

Distance Education and Web Communities

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Introduction

The *Society for Information Technology and Teacher Education* embraces the notion that technology enables learning. As an international organization it reaches out to educators around the world. Distance Education and Web Communities is a division of the Information Technology Council, and represents a field that is growing faster than any other, both K-12 and higher education. With 142 papers published in two sections under information technology topics: Distance/Flexible Education, and Web/Learning Communities in the 2005 annual, it is evident of the perceived importance of the field by educators. SITE supports research, be it practical, action, or experimental, and encourages educators, administrators and students to participate in SITE 2006, by submitting papers for consideration in the *International Conference Annual, 2006*.

The State of the Field

Distance education has experienced unprecedented changes over the last ten years. The interest in online learning, its major component, "...has captured the attention of policy makers, education researchers, educators, and the general public, particularly students" (Natriello, 2005, p 1885). Pioneering processes and technologies such as interactive satellite delivery, audio conferencing and their hybrids, have run their course. The growth of distance learning has generated new interest for educational researchers, teaching faculty, administrators and students to pursue what is still an emerging field of study that touches public, private and higher education. Since growth is usually measured by enrollment, a report, in its second year, and funded by the Alfred P. Sloan Foundation, notes in the fall of 2003, that 1.9 million students were enrolled in online classes, an increase of 19 percent over the previous year (Carlson, 2004). Schools responding to the Sloan survey expected enrollment to increase again at rate of 25% (Natriello, 2005). More than half of all colleges rated online learning as, "...essential to their overall strategy" (Carlson, p. 30), with 60 per cent of large public colleges rating online learning as necessary to fulfill their mission (2004). This phenomenon is not unique to the United States. Globally, the United Kingdom, South Africa, Australia and China have graduated tens of thousands since the mid 1990s (Natriello, 2005). These open universities enroll over 100,000 in programs such as engineering and technology (Potashnik & Capper, 1998).

The growth of distance learning is evident in K-12 in the United States. As of 2003, Honawar (2005) reports that 22 states have established virtual schools, 28% of school districts in the country offered distance learning programs for teachers, and 25% of all school districts had programs underway for students. Driving this movement are mandates from NCLB (No Child Left Behind) to prepare high quality teachers (Kleiman, 2004), to reform teacher preparation programs (Natriello, 2004), and to respond to changing demographics of students (Benson, 2004; Calvert, 2005,). Perhaps best put by Calvert (2005), "The pure case of the student who is remote from the institution or teacher, communicates using technologies (broadly defined) and has few, if any, opportunities for face-to-face interaction..." (p. 230).

In addition to providing services to higher education and K-12, distance education has the potential to address problems with adult learners typically overlooked, or in some cases ignored. Benson (2004), suggests that distance learning can provide opportunities for groups of currently underserved adults including white collar workers, who typically have better access to distance learning than blue collar (skilled and unskilled) wage earners, the working poor, and welfare recipients. He noted that the challenge facing educators seeking to help low-income, traditionally underserved adults is to convince them that even with minimal Internet and computers skills, low levels of digital literacy, they can improve their job skills and improve their quality of life (Benson, 2004). The emerging body of literature supports the notion that diverse groups of learners benefit from online learning because educational environments are neither time nor place bound, yet support the needs of these groups while removing well defined barriers (Schrum, 2002).

Beyond the move to serve appropriate groups of learners, using DE resulting from federal mandates or identified needs, colleges and universities have resolved to identify problem areas that may affect quality distance education programs. After all, with the growth of distance learning, and the role it plays in defining the mission of most educational institutions, attention must be paid to observe, evaluate and refine programs to insure their quality and guarantee success. While there are many potential areas of concern, some include quality of instruction, cost effectiveness, appropriate use of the technology, technical support and training, the attitudes of students, and instructors and administrators toward distance education (Restauri, 2004;Valentine, 2002). Quality of instruction depends on the technology, preparation of the instructor, attitude of the administration placing DE as an equal companion to on campus face-to-face instruction, and commitment by faculty and administration (Valentine, 2002). The cost of operating distance learning programs is uncertain. Many studies revealed, "...the concepts of costs and effectiveness are not as simple as they first appear (Valentine, 2002, p. 3). Much of the literature measured cost of operation with expensive technologies like video compression and not online technologies that typically operate at a fraction of the cost, and cohabitate with infrastructure already available on campuses. Older studies by Caffarella et al. (1992), and Weber (1996) linked costs of travel and infrastructure to cost effectiveness. Caffarella et al. (1992) noted that it was less expensive to send a faculty member to a remote site than employ a distance learning technology. Of course, the cost of gasoline wasn't three dollars a gallon then.

Technology can be mismanaged, better yet abused. Faculty must be trained on the appropriate use of distance learning technology. Yet administrators believe that technology will improve the course, and don't feel obligated to train faculty on how to use it (Valentine, 2002). Greenberg (1998) professes that best practices by faculty result in those who are creative, innovative and well informed. Bates (1995) advances a theory that remains constant. He suggests that newer technologies are not necessarily better than those used in the past. What is more important is the ability of the instructor to adapt the experience to the new environment. Technical support and training for faculty may be the first line of defense against attrition. From an earlier study, Olensinski et al. (1995) suggested that orientating students and instructors to the technology greatly reduced anxiety for all the participants, including faculty. This is obvious. Carter (2001) relayed a different perspective. He said in order to bridge the gaps between instructor, student and technology, "faculty need to look at distant teaching from the students 'point of view'" (p. 249). In addition to having skills to operate the technology, faculty must receive continued training as new versions of course management systems (CMS) like Blackboard, WebCt or eCollege are released (Restauri, 2004). Until recently, a majority of institutions preferred that faculty self-train themselves using the technology and management software. Today, most have "dedicated training and support teams that serve faculty working on DE online courses" (Restauri, 2004, p. 34). Support for distance learning programs relates to more than servicing the technology. It includes access to instructional designers, mentoring for new DE faculty, and student support for services for students such as bookstore, registration, counseling and advising, and financial aid. Faculty expects these services to be transparent yet available.

Concerns of instructors and students toward distance learning continue to impact the growth of the field. Perhaps a review of dispositions will provide a better overview. Studies by Clark (1993), Gober (1998), and Dibiase (2000) reviewed faculty attitudes about distance learning. The opinions of faculty covered everything from a doomsday perspective regarding their tenure, academic freedom, protecting intellectual property, to a "moderately positive attitude about distance learning in general, but moderately negative attitudes about their own use of it" (Valentine, 2004, p. 7). Student concerns were more esoteric than faculty. Their attitude was based upon factors inherent with their group. Learning styles, maturity, age were factors that affected attitude (Threkald & Brezoska, 1994). Attributes of the online learner were persistence, focus, self-motivation, independence, and tolerance (Dibiase, 2000; Hardy and Boaz, 1997). Most distance learners are already employed, and "have well defined goals..." (Valentine, 2004, p. 7).

Current Trends and Topics in Distance Learning and Web Communities

There are several emerging trends in distance education. The literature provides an array of those that appear frequently. These topics are important to SITE, its members, and educators involved with distance education and web communities, or seeking employment in the field. The list is not all conclusive but reflects current trends. They include:

1. Perceptions and attitudes of online learners and faculty
2. Assessment practices for online learning and programs
3. Learning communities

4. Collaboration
5. Best practices in teaching at a distance
6. Strategies for teaching at a distance

Of course there are many others as well, which surface as administrative philosophy and technology changes, target groups evolve, and demand increases. The author will briefly examine the topics to provide readers with a snapshot of the topic, and offer direction for potential research topics for SITE 2006 Annual.

Perceptions and Attitudes of Online Learners and Faculty

Perceptions and attitudes of online faculty and students affect the online course more than any factor including technology. The literature supports this. A number of studies by Albramov and Martkovich (2001), Beard and Harper (2002), Brooks (2003), O'Quinn, Corry (2002), and others, provide factors that impact attitudes, subsequently affecting the quality of the online experience. For faculty they include lack of support via compensation and technical support, increased workload, lack of support from the administrators, and concern for the quality of students enrolled (Brooks, 2003). The point about the quality of students enrolled in distance learning classes is significant to administrators; "...an interesting one considering that the dropout rate among those enrolled online is as high as 50 percent (Brooks, 2003, p.1). Santilli and Beck (2005) examined faculty perceptions of online teaching. They noted that faculty was concerned with the amount of time spent in communicating with students outside the confines of the class. In addition, they considered students' lack of technology skills, "... to be a major obstacle to effective online communication" (p. 158). Most faculty perceived themselves as facilitators rather than conveyors of information" (Santilli & Beck, 2005). Other researchers emphasize the importance of ongoing communication between faculty and participants. Ortiz-Rodriquez, Telg, Irnai, Robert, and Rhoades (2005) promote interaction as the key element of communication that directly affects the quality of interaction. Gibson (1998) suggests that collaboration enhances the online experience while promoting, "the use of higher order thinking skills" (p.141).

Students perceived quality in online learning with classes that contain, "...interaction between students and instructors, and between students and students; timely feedback from instructors and availability of teaching assistants..."(Ortiz-Rodriquez et. al., 2005, p. 101). They also preferred features like chat rooms, discussion boards, and email as a means to interact with members of the class (Ortiz-Rodriquez et. al. 2005). Regarding gender and the attitudes of students toward using technology as it relates to perceived quality, Njagi, Smith and Isbell (2003) noted that males generally had a better attitude about computers although both males and females had reasonably positive attitudes about using them. "Of these, only gender, time spent on the Internet for class work, and time spent on the Internet for class projects were found to predict attitude towards computer technology" (Njagi, Smith & Isbell, 2003, p. 3). Researchers concluded that more studies are needed to examine the impact of attitudes as it relates to age, accessibility to the Internet, and technology to observe how attitudes of faculty and students affect perception and performance in online learning.

Assessment Practices for Online Learning

The challenge of assessment for distance education programs is daunting. "Assessment at a distance is problematic, and it is tempting to modify procedures to ease the administrative burden" (Clarke, Butler, Schmidt-Hansen & Somerville, 2004, p. 5). Nevertheless, assessing the program and student performance provides data necessary to generalize program quality and observe learning at all levels. Assessing student performance serves as a measure of quality control for distance education and, "...help guide professional development efforts by identifying strengths and opportunities for improvement in instruction" (Pike, 2004, p. 11). The question has been asked many times, "Is the achievement level of students who take classes online equal to classes that are taught face-to-face" (Warren & Holloman, 2005, p. 148)? Zhao, Lei, Yan, Lai, and Tan (2005) claim that most research in distance education has been nothing more than "comparison studies." Research in DE has been criticized for..."focusing on the wrong factor, methodologically flawed, bias sampling, using improper measures of outcomes, even being pseudoscientific" (Zhao, Lei, Yan, Lai, & Tan, 2005, p. 1837). Many studies claimed *no significant difference* in learning between face-to-face and distance education. Russell (1999) published an annotated bibliography of studies with 355 articles that supported this hypothesis. Zhao, Lei, Yan, Lai, and Tan (2005) argued that most of these studies were not experimental but surveys, with small samples. They noted, "A more valid and reliable method to synthesize the literature is meta-analysis because of its systematic procedure and criteria for identifying and selecting previous studies and verified statistical procedures for analyzing results (Zhao, Lei, Yan, Lai, & Tan, 2005, p. 1839). Since many SITE members are practitioners, they may discount this theory. Most believe that performance criteria, and assessment systems such as the Education Testing Service's (ETS) Student Instructional Report II

(SIR II), credible instruments to measure student performance (Pike, 2004), and E-portfolios (Mason, Pegler & Weller, 2004) provide the greatest promise to evaluate student performance and warehouse examples of student learning.

Song (2003), advances the theory that interaction in online environments is the key to measuring learning. He suggests that an assessment framework be used to analyze interaction between students and teachers; a systematic assessment of interaction based upon a model. This model can be used to categorize, "...interaction into five dimensions: the participation, interaction, social, cognitive, and metacognitive dimensions" (Song, 2003, p. 439). Learner-centered assessment, and assessing levels of asynchronous and synchronous interaction are the core of this model. Asynchronous interaction assists students with dispositions; becoming thoughtful learners. Synchronous interaction increases communication skills (Song, 2003).

E-folios, e-portfolios, and webfolios (California State University) represent the latest and most promising authentic system to assess student outcomes. While designed to measure student development, provide a mechanism for presentation, and afford authentic assessment (Mason, Pegler & Weller, 2004), they provide the first all-inclusive assessment system that is accessible by faculty, administrators, and with afforded access, potential employers of teacher candidates. Both U.S. and European conferences have embraced its use. Virtually every teacher preparation institution is using or plans to use e-portfolios as their primary assessment system. Barrett (2003) identified five components associated with e-portfolios. They include: the process of collecting and selecting items to be reviewed; a source to provide reflection on learning; the process of projection and comparison using performance indicators; and a platform for presentation using multimedia such as video files, graphics, and other digital artifacts (Mason, Pegler & Weller, 2004).

Learning and Web Communities

The definition of community varies. "A *Learning Community* has been used to describe a cohesive community as one which embodies a 'culture of learning in which everyone is involved in a collective effort of understanding' " (Rogers, 2000, p. 1). Perhaps, but learning communities are defined as much by the nature of the community as the group of participants. For example, Resnick (1987) suggests that communities are defined by authentic and collaborative activities from "real life" learning processes. This idea hasn't changed much since. This concept has evolved into what Smith (2005) called "communities of practice" or CoP. In other words, work (the process of performing tasks for online classes), responsibility taking, and knowledge are scattered throughout the participants who represent diverse communities of learners (Rogers, 2000). Dabbagh (2004) provided a list of instructional attributes of a CoP. It includes eight items that cover control of learning, sharing knowledge, flexible learning activities, levels of dialogue, shared goals and problem solving, appreciation of diversity, and crossing boundaries.

The idea of a learning community is not new, but seems to work effectively within the context of the online learner. By definition, participants seem to fit the profile of a community of learners better than students in face-to-face environments. Charalambos, Michanlinos, and Chamberlain (2004), suggest that learning within a community is a social process. A learning community is bound by, "...a set of conditions and practices that give rise to it, such as the media used, forms of communication, social and learning practices, political values and commitments, and the design of learning environments" (Charalambos, Michanlinos & Chamberlain, 2004, p. 136). Early and then traditional distance learning models emphasized the independence of the learner. "Field independent learners...learn better in socially rich learning environments, while field independent learners prefer working alone (Rovai & Baker, 2005, p. 32). Newer models emphasize collaboration within the community (Moller et al. 2005).

Online communities face a number of challenges. Some relate to technology, others are social. The tools of online learning continue to directly impact the community. They should become transparent, and interface with both human and computer " (Charalambos, Michanlinos & Chamberlain, 2004). Issues such as organization of the community, access to technology, gender, equity, integrity are paramount to the success of online learning within the community (Charalambos, Michanlinos & Chamberlain, 2004). Gender in particular is important because online learning is targeting women more than ever (Kramareae, 2003). Kramareae (2005) put it succinctly, "...to ignore the ways that gender is under construction online is to ignore many difficult experiences of real people" (p. 269). Taking it further, Rovai and Baker (2005) suggest that online classes are women-friendly (to technology and process) so the community is more homogenous. Another challenge to online learning is the dropout rate. The rate is 10-20 percent higher in distance education than traditional classes (Carr, 2000). More alarming is Ganzel's, (2000) figures that suggest the rate

to be as high as 50 to 75 percent. Svetcov's (2000) figures are more modest at 35 percent, or 15 percent higher than traditional education. For additional information, Jun (2005) has a table of "Factors from the Literature Review of Dropout in E-Learning (pages 236-238), an excellent resource. High dropout tends to reduce the sense of community while encouraging isolation. Learners benefit from a close community by, "...experiencing a greater sense of well being and by having an agreeable set of individuals to call on for support when needed (Rovai, 2002, p. 2).

Collaboration

Collaboration is vital to the success and quality of a distance learning program. Moller, et. al., (2005), said, "There is little doubt that collaboration can be a successful learning strategy (p. 138). The United States Agency for International Development (USAID) in 2002 addressed the issues of "best practices." From their discussions they concluded they all used a conceptual model for distance learning where collaboration was a key element (Moore, 2003). Five models were identified. The list includes an Enabling model, Contractual model, Brokering model, Multiple Alliance model, and Commissioning model (Moore, 2003). A description of these models is available from The Association Liaison Office (ALO, 2003). Moore (2003) concluded there was agreement among their authors regarding the need and use of collaboration as a central element for distance education. Some components of the models emphasized that: (1) collaboration must be voluntary; (2) collaboration could co-exist between programs, institutions and individuals; (3) institutions can collaborate for authority of DE programs; (4) evaluating student performance between institutions could be based upon a system of collaboration; (5) funding sources could be a collaboration between agencies and institutions; and (6) institutions could collaborate when making decisions about technologies so they mirror each other and provide maximum flexibility (Moore, 2003). Institutions that use collaboration models on their own campuses will uncover resources, teaching faculty, and administrative support, because distance education then becomes a mission of the institution and not just the college or department offering the courses.

Best Practices

Due to the nature of online learning institutions, faculty and students find ways to maximize the quality and impact of teaching and learning. These are called "best practices." There are many sources for them, and serve as testaments to processes and strategies that have been successful. Teachers College Library at Columbia University (2005) has provided a list of best practices for online education. They include student-centered learning, moderating the discussion board, using the chat room, collaborative work, social presence along with student expectations, assessment, grading policies, rubrics, papers, portfolio assessment, online quizzes, and textual delivery systems. These represent basic processes that should be reflected in online programs. Student-centered learning is at the heart of online learning, obviously. McCombs and Vakili (2005) created a learner centered framework for application to online learning. They relate, "...all people associated with the system are learners whose status changes from novice to expert as tasks and goals change" (McCombs & Vakili, 2005, p. 1587). Content is constructed to support the movement of learners as they customize their learning and improve their abilities, writing skills, content knowledge and dispositions. "Concepts such as 'just in time learning' and 'learning anytime, anywhere' describes the dynamic learning environment and Web-based learning communities that revolve and evolve around inquiry-based learning tasks" (McCombs & Vakili, 2005, p. 1587). That being said, a burgeoning list of best practices should accumulate at the department or institution providing online classes and not in the literature. Otherwise their classes are not meeting minimum standards for quality online programs and students are not being served.

Strategies for Teaching at a Distance

Inevitably, this section includes components of teaching strategies that have migrated from face-to-face environments, or were created especially for application to distance learning. They have also been discussed in current trends previously reviewed in this document. There are dozens of sources available online at sites like Illinois Online Network (ion). They provide multiple strategies including learning contracts, lectures, discussion, self-directed learning, mentorship, small group work, collaborative learning, case study, and forum; components and strategies that can be mixed and matched to specific courses (ION, 2005).

While not considered strategies for teaching, there are other issues that merit mentioning. They include academic freedom, the virtual high school and blended learning environments. Call it academic freedom, intellectual property or ethics, faculty who build classes for online delivery continue to be

concerned over issues and ownership. Colley (2003) from a presentation in Florida reviewed issues about academic freedom, looking at censorship, job security, and governance over employment and curriculum (intellectual property rights). The virtual high school is no longer a novelty but a vital part of state school programs that provides equity between large schools systems that have resources to provide a curriculum mandated for special tuition assistance programs, and small, inner city, and rural schools that do not. Virtual schools began offering courses in 1996. Most states either sponsor or have access to virtual programs (Donlevy, 2003). The curriculum is usually scattered with AP courses or Carnegie units mandated for entrance to college, scholarships or access to special tuition programs. Virtual schools also address special needs, and benefit at-risk students (Hurley, 2002). The term “blended learning” is a relative newcomer to the literature. It balances online and face-to-face components, and varies according to subject matter, technology, available online resources, and the nature of the curriculum and degree program (Osguthorpe & Graham, 2003). It eases the transition for institutions, instructors and students from the traditional class experience to a full-blown online learning environment.

Trends and Topics from SITE 2006

There are a number of potential topics for submission to the *SITE International Conference Annual 2006*. The list below serves a guide for researchers, and provides parameters for decisions to replicate, extend, or create new research, related to, or a product of the scope of research published in 2005. The Information Technology Council combined two areas, Distance/Flexible Learning and Web/Learning Communities into one, Distance Education and Web Communities. *SITE 2006* encourages prospective researchers to submit articles for consideration using the list of topics below or one that is relevant to your area. There are twenty-four categories recommended that represent current research in the field. They include:

1. Collaboration in online learning
2. Collaborative learning/scaffolding/constructivist theories for online learning
3. Assessment of online courses
4. Assessment of student performance in online courses
5. Virtual schools and special applications of online learning
6. Professional and staff development for online learning and using online delivery
7. Designs for online learning
8. Online learning and technology certification
9. Web environments
10. Guidelines to develop and operate online learning programs and courses
11. Best practices in online learning
12. Models for online learning
13. Addressing learning styles for online participants
14. Teaching styles of online professors
15. Strategies and methods for online teaching
16. Faculty and student perception of online learning
17. Constructing and facilitating online learning communities
18. Online professional learning communities
19. Practitioner and practice-based learning communities
20. Online communities for teacher education
21. Virtual communities
22. Interaction in online learning communities
23. Devices, policies and procedures that support online learning communities
24. Web logs and blogs for reflection and practice

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