these technologies as part of a move from “producer push” to “demand pull,” whereby students are now accustomed to obtaining and consuming content “on demand.” There are also trends towards the unbundling of content (Hilton, 2006) and the rise of “micro-content” (Lindner, 2005, 2006; Leene, 2005), i.e., digital content in small fragments that are loosely connected and which can be “mashed-up,” re-mixed, and re-formulated by individuals to produce new patterns, images, and interpretations.

Table 4.1 Examples of the affordances of social software tools

<table>
<thead>
<tr>
<th>Affordance</th>
<th>Description and implications for distance education</th>
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<tbody>
<tr>
<td><strong>Connectivity and social rapport</strong></td>
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</tr>
<tr>
<td><strong>Collaborative information discovery and sharing</strong></td>
<td>Data sharing is enabled through a range of software applications, by means of which experts and novices alike can make their work available to the rest of the virtual world; for example, through personal and collaborative blogs. Social bookmarking tools such as Delicious, Furl, and Digg allow distance learners to build up collections of Web resources or bookmarks, classify and organize them through the use of metadata tags, and share both the bookmarks and tags with others. In this way, learners and educators with similar interests can learn from one another through subscribing to the bookmarks and tags of others, and actively contribute to the ongoing growth and evolution of the “folksonomy” of Web-based information and knowledge.</td>
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<td><strong>Knowledge and information aggregation and content modification</strong></td>
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the idea is to convert students into “prosumers” (producers and consumers) who create content and share it, rather than merely being passive content receivers. Using the new tools in combination with appropriate instructional designs and pedagogical strategies, students become more active learners. The real challenge for distance educators is to promote learner control, self-direction, agency, and autonomy by offering flexible options and choice, while still supplying the necessary structure and scaffolding.

Of particular significance is how the examples in Table 4.2 show that Web 2.0 and social software tools are being adopted by distance educators worldwide, and are being used in novel ways to add value to the learning process in a climate where the value of textbooks is being questioned (Moore, 2003; Fink, 2005) and where the open source and open content movements are attracting high levels of attention and application (Couros, 2006; Breck, 2007; Blackall, 2007; Schaffert & Geser, 2008). It can clearly be seen that the use of these tools presents exciting prospects for authentic learning and assessment that are directly linked to and/or situated within distance students’ personal and working lives.

### Table 4.2 Exemplars of Web 2.0 tools for value adding in distance learning settings

<table>
<thead>
<tr>
<th>Institution and country:</th>
<th>Charles Sturt University, Australia</th>
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<tr>
<td><strong>Overview of teaching/learning activity:</strong></td>
<td>Distance education students undertaking a course on computer-supported collaborative work (CSCW) learn with and about collaborative groupware tools and information environments, including a range of both Web 1.0 and 2.0 technologies. The students form groups of three or four, called “PODs” (pools of online dialogue), and each group is given a fortnight to complete each of four collaborative activities/exercises.</td>
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<td><strong>Learner tasks:</strong></td>
<td>The POD activities are not graded directly; instead, students incorporate evidence of having completed the activities, together with reflective comments on their experiences, into their individual e-portfolios, assessed at the end of the course along with other multimedia artifacts of the students’ semester-</td>
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long learning journeys. Each fortnight, students are required to contribute 500 words to the class wiki; these words can be “spent” creating a new article, adding to an existing article, or pooled with other people to generate a larger article. The wiki is augmented with a five-star page rating mechanism, allowing students to rate, contribute to, and learn from one another’s content.

**Instructor tasks:**
The instructors assist with the set-up of the technology infrastructure and develop guidelines/instructions for the fortnightly collaborative exercises, including stimulus questions to promote reflection and discussion. Instructors actively participate in PODs (as “guests”) only where explicitly invited to do so by the members.

**Salient pedagogical features and implications for distance education:**
Through distributed, collaborative learning processes supported by social software tools, students engage in both top-down (teacher-directed) and bottom-up (learner-directed) activities, thereby enabling high levels of empowerment, freedom, and peer learning. In order to be successful, students must become actively involved in one another’s learning trajectories.

**Institution and country:** Victoria University of Wellington, New Zealand

**Reference(s):**
Elgort, Smith, & Toland (2008)

**Overview of teaching/learning activity:**
A mixture of on-campus and distance education students undertaking a Master of Library and Information Studies program work in groups to collaboratively produce Web-based resource guides using a wiki.

**Learner tasks:**
Each group is required to produce three deliverables: the resource guide (a website providing links to and evaluations of information resources in a specific subject area); a presentation of the completed guide to the class; and an online reflective journal, in which students document the process of creating the guide and reflect on their personal contribution to the project.

**Instructor tasks:**
In this hybrid distance course, students are cast in the roles of content creators, working collaboratively and collectively to produce authentic resources for library users. The wikis and social feedback processes scaffold learner autonomy and self-regulated learning.
Salient pedagogical features and implications for distance education: Blended or hybrid learning design that enables pedagogically supported access to resources. Group activities, interpersonal interactions, and the production/consumption of content are not controlled and constrained by the teacher, but are allowed to develop and flourish through the students’ joint efforts and collective intelligence.

Institution and country: Open University, UK

Reference(s):
Kukulska-Hulme (2005)

Overview of teaching/learning activity:
Students attending German and Spanish summer schools as part of distance courses offered by the UK Open University use digital voice recorders and mini-camcorders to record interviews with other students and with native speakers of the languages they are studying, as well as to create audio-visual tours for sharing with their peers via the Web.

Learner tasks:
Learners create authentic content and tasks for peers, and in doing so have to demonstrate knowledge of and familiarity with the technology as well as genres for knowledge creation.

Instructor tasks:
The instructors supply the recording equipment and provide guidance to the students in completing the various activities; for example, by providing sample topics/questions for the student-led interviews.

Salient pedagogical features and implications for distance education:
Student activities are self-regulated and involve multiple modalities, tools, and media in various forms (e.g., text, voice, pictures). The outcomes of tasks are archived on the Web, allowing for revision and commentary by others, and this provides an example of learner-generated content.

Institution and country: University of Leicester, UK

Reference(s):
Edirisingha, Salmon, & Fothergill (2006, 2007)

Overview of teaching/learning activity:
Specialized podcasts called “profcasts” are used to enrich blended learning in
a second- and third-year undergraduate engineering module entitled Optical Fibre Communication Systems. The profcasts contain material designed to support learning distinct from that which is facilitated through structured on-campus or e-learning processes alone.

**Learner tasks:**
The students engage in online learning activities based on Gilly Salmon’s (2002) e-tivities model. The processes are intended to add value to the learning experience and to include informal content, stimulating links to real-world applications.

**Instructor tasks:**
The instructor releases weekly profcasts to supplement online teaching through updated information and guidance on the weekly activities, and to motivate students by incorporating relevant news items, anecdotes, and jokes.

**Salient pedagogical features and implications for distance education:**
Social software is used to add value to the learning experience by enriching tasks and making them relevant and meaningful. Students’ interest and motivation are increased as they are taken beyond the prescribed course content.

**Institution and country:** Kent State University, U.S.

**Reference(s):**
Byron (2005)

**Overview of teaching/learning activity:**
Wikis are used in a philosophy class to facilitate joint activity and the articulation of shared understanding in relation to the course content.

**Learner tasks:**
Each student completes various readings and posts summary reports on a wiki; the rest of the class is allowed to edit the postings to improve accuracy and completeness. The students also write five- to seven-page papers and upload them to the wiki’s file gallery instead of handing in hard copies. They then engage in peer reviews of one another’s papers and revise their own papers based on the feedback received.

**Instructor tasks:**
The instructor posts the course syllabus, schedule, and assignments on the wiki, in addition to course notes and readings. S/he also reviews the students’
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summaries to obtain an indication of how well they grasped the readings. Last but not least, s/he provides a rubric to scaffold the peer review process.

**Salient pedagogical features and implications for distance education:**
This distance learning context exemplifies the notion of the learner-generated content, and tasks are set to engage learners in peer review and commentary, thereby promoting critical thinking and reflective skills. This aligns with the social constructivist notion that knowledge must be created and validated through interaction and dialogue between individuals.

**Institution and country:** Aalborg University, Denmark, and Tecnológico de Monterrey, Mexico

**Reference(s):**
Icaza, Heredia, & Borch (2005)

**Overview of teaching/learning activity:**
As part of a masters-level course entitled “Culture and technology in the learning organization,” Mexican students studying information technology and telecommunications and Danish students studying Spanish literature are immersed in a scenario involving employment at a virtual enterprise in the form of a fictional online publishing house that develops digital products such as e-books and Web-based tutorials.

**Learner tasks:**
The students assume the roles of authors hired by the publishing house. Working in teams consisting of a mixture of students from each country, they define the needs/problems that their products are to address, choose the types of products and content to develop, and finally create the products while adhering to a well-defined and stringent project methodology. Because the publishing house is structured as a learning organization that implements knowledge management strategies, the students understand that by developing their products, they are enriching the intellectual capital of the organization as well as that of future cohorts who will study the course. A wiki server is used as a repository for process documentation, reflections, and end products.

**Instructor tasks:**
The instructors create the simulated work environment and play the roles of editors of the publishing house. They set up a wiki to house the course Web pages representing the company intranet, comprising mission and values.
statement, organizational policies, product catalogue (including e-books generated in previous course offerings), job descriptions, and links to the corporate library (readings, reference materials, editing aids, etc.). The instructors also periodically review the team communication logs, providing guidance to each team in the form of questions and scaffolds rather than definitive or “correct” answers. They model the processes of reflective inquiry in the online environment to encourage the students to engage in critical thinking and peer-to-peer feedback and dialogue.

Salient pedagogical features and implications for distance education: Collaborative learning, project-based learning, resource-based learning, authentic learning, inquiry-based learning, and learning by immersion are key pedagogical features of this example. Students are immersed in a simulated work context that engages them in a range of authentic experiences and extends their skills. This pedagogy goes beyond traditional distance education by facilitating meaningful and productive tasks that allow learners to cooperate, collaborate, and create accessible learning artifacts to be shared within the community.

Conclusion: Extending and Enriching the Student Experience in Distance Education

A large proportion of students who study online and at a distance tend to experience social isolation and technical difficulties, which may lead to de-motivation and a lack of focus in the absence of direct or regular contact with instructors and classmates (Rovai, 2002). However, Morgan and O’Reilly (1999) urge educators to view distance education from an “opportunity” model rather than a “deficit” model (p. 23), reminding them that the knowledge, skills, and abilities distance students have gained through life and work experience, as well as their access to authentic contexts and resources, can and should be leveraged to work to their advantage. Willis (1992) maintains that the challenges posed by distance teaching are countered and potentially outweighed “by opportunities to reach a wider student audience; to meet the needs of students who are unable to attend on-campus classes; to involve outside … [experts] who would otherwise be unavailable; and to link students from different social, cultural, economic, and experiential backgrounds” (sec. 2, para. 1).

For the benefits of distance education to be fully realized, there is
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a need to enable maximum student self-direction, but also to simultaneously foster community building, provide individual support, and create a sense of social and teacher presence in practical, cost-effective, and sustainable ways. It has been argued that the most effective technology-supported distance learning environments are those in which social interaction is a predominant feature (Muilenburg & Berge, 2005); furthermore, both student–teacher and peer-to-peer interactions must be recognized as important factors if students are to value their studies and engage in satisfying experiences.

The social dimension of Web 2.0 tools has already begun to change the traditional paradigm of distance education, by empowering the learner and adding value to the learning experience. As Anderson (2005) states:

> It is clear that the problems that social software addresses (meeting, building community, providing mentoring and personal learning assistance, working collaboratively on projects or problems, reducing communication errors, and supporting complex group functions) have application to education use, and especially to those models that maximize individual freedom by allowing self-pacing and continuous enrolment. Educational social software (ESS) may also be used to expand, rather than constrain freedoms of their users. (p. 4)

The most important implications of social software for distance education are the new possibilities for extending and enriching the learning experience, reducing isolation, and utilizing the power and immediacy of the available tools to support the core learning processes of reflection, collaboration, knowledge creation, creativity, discussion, and social networking. The emerging functionality of the Web allows greater autonomy, freedom, and choice, but only to those who are digitally literate and capable of exploiting the tools for what they do best: support generative activity, social connectivity, and participatory learning.

It is also imperative to acknowledge that technology is intricately related to many other elements of the learning context (such as task design) that can shape the possibilities they offer to learners, and the
extent to which learning outcomes can be achieved. The deployment of technologies for educational purposes must be underpinned by an explicit learning paradigm and informed by pedagogical principles that place learners at the centre of the learning process (Joyes, 2005/6; Salaberry, 2001). In response to this, the authors believe that emerging technologies—including those that are part of Web 2.0 and beyond—are best used to support and scaffold learning and reflection within authentic, real-world distance learning contexts with the aid of rich digital media (chapter 5). A range of learner-centered pedagogies, such as inquiry and problem-based learning, should afford students a true sense of agency, control, and ownership of the learning experience, together with the capacity to create, share, and communicate ideas and knowledge. To deliver the promise of quality in distance learning, we need to leverage the new tools to extend and transform current practices in appropriate ways, while keeping learners and the social dimensions of learning at the forefront (chapter 14).

REFERENCES


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