Online Distance Education Models and Research Implications

Terry D. Evans and Margaret Haughey

As a form of education, distance education is influenced by educational theories and ideologies. Hence, over time its various theoretical models have reflected varying emphases on students, both individually and in groups, on content and process, and on administration and costs, and its guiding philosophies have ranged from knowledge replication to knowledge creation, and from teacher direction to learner engagement. Its founding purpose was the provision of education to populations who were not able to access available residential education. The reasons were not only based on the individual situation, such as, geographic location, family commitments, work commitments, or cost factors, but also included state issues such as insufficient institutions or a lack of enrolment places, full-time funding, or sufficient staff. These factors have contributed in various ways to the growth of distance education, both historically as when distance education was a major focus in many European countries after WWII, and as a current imperative in many countries where the need and desire for education outstrips the supply through residential institutions, regardless of their fiscal capacities. Education is seen by both individuals and states as essential for the development of a better socio-economic environment, hence, distance
education has become the cost-affordable means of provision for millions worldwide.

Distance education, then, is framed within larger socio-economic and political contexts. These are not only reflective of societal characteristics like those identified by Keegan (2000): immediacy, globalization, privatization, and industrialization, to which we added professional learning, but also reflective of current social, political, and economic circumstances, such as the sequence of global economic crises this century.

Within these contexts then, the provision of distance education seldom arises from the desire of an institution alone; rather there are likely to be complex national, local, and individual aspirations where distance education is seen as the best solution. The realization of this provision depends on the issues being addressed and the various influences on the particular configuration of design and provision. It may be publicly or privately funded; it may seek to emulate or extend educational provision in residential institutions; its focus may be on increasing access or openness or convenience. Models or designs for distance education, then, have generally arisen from consideration of these instances, in part to provide a framework for researchers and in part to provide a means to reflect on issues that the models themselves have tried to resolve and sometimes inadvertently create.

ONLINE DISTANCE EDUCATION

Growing involvement of the Internet and digital media are shaping the present context of distance education. Garrison (2000) proposed that the concern with overcoming distance as a geographical reality, a strong focus of earlier distance education models, would be replaced by a greater focus on the teaching and learning process itself; a review of recent literature readily supports this point. But it is not so much the realization of an absence of distance in contemporary discussion of online distance education as the recognition that we are increasingly focussed on models of learning and their application to distance education that signal the change of emphasis in this digital age. We have moved from models of distance education to models for distance education.

In reviewing recent work on online distance education we found a number of authors who provided frameworks for theories of learning and linked them to pedagogical models to create a model of learning design for
online learning, most frequently referred to as e-learning. The emphasis on e-learning, rather than on distance education, reflects a change from serving those with difficulty accessing education, to the use of technologies in learning. The more ubiquitous the Web, the less need to focus on the penalties of distance. Furthermore, the recognition that digital literacy is an important attribute for all school students makes it unsurprising that increasing numbers of institutions are including aspects of technology within classroom settings (Casey & Evans, 2011). Currently, providing opportunities for students without coming on campus is less about providing access to disadvantaged learners than it is about providing flexibility and convenience. Consequently, models of distance education, which examined aspects of where learning was to be encouraged and supported without a teacher’s presence, have been replaced by e-learning models of how learning can be best enabled with technologies.

Dabbagh (2005) contends that the Internet has redefined the “boundaries and pedagogies of distance learning by stretching its scope and deepening its interconnectedness,” to the extent that “new learning interactions that were not perceived possible before can now be facilitated” (p. 25). She sees such activities as prompting a redefinition of distance learning as “the deliberate organization and coordination of distributed forms of interaction and learning activities to achieve a shared goal” (p. 25). Bean and Yao (2010) similarly sought to revise the UK Open University (OUUK) open learning model, which focussed on the intersection of individual learning activities, resources, and systematic support, to a model that placed greater emphasis on technology. It involved a balance of three components: ideas, people, and technologies, which in turn were linked to the relationships among trust, open sharing, and community. However, Mayes and de Freitas (2004), in a review of e-learning theories, models and frameworks, stated it even more bluntly:

There are really no models of e-learning per se—only enhancements of models of learning. That is to say, using technology to achieve better outcomes, or more effective assessment of these outcomes, or a more cost-efficient way of bringing the learning environment to the learners.

(p. 4)

Despite this contention, and developments of models since 2004, the focus of distance education and the concern of distance educators remain: how
to ensure that the learner in the virtual environment is given quality educational experiences and the best opportunities for success.

MODELS FOR ONLINE DISTANCE EDUCATION

A model with wide support from both practitioners and researchers is the Community of Inquiry framework (Garrison, Anderson, & Archer, 2000). Its publication coincided with the growing acceptance of computer conferencing to enable student interaction in groups, while retaining the options for asynchronous participation denied by video- and audio-conferencing, for example. It also built upon earlier work of Anderson and Garrison (1998), which saw dialogue and debate as essential for establishing and supporting learning. The model defines three major components of a virtual learning environment as aspects of a community of inquiry: teaching presence (instructional activities required to facilitate learning), social presence (activities that support discussion and dialogue for learning), and cognitive presence (the learning resulting from the interactions in the community).¹

The model has been the basis for many research studies. Most recently, Shea and colleagues at SUNY (Albany) (2011) reviewed current research on the model and added the Structure of Observed Learning Outcomes (SOLO) taxonomy in an attempt to examine some of the anomalies identified by previous researchers. In their analysis, they found that much of the “teaching presence occurs outside the threaded discussions that are the traditional object of research on the COI framework” (Shea et al., 2011, p. 109), and noted in particular was the amount of teaching presence in feedback on assignments. They found support for the relationship among the various forms of presence and noted:

These results are significant in that they lend additional support to the validity of the model but employ more direct measures of learning processes reflected by cognitive presence residing in learning artifacts. Additional research investigating the relationship between the presences is recommended. (Shea et al., 2011, p. 109)

Complementing other studies, they found little evidence of student engagement at the higher levels of cognitive presence, irrespective of their grades.

¹ A copy of the model is available at https://coi.athabascau.ca/
They propose various explanations for this including a failure to develop measures of assessment of learning that are meaningful to both students and instructors and recommend more research exploring correlations between cognitive presence and instructor assessment.

Other community models have also influenced how we think about online learning. In literature on professional learning in organizations, the notion of a community of practice was similarly outlined by Lave and Wenger (1998) as involving groups of people interacting for a shared goal or topic and producing communal resources for the members. Wenger defined three dimensions: the domain (the topic), the community (the members), and the practice (mutual engagement). For Wenger and his colleagues (2002) these formed a “knowledge structure” (p. 29). This model has informed online models where the focus is on learner-directed activities. Similarly, Jonassen, Peck, and Wilson (1999), in delineating the aspects of constructivist learning environments, focussed on learners’ activities. They argued that active engagement was an essential component of meaning making. The major premise was the importance of interaction with the environment through manipulation and observation, construction, and reflection, within an authentic, goal-directed activity requiring social negotiation with others to build and reshape knowledge.

The notion of interaction as an important activity within online environments was also addressed by Salmon (2000, 2002) whose five-stage model focussed on the role of the moderator in developing and supporting effective online forums. She saw the role of the e-moderator as involving “online teaching and facilitating roles” (2000, p. 169), in particular, building community through assisting with socialization, information exchange, knowledge construction, and development. She identified not only the technical tasks that were required of the moderator but also the specific activities that increased interactivity. For example, in the knowledge construction stage, she described the skills of the best e-moderators as:

“weaving”: they pull together the participants’ contributions by, for example, collecting up statements and relating them to concepts and theories from the course. They enable development of ideas through discussion and collaborations. They summarize from time to time, span wide-ranging views and provide new topics when discussions go off track. They stimulate fresh strands of thought, introduce new themes
and suggest alternative approaches. In doing all this work, their techniques for sharing good practice and for facilitating the process become critical. (2000, p. 33)

Salmon’s e-moderating model and its e-activities provided a framework for instructors who were using computer conferencing as their main interactive strategy.

Research on the implementation of Salmon’s model (Vlachopoulos & Cowan, 2010) shows it is more successful in the training than the instructional setting. Despite their own expectations that they would behave in a learner-focussed way, some tutors found it too difficult to step away from the role of academic expert. Others saw the five-stage model as too prescriptive. Thomas, Jones, Packman, and Miller (2004), in a study of effective e-moderation, concluded that students’ preconceived expectations of the role of the e-moderator were shaped by their previous classroom experiences. Similarly, the students’ silence or non-response tended to encourage the e-moderator to be authoritative. Garrison and Anderson (2003), who use a similar model in their “teaching presence” component, stress the possibility of the roles being shared among students and e-moderator, a point also raised by Salmon and one most likely to reduce the academic expert role.

Simultaneously, web-based course tools were being explored, resulting in the development of learning management systems (LMSs), one of the first being WebCT created by a University of British Columbia professor in 1997. The success of WebCT encouraged the development of other systems, some based on open source production and support models. There is extensive literature about the various models embedded in LMSs, the critiques they engendered and about the experiences of instructors and students who used them (see, for example, Lane, 2009).

The focus on learning management systems gave way to a focus on information access. Yahoo and Google began to index web accessible information so that access to scholarly materials online is commonplace in many fields. In 2001, MIT (Massachusetts Institute of Technology) began to provide open access to the online components of its courses. In the same year Laurence Lessig and his associates established the Creative Commons licensing initiative that encouraged the sharing of digital material by creating licenses that allowed rights for use, copying, and modification. This
helped propel the open educational resources (OER) movement. All of these events reflect new affordances the Internet made available to distance educators and learners.

The development of Web 2.0 tools with their emphasis on social software encouraged the next generation of models for online learning. In an earlier publication (Haughey, Evans, & Murphy, 2008) we commented that learners’ engagement with computers is unlike their involvement with other pedagogical forums. They “have a sense of immediacy and responsiveness, of control and choice, and of the opportunity to browse and search” (p. 15). They employ a wide variety of skills—from composing and editing, to messaging and responding, from browsing and searching, to evaluating and integrating, and from imagination and creation in multimedia environments, to the metacognition required to assess and integrate these activities within their own sense of knowing. In this we were highlighting the changes from working “on the computer” to working within virtual learning environments. Koper (2000) defined these environments as “advanced, flexible, social systems, supported with ICT” (p. 2) and identified five characteristics of such environments: representation, personalization, integration, cooperation, and process management. These reflect an aspect of the computer–Web interface that provides a sense of seamless flow, immediacy, and choice.

Characteristics of recent Web tools (Alexander, 2006) include increased possibilities for collaboration among multiple users; micro-content, from Twitter feeds to video clips, has replaced extended text posts; both the variety of tools and amount of user-generated content are increasingly rapidly; and sophisticated interfaces allow us to create more dynamic, semantic, and pleasing Web designs. How then do we respond to this bounty of options in these learner spaces in designing online distance education?

In a model focussed on the connected nature of this networked world, Siemens (2005) used the metaphor of a learning ecology to elucidate his theory of connectivism. Basing his work on principles derived from an analysis of chaos theory, networks, complexity theory, and self-organization, he proposed that:

Learning is a process that occurs within nebulous environments of shifting core elements—not entirely under the control of the individual. Learning (defined as actionable knowledge) can reside outside of
ourselves (within an organization or a database), is focussed on connecting specialized information sets, and the connections that enable us to learn more are more important than our current state of knowing; (Siemens, 2005, Connectivism section, para. 1)

Personal knowledge is comprised of a network, which feeds into organizations and institutions, which in turn feed back into the network, and then continue to provide learning to individuals. This cycle of knowledge development (personal to network to organization) allows learners to remain current in their field through the connections they have formed. (Connectivism section, para. 7)

In such a fluid environment, then, where information may be in human and non-human sources, the learner needs to be able to facilitate and nurture connections which will encourage further learning, to be able to recognize the connections between others’ contributions and the dissonance or resonance with the learner’s own knowledge, and to be open enough to examine these contributions and, where accepted, recognize their tenuousness. For Siemens, connectivism provides insight into “the learning skills and tasks needed for learners to flourish in a digital era” (Conclusion, para. 2).

The recognition of non-human objects in learning was raised earlier by Anderson (2003). He explored relationships between learners, with content, with designated instructors, and with the computer and other digital objects. Siemens has pushed this further to include not only physical objects, but also digital media and virtual learning objects, as well as interior memories and other ephemera. Actor-Network Theory (ANT) (Latour, 2005), which examines activities that involve interaction with such objects, provides a means of exploring the conventions and associations embedded in the interaction and its place in a larger system of knowledge creation. Connectivism has three major concepts: learner-directed, actionable learning and digital technologies. It does not refer to distance education or e-learning, nor does it separate informal learning from formal learning activities. These three concepts underlie the current writing on virtual learning environments, where the focus is on the use of social software and networking tools in designing learning opportunities in a digital environment.

Running parallel to theories of learning are models for teaching. Each model reflects a particular theoretical orientation to learning, states identified outcomes, has underlying concepts of engagement, and employs a
variety of strategies. Joyce and Weil’s (2009) well-known compendium of models included over 24 approaches based on four learning theory families, or groups. The authors outline their goal as primarily to increase students’ capacities for personal growth, social growth, and academic learning, to help liberate students’ learning capacity, and to build learning communities. They cluster the 24 approaches into inquiry models using concept attainment and advanced organizers; cooperative learning approaches based on the group work models of Slavin, and Johnson and Johnson; the personal or learner-directed models, which are based on the work of Rogers; and the behavioural models emanating from Skinner’s work and involving direct instruction and mastery learning. These approaches highlight different goals and the means to achieve them. They are not meant to reduce the importance of the discipline or the teacher’s individual creativity, but to provide a language to assist teachers in describing their role in learner development. Recent writing on pedagogical designs for e-learning work reflects this foundation (Dabbagh, 2005; Bower, Hedberg, & Kuswara, 2010).

A different grounding for learning designs derives from the work of the IMS Learning Design specification http://www.imsglobal.org/learning-design/ which focuses on methods for identifying the decisions involved in design as a way to create a language among designers that is also machine readable. The initial emphasis on learning sequences, a form of learning objects, has been followed by one on learning activities. Conole (2010) views learning design as “the set of methods associated with creating and representing practice” (p. 190) where the goal is to create the descriptions and to adapt and reuse them in future activities. She refers to these descriptions as “mediating artifacts” (2008, p. 187). These can range from models and vocabularies to diagrams and cases and can be specific or generic (FAQs, planning guides, guidelines, toolkits).

Activity theory (Cole & Engeström, 1993) reveals the relationships that influence the actions between the intention and achievement of the activity. It has been used to frame the context and relationships involved in the design of such artifacts. It is not a predictive theory, but instead documents the context, constraints, dialogic options, and roles of those involved in the process. In exploring how people created mediating artifacts, Conole and her team (Conole, Galley, & Culver, 2011), discovered the pre-eminent value of dialogue with peers in this process. Basing their framework on Engeström’s (2005) social objects and Bouman and colleagues’ (2007) notion of
mediation in designing social software, Conole and Culver (2009) describe the basis for the creation of a design-based, object-oriented, research methodology that focussed on (1) the development of conceptual tools to guide the design process and provide a means of representing designs; (2) the development of visual tools to enable the digital visualization of concepts for adapting and sharing; and (3) the development of collaborative tools to aid the dialogue. The methodology and tools are available on Cloudworks (http://cloudworks.ac.uk/cloudscape/view/1882). Conole (Conole & Oliver, 2007) raised other research questions about the role of openness in design, provision, evaluation, and research, and provided an overview of various activity patterns within the Cloudworks site using Goffman’s (1955) notion of face work and ritual performance and Levy’s (1997) shared collective intelligence; these theorists encourage more situated research to explore the connections and associations generated by the activity of the participants (Alevizou, Conole, Culver), & Galley, 2010; Conole, 2010).

Anderson and Dron (2011) suggest that, “it is not so much a question of building and sustaining networks as of finding the appropriate set of things, people and activities” (p. 90). Cloudworks may be one example of such a network for those involved in learning design but it is not a model that translates easily into a course design. There has been substantial critique of learning management systems as confining the possibilities of instructors to the formats embedded in the system. What Anderson and Dron speculate may well be possible within an LMS (Lane, 2009), but increasingly people are looking at Web 2.0 technologies for student support, either in addition, or as a Web alternative, to LMS designs. Dyke, Conole, Ravenscourt, and De Freitas (2007) concluded that the dynamic social-cultural and communicative context makes it difficult to design e-learning environments and suggested that, “the adoption of the principles of the open source movement might lead to a better model for evolution of e-learning” (p. 94). Wenger’s community of practice model has provided an alternative approach used by Gundawardenia, et al. (2009). They propose a social networking spiral employing social software tools to build an environment that has five phases from context and discourse, through action and reflection, to reorganization and eventually to socially mediated metacognition.

Over the past 20 years, the orientation to distance education has changed significantly, from a focus on interaction and community afforded by the use of computer conferencing, through the issues associated with designing
for learning management systems, to designing learning activities, that encourage more learner involvement with user-created content, OERs, and a greater variety of software tools.

**Implications and Ideas for Research**

The contemporary socio-economic circumstances are characterized by uncertainty and complex interconnectedness between local, regional, and global forces (Marginson & Rhoades, 2002). Contemporary models of online distance education, therefore, are both a feature of the times and partly constitute the contemporary circumstances and how people (learners) understand and work within such circumstances. In our view, the contemporary circumstances represent rich opportunities for research in online distance education, but there are also responsibilities for scholars in online distance education to apply a socially critical lens to their research. A perusal of the journals in open and distance education shows that there are increasing numbers of articles on online learning over the past two decades (Koble & Bunker, 1997; Rourke & Szabo, 2002; Smith, 2005). The majority of these articles are based on evaluative research or descriptive case-studies of particular practices of a particular course within a particular institution. In most cases they tend to be descriptive, rather than critical, and relate to particular local circumstances, rather than relate critically to, for example, national policy or global inequalities. Oliver et al. (2005) show it is possible to produce informative meta-analyses of aggregated smaller empirical studies that may inform critiques of educational policy and practice. Some major studies concern the broader social and economic potential of online distance education (for example, Bacsich, Ash & Heginbotham, 2001; Cunningham, et al., 2000; Cunningham, et al., 1997; Ryan & Stedman, 2002) in advanced economies. Others have noted the tension between conceptualized learning undertaken and constructed by individuals for themselves within an educational setting and learning in higher educational settings created and located in large corporate educational facilities in the service of the economy (see Barnett, 1997; McNay, 2006).

Furthermore, research is needed to study the application and consequences of online distance education models and practices beyond the advanced democratic nations. Daniel (2010) argues for the necessary use of
online distance education approaches in helping to achieve universal basic education for grades 8 to 10 children in poorer nations. Such ventures would be worthy of significant comparative research across nations and regions. In a different way, researching the socio-political implications of accessibility to OER-based online educational approaches in national and cultural contexts where people and ideas are repressed may be potentially significant for the future of humanity. Finally, the impact of many new models and technologies on existing educational systems can have both disruptive and sustaining components that require both short- and long-term strategies. We make these points to illustrate that there are important considerations beyond researching models of online distance education within advanced democratic societies, circumstances to which we shall now return.

In the case of online forms of distance education, the matter of scale assumes a fluidity and invisibility due to the virtual nature of the educational settings. In “conventional” higher education, problems of scale are manifest in crowded classrooms, complex timetables, extended teaching periods, and even in the architecture and construction of new “classrooms.” The liquid modernity (Bauman, 2000) of contemporary mediated forms of learning creates possibilities, opportunities, and problems for researchers (and others). However, the technology (the knowledge, values, and meanings associated with tools) is contested terrain in the sense that tools, such as proprietary learning management systems, are created with particular ideological and corporate economic interests at the fore; the teacher and, especially, the learner are relegated to the role of mere users. This contrasts markedly with the relative fluidity and unpredictability of social media that occupy and exploit the same Internet and telecommunications resources.

One of the major developments in online distance education has been the institutional adoption of learning management systems (LMSs) as a way to manage and coordinate online activities, organize materials on the Web, and provide for some interactivity. They have become ubiquitous in many distance education operations. As identified by a number of writers (Siemens, 2010), such systems were designed with a focus on management and control, rather than on learning and pedagogy. As such, they lacked many of the tools that instructors required; as the systems are centrally controlled and managed, their parameters have become the limits of teaching and learning. Once in place, further expansion of an institution’s enrolments may require expanding the software’s capabilities and its servers.
Arguably, these LMSs shape significantly the practices of the teachers and the experiences of the learners. Followers of actor-network-theory (Latour, 2005) attribute agency to such machines in social life. That is, in terms of online education, LMS are not passive tools used by educators (actors) to create teaching experiences as they wish, but rather there is a complex interplay (network) of meaning and action between them. It may be questionable to invest machines with agency in the sense of conscious deliberative action, but if one recognizes that LMS software is the product (embodiment) of peoples’ conscious deliberative action in their own interests and according to their particular understanding of teaching and learning, then the actors-educators have to deal with their LMS’ embedded meanings and understandings of what constitutes the accepted range of educational activities and how they may be deployed.

This seems to be an immensely fruitful field for research that could benefit from different studies applying various theoretical and critical approaches to design, analyze, and explain the consequences of current online distance education and/or explore and develop the possibilities and potential of the media for more creative and liberatory purposes. Such research would need approaches that can investigate and interrogate LMS’ embedded meanings and understandings of their “permitted” range of educational activities and, perhaps, the variations that can be accommodated and under what circumstances and authority. Furthermore, qualitative analyses of the activities that occur between learners and their teachers within the learning contexts afforded by LMS and what these mean to the parties involved is also worthy of investigation, in particular to explore the tensions, contradictions, and contests that may occur in the local teacher’s development within these learning contexts and the students’ uses thereof (Sharpe, Beetham, & de Freitas, 2010; Conole, Galley, & Culver, 2011).

Beyond the Web 1.0 LMSs are the new Web 2.0 social media and the other related media enabled by 3G and 4G mobile phone telephony and other devices. Again, theoretical approaches such as actor-network-theory have potential here to explore, critique, and explain the human and technological interplay that occurs in, for example, m-learning or Web 2.0 media used for educational purposes. However, Activity Theory and Transaction Theory are other approaches that are usefully deployed to research online learning communities and their participation (see, for example, Jaldemark, 2008; Jameson, 2011). Likewise, community of practice theory (see Lave & Wenger,
1991) has proven worthwhile to study and analyze particular learning communities, especially where professional interests are in the foreground (see, for example, Mackey & Evans, 2011). This is not limited to online distance education. Haggis (2009) argues that there is much to be done in these respects in higher education in general:

In more general terms, there are many aspects of learning that are still not well understood, which currently dominant ontologies and epistemologies struggle to investigate and represent. For example, research into learning is still not able to deal well with “the fleeting,” “the distributed,” “the multiple,” and “the complex” (Law & Urry, 2003, p. 10). To my knowledge, there is as yet little research that attempts to document different types of dynamic interaction and process through time in relation to “learning” situations in higher education. (Haggis, 2009, p. 389)

What each of the theoretical approaches noted above requires is detailed qualitative data and analyses. The online systems and telecommunications media often facilitate this in that the messages and other written texts occur in forms that are able to be collected, searched, and analyzed both manually and by using software. It may also be possible for visual and audio texts to be collected and stored for subsequent analyses. This is a significant advantage over classroom research where “talk” has to be recorded and transcribed, that is, transferred into a form for analysis that is different from that which was spoken and heard, with all its nuances and gestures, in the classroom. There are traps here, though.

The “data” in the online form, especially those collected and archived routinely by LMSs, were not collected as research data. Their authenticity as teaching and learning texts, for example, may be invaluable, but they were not systematically selected and collected with specific research questions in mind. Likewise the quantitative data (log-in times and durations, numbers of messages read, and so on) are not collected with research in mind; therefore, additional or other data may be required to address the research required. It must be emphasized also that the participants in these learning contexts are not research participants, but students. In university contexts in most democratic nations, human research ethics codes of practice generally require that students give informed consent for their teaching and learning conversations or activity data, for example, to be used for academic research purposes leading to publication. Educational institutions outside these
university contexts often have no such requirements; we suggest, however, that behaving ethically in these respects is also good educational practice.

Once the above matters are considered, it is important that research in online distance education develops beyond replicating topics, research designs, and approaches used in earlier forms of distance education. For example, studies of dropout and retention were very popular in the early days of distance education when distance education was justifying its existence. Subsequently, media comparison studies and those comparing classroom and distance study flourished. It is doubtful if replicating such research and its theoretical considerations within online education is as important now. The new media enable forms of collaborative and participatory research, such as action research (see Kemmis & McTaggart, 2005; Noffke & Somekh, 2005) and design-based research (see Wang & Hannafin, 2005) to be practised “at a distance” as part of virtual teams. Furthermore, such forms of research lend themselves to analysis drawn from the models of learning discussed above and the research methodologies outlined in this section. The challenge is to be creative researchers who are receptive to the possibilities of the new media and respectful of the existing values and standards of scholarship.

CONCLUSION

This chapter discusses a selection of the theoretical models for online distance education that arose in the past 20 years to inform contemporary policy and practice. We applied a critical lens to this discussion based on our work in distance education spanning 30 years. We argue that this is a good time, indeed a necessary time, to undertake research on the consequences and implications of these models of online distance education. Some valuable research has been conducted in the field, which has informed educational practices of a more socially constructionist kind; we suggest in this chapter that there is a need to extend research to be of a socially critical kind that takes into account, local, regional, and global circumstances and diversities.
REFERENCES


