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The Role of Information Communication Technologies in Adult Education Theory Building

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Abstract: The role of information communication technology in the development of the field of adult education will be explored. The changing image of the field will be presented and suggest how today's Web 2.0 technology can enhance theory building and enrich the future of the profession.

Introduction

Communication technology has influenced every aspect of our personal and professional lives. Yet, much of the literature on this influence focuses on the impact it has had on our actions and on the practice of teaching and learning. Little has addressed the impact of communication technology on the theory building in the field of adult education. How has it influenced the movement forward of the field itself? How has it changed the communication among professionals and between professionals and students?

Technology and adult education are often discussed as two separate subjects, yet just as it is impossible to live one day without the impact of technology, it is impossible to discuss adult education without considering technology. The growth of the field of adult education and the evolution of modern technology as well as the theorists and practitioners who were instrumental in moving the fields forward will be considered as the foundation for a paradigm shift in adult education. Since effective adult education involves not only information dissemination but communication and collaboration among its participants, online learning activities and entire online courses influence how the field itself is viewed. This new paradigm will be explored in the current and future world of adult teaching and learning.

Technology's Influence on Adult Education

Technology has played an important part in the development and direction of the field of adult education. While today the term information communication technology seems to be synonymous with computers it is important to consider that technology in many forms has impacted the academic field of adult education for centuries. Lesgold (2000) reminds us that "prior to the 15th century, codified knowledge was extremely rare" and that "direct discussion with a wise person was the primary way of gaining knowledge" (p. 399). Books were not easily replicated so were expensive and rare. Even with the development of printing, only certain key books were reproduced widely. However, by the mid 1400's Gutenberg's invention of the first printing press with movable type and usable ink for the process would change the distribution of knowledge dramatically. Knowles (1989) credits Gutenberg's invention with having a great "impact on the advancement of adult education"(p. 62).

Hewitt (2005) suggests that "the sixteenth and twenty-first centuries share a dramatic element in common – the birth of a revolution in communication technology" (p. 47). He credits Gutenberg's invention with the emergence of the Renaissance and notes that the "ability to publish books inexpensively decentralized the power of knowledge and forever changed the

structure of society” (p. 47). He calls this “Gutenberg’s gift” and suggests that while it was an “invitation to new understanding and human liberty” it also “bestowed upon its recipients new responsibility for critical reflection” (p. 48). This responsibility becomes even more important in the twenty-first century as the dissemination of knowledge becomes even more widespread at an accelerating rate. Lesgold (2000) offers another comparison between these two centuries by suggesting that just as the book “removed some of the need for memorization as a force for knowledge distribution, so the computer removes some of the need for over learning of routine information processing procedures, since these can be accomplished by computers” (p. 401).

While the Gutenberg printing press is often credited with being the beginning of the influence of technology on education and communication, all early advances in transportation and communication have had an influence on the field of adult education. Any technology before and since Gutenberg that has facilitated the coming together of individuals and knowledge whether by transporting the individuals to a common place to share knowledge or by communicating the information to the individuals at remote locations has influenced adult learning. Today, wiki’s and blogs are the norm.

This online environment of Web 2.0 technologies provides a new sense of space and society. Hakken (1999) advises that “we must come to terms...with an accelerated decoupling of space from place (p. 215). White and Bridwell (2004) concur by suggesting that new technology is “significantly altering the social role of learning” and that distance learning is only an intermediate step toward a “telelearning environment” in which distance and location become arbitrary (p. 287). In this new societal paradigm, a new sense of community emerges. “The creation of a learning community supports and encourages knowledge acquisition. It creates a sense of excitement about learning together and renews the passion involved with exploring new realms in education” (Palloff and Pratt, 1999, p. 163). As Kasworm and Londoner (2000) advise, “the challenge for adult education is to accept and embrace the possibilities of technology (p. 225). Their advice needs to be extended to adult learning theory building as well as practice.

Insights to Inform Theory Building

The adult education vocabulary around “learning communities” and “communities of practice” has evolved with the new sense of space provided by information communication technology. The basis for suggesting a new model is founded in experiences in teaching the same graduate level courses in staff development and adult education both online and on campus during a span of over 12 years. This paper does not represent a designed research project but rather the result of mining the data collected from course feedback forms and student reflections. Students participating in both synchronous and asynchronous online learning communities offered the following reflections.

- “A community emerged during the chat session as the group members experienced a sense of personal relatedness.”
- “I was enamored with the power of this medium. It gave me a sense of jointly occupying a temporary space (similar to a class room) and created the illusion of physical proximity and group cohesion through spontaneous conversation and sharing. At the same time it eliminated space restrictions—all four of us gathered from numerous locations, Carol from as far as the UK, to meet and discuss the topic in a real-time environment.”
- “The discussion conducted here is very involving; everybody could get a chance to express his own ideas. Moreover, the discussion board online gives us a further

opportunity to share ideas with all of the class. It has been developed into a real learning forum. Everybody chose their favorite articles about learning and training in their fields, and then shared their own ideas on the “blackboard”, thus evokes a real open discussion. This learning style makes me feel that I can learn anytime anywhere from so many people of diverse fields. By posting, reading, and replying online, our learning location has burst out of the limited classroom and lecture time boundary, thus it has given us an authentic flexibility and motivation to learn.”

Community, power, and flexibility are strong descriptors for this new social space and ones that could potentially have a very positive impact on the field of adult education.

It is important to note that these features of an online collaboration can be viewed as positive for some yet negative for others. While the lack of personal, non-verbal clues is often cited as a negative feature of on-line learning communities, one student sees it as a positive. She notes “It is a medium that does promote engagement in discourse without the normal bias of face-to-face communication (because our appearance is reduced to letters in a computer screen). And although we have the opportunity to influence and suggest tone, etc. by the use of color, sizes, etc. the initial barriers to traditional communication are somehow diminished. The use of discussion boards allows for a lot of reflection prior to committing to opinions. The student has the time and the resources to build a message that will convey every idea that s/he wants to communicate.”

One student saw a chat room experience as more egalitarian. “The conversations were not superficial interactions but purposeful, focused and useful. The instructions preceding the chat in terms of reading position papers, preparing questions followed by chat on each paper allowed all group members an equal opportunity to have their "voices" heard, making the chat more effective. Setting up small groups of 4 allowed each one the time and opportunity to participate and understand each other’s situations more closely and attentively. The archived feature of the chat that automatically creates transcripts of discussions made it useful for rereading and future reference.”

As more new participants venture into this virtual space, they might agree with the following comment. “The best part lies in my realization toward the end of the chat that a synchronous professional discussion isn't too difficult a thing for me. This is my first time to do a real one with international professionals. As a non-native speaker, I was very self-conscious and afraid I'd lose face before this highly learned group who seem to have a better and deeper understanding of all the theories we're learning. But the 2-hours went by fast and I felt more and more comfortable, even not nervous when it's my turn.”

Each of these descriptions of the online experience placed the individual student at the center of a sphere of incoming information and as the source of outgoing knowledge. This will be the basis for the model developed below.

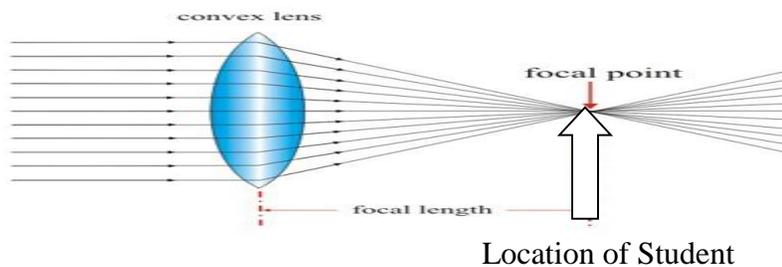
A Model for Emerging Theories

Current models of adult learning such as circles and spirals must be replaced by ones that reflect a society in which individuals are continually connected and one in which learning is a 24/7 activity. This new paradigm will:

- Include new student-student and student-instructor relationships facilitated by Web 2.0.
- Be student focused but with a broader scope of influence by extending the reach of outgoing and expanding the sources of incoming communication..

- Require the student to be an active not passive learner and expanding the learner's role to that of processor and synthesizer of information.
- Facilitate the adult students' needs to multitask professional, educational and personal responsibilities.

The resulting model will be a student centered sphere whose surface is covered by converging lenses. One of these component lenses is depicted below. Each learner is the focal point of bi-directional interactions.



The rays will be bidirectional to indicate the student's output of ideas as well as being a receiver of input. But each source of incoming information is focused through a converging lens directly to the student. When the student is the source of information, the information was diverged through the lens to multiple participants in the discussion.

The Relationship to Existing Theory

Adult Education made its entry into the arena of professions and fields of study almost 100 years ago. In recent decades, Malcolm Knowles is credited with popularizing adult learning theory, yet Stephen Brookfield, Jack Mezirow, Maxine Greene and Knud Illeris are among those who have moved the field forward. Parallel to this progression in theory, the use of technology has escalated in popularity creating a need to frame its application in the foundational principles of adult education; an "Andragogy 2.0" is required. While adult learning has traditionally focused on critical reflection, transformative learning, individual readiness and organizational cultures, Knowles (2005) sees technology as being in the "andragogical tradition" (p. 237) and as consistent with the adult learning idea of self-directedness. An Andragogy 2.0 emerges.

Brookfield defined critical thinking or critical reflection as "reflecting on the assumptions underlying our and others' ideas and actions, and contemplating alternative ways of thinking and living" (Brookfield, 1986, p. x) and suggested that these were distinctive characteristics of adult learning and of adult education practice. (2005). If one accepts this definition of critical thinking, then it becomes obvious that critical reflection is not a process that is accomplished in a few minutes but might take hours or days or weeks. Technology can facilitate critical reflection over time. For example, a face-to-face discussion relies on participants' instant insights and reactions. In contrast, an asynchronous discussion online affords everyone the opportunity to read others' comments, reflect on them, then return to the discussion at a later time with a thoughtful comment as the result of critical reflection creating a foundation for transformative learning.

Heaney (2000) notes that "individual practitioners do not define the field of adult education, nor do experts. A definition of a field of practice is the social product of many individuals who negotiate the values and meaning of work they come to see as serving a common purpose over time" (p. 561). The interactions between these individuals that result in

that social product have been and will continue to be impacted by information communication technology. This theme is supported by Rhoades, Friedel, and Morgan who define Web 2.0 as that second generation of the World Wide Web that “aims to enhance creativity, information sharing, collaboration and functionality of the web” (p. 25) and by Farmer (2010) who describes Web 2.0 technology as a place where “knowledge is collaboratively built and shared” (p. 272). Or to paraphrase, Web 2.0 technology is a place where theories and models are collaboratively developed and shared.

Future Directions

In his publication “The Knowledge Web”, Moe (2000) recounts that historically, “nations have developed based on their access to physical resources or their ability to surmount physical barriers” (p. 33). He then compares this to today’s knowledge based economy in which the use of the Internet and electronic delivery of information relies on the “resources of brainpower and the ability to acquire, deliver and process information effectively” (p. 33). He suggests that the “Internet is to the Knowledge Revolution what the railroad was to the Industrial Revolution” (p. 14). He notes widespread optimism surrounding the twenty-first century with “futurists predicting a period of rapid growth at the magnitude of the industrial revolution, if not greater, with the advent of the knowledge-based economy” (p. 33). Alheit (2009) suggests the “communication and interaction networks of the IT age” will “create the “future form of knowledge” which is “*doing knowledge*, a kind of lifestyle that determines the structures of society far beyond the purely occupational domain” (p. 119).

Further future predictions follow two themes. The first cautions that emerging new technologies will not replace the old. Valmont (2003) reminds us that “oral storytelling did not die when Gutenberg created the printing press” and “novels did not go away when films became popular. Literacies simply evolve” (p. 298).

This paper has connected decades old learning theories to today’s technology rich environment. While the concept of the learning community in the world of adult education is only a few decades old, technology in the form of Web 2.0 is providing exciting options for enhancing and expanding learning communities across space and time. The ongoing collaboration within these learning communities will fuel the advancement of the field of adult education and the development of new theories and models. The time has come for adult education to meet Web 2.0 technology in a world where Malcolm Knowles six principles of andragogy exist in cyberspace. The author’s predictions might be a future with even more connections, more blurring of boundaries; a future that values personal philosophies but shared experiences and goals. Maxine Greene (2001) challenges us to see the future as an opportunity for “thinking of things as if they could be otherwise” (Greene, 2001, p. 127).

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