The Role of Social Setting in Adult Information Technology (IT) Literacy: A Literature Review

Claretha H. Banks, Jean Parker, and Anita M. Thomson
University of Arkansas

The role of social setting in adult IT literacy has not been a topic of research in much of the current literature. The purpose of this proposed study is to compare and contrast the extent to which social setting influence adult IT literacy. Participants will receive IT literacy training at the Institute for Advanced Learning and Research (IALR) or their local church. The results may provide a benchmark for how social setting influences adult IT literacy.

Key words: Adult Education, Learning Environment, Computer Technology

The role of social setting and the use of technology in adult education is the focus of the Institute for Advanced Learning and Research's (IALR) proposed benchmark study concerning participants in the Danville Church-based tutorial program and the IALR Information Technology (IT) literacy program. Relevant literature has exposed a myriad of social settings and the increasing use of technology in adult education but very little research is available with regards to the impact of the various settings on the learning and retention of information for the adults involved. According to Nicol, Minty, & Sinclair, there is agreement that interaction and dialogue are essential for productive learning, but is that interaction and dialogue hindered or enhanced by the setting in which it occurs? In addition, there is debate over whether learning is individualized from internalization of prior social interactions or does it emerge from participation in socio-culture activities and is distributed across participants in learning communities (2003)? For the older adult "education powerfully shapes self-esteem, a sense of identity and social networks" (Boshier, et.al., 1999, p. 278).

Clarke (2005) points out that while developing appropriate learning environments is dominating organizational agendas, there is a lack of empirical support to help with the design of effective learning climates. Adults take classes or enhance their learning for many reasons including skill and job improvement and personal understanding (Lawson, 2005). Lawson states that one of the most pressing needs for adults at the present time is technology related education for both their personal and business needs. She refers to Venkatesh and Speier's (1999) idea that a learner's mood has a great influence on his ability to learn and that an instructor should capitalize on this even to the point of restructuring the environment if necessary, thus indicating that the social setting for learning is very important. Kerka (1988) says that offering a place to make new friends in a warm friendly atmosphere and offering programs in accessible neighborhood locations with flexible scheduling are great ways to build successful learning communities. It is based on these ideas that this study is proposed.

Problem Statement

While IT literacy programs are conducted within communities throughout the country, the Danville Church-Based Tutorial Program and IALR's adult IT literacy program is unique in that it is being implemented through various social settings including on-site, at the IALR, and off-site, at various churches in the community. The proposed study will investigate the role of social setting and the use of technology in adult education. Some of the issues of interest include geographic location, demographics, socioeconomic status, interaction with instructors, kids and others, cultural and technological issues. The extent to which social setting plays a role in IT literacy for adults is unknown. Social setting or learning environment may influence the success of adult learners with regard to IT literacy. The purpose of this proposed study is to identify and document the extent to which social setting influences the IT literacy for adults.

The following research questions will guide this study:

1. In what way(s) is the adult IT literacy program effectively being implemented within the community?
2. What are the key characteristics of the adult IT literacy program?
3. What best practices enhance learning, teaching, and administration of the adult IT literacy program?

4. What are the challenges/barriers of the adult IT literacy stakeholders including IALR staff, church program coordinators, and program participants?
5. What are the perceptions of the participants within the adult IT literacy program?

Method

A review of current literature involving learning communities was conducted using the key words adult education, adult learning, social setting, learning environment and IT literacy. ProQuest, EBSCO Host, ERIC, ERIC Digest, OCLC Search, and InfoTrac were research databases used obtain articles related to this topic. The criterion for selection of the articles was that they had to be published in refereed journals or were government study statistics. Each article was completely read and analyzed based on the goals of the study. The themes for the topics were identified based on the purpose of the study which is to identify the extent that social setting influences the success of IT literacy for adults.

The proposed study will utilize quantitative methodology. Throughout the duration of the proposed study, the researchers will be involved in continuous extant data analysis of relevant reports, institutional documents, and literature review on adult education, human resource development, rural economic development and online education. The Institutional Review Board (IRB) will review and approve this proposal before the study commences. The scope and setting of the proposed study will be limited to the IALR and the six counties it represents within Southside, Virginia. The IALR is a new center within this community.

Data Collection

To collect data, a survey (mailed and Web-based) will be used to collect quantitative data on participant perceptions. The survey will be administered via Perseus and a link will be available on the IALR's website to aid in data collection and dissemination.

Participants

The participants of this study will be adult participants in the IALR or church based computer literacy, Learning Liftoff program. Participants will be invited to participate on a voluntary basis and there will be no remuneration for participation. There are expected to be over 100 participants in the survey.

Learning Environments

Since this study focuses on the social setting in adult education, the role of the learning environment is a focal point. A discussion of the learning environment is deemed important and Hiemstra and Burton (1990) include social, cultural, and psychological elements as well as physical features in their definition. They state that “it is important to establish a learning climate that enhances learner commitment and that such environmental features as flexibility, attractiveness, comfort, and utilitarianism are very important in optimizing the learning”. They assign 24% of the impact on learning as being from the physical environment (Heimstra & Burton, 1990). They based much of their discussion on White's (1972) estimate of the importance of the environment in that 75 percent of learning is attributed to motivation, meaningfulness, and memory, and the remaining 25 percent is dependent upon the effects of the physical environment. White believes that the "success of adult education is dependent to a considerable extent upon the facilities and environment provided for the learner" (White, 1972, p. 1).

Armatas, Holt, & Rice (2003) see the need to design, structure, and deliver learning environments that are customized to the differing needs of students while at the same time preserving the learning goals. Their study, involving an online class in which both on-campus and off-campus students were enrolled, took into account learning goals, study strategies, interest, and computer anxiety as variables that would affect the role of the learning environment. They concluded that resources should make unique contributions to students' learning and cater to particular learning styles and media preferences.

Types of Learning Environments

Many different types of learning environments are discussed in literature including online environments from asynchronous to question and answer type structures; formal face-to-face settings in four year colleges and universities as well as junior colleges; informal settings such as museums, art/nature/science centers, libraries, churches, homes, friendship groups, workplace and on-the-job trainings; community based programs; and print materials in the form of books and/or manuals or video programs. There does not appear to be any definitive studies where one of these environments is preferred over another in relation to the learning that occurs, only in the type of learning that is desired and the goal of the learner.

Heimlich (1996) indicates that nonformal institutions (museums, centers, and libraries) provide a tremendous

opportunity for lifelong learning even though only 50 percent of the people involved actually have learning as a goal. Friendship groups involving persons known to each other constitute a learning environment where "women have created safe spaces …in which they gather to talk about their problems, achievements, share feelings, and stories" (Puigvert & Elboj, 2004. p. 357) and learn from each other.

Churches continue to play an important role in adult education. Isaac (2005) found that the African American Church is providing adult literacy and general equivalency diploma centers as well as training programs throughout inner-city communities. She references Martin and Rogers (2004) in determining that adult education activities can be affected by the context in which they are offered due to housing market discrimination, social isolation and racioethnic population density (p. 278).

Jarrell (2004), found that programs offered by South Louisiana Community College that are specifically developed for high-risk students help them to stay in college. These programs help encourage a sense of community among the students both socially and academically. Interaction in the classroom between the faculty and the students as well as informal contact is significant.

Distance Learning Environments

Nicol, Minty, & Sinclair (2003) in their *The Social Dimensions of Online Learning* conclude that the social context of online learning is qualitatively different from face-to-face learning and that this premise has significant implications for designing online classes. The design must include ways that learners can communicate and interact with each other using technology (computers, telephone, and other electronic means) to create a virtual social setting. Rovai (2003) agrees that distance education students have characteristics and needs that differ from traditional learners and that the virtual learning environment can promote a sense of community. Workman and Stenard (1996) identified five specialized needs of distance learners. These are consistency and clarity of the programs, policies, and procedures; self-esteem; identifying with the school; social integration; and ready access to support services. All of these needs, when met, will help to contribute to a more satisfying virtual learning environment and increase the number of students who complete the courses. A particular issue associated with the online social e-learning environment is that the social context itself makes it difficult for facilitators/teachers to participate in discussions without taking on a directive role which may in turn limit the exchanges between learners (Painter, Coffin, & Hewings, 2003) and affect the sense of community that is being encouraged. Miller and Mei-Yan (2003) have concluded that on-line learning is the most important issue facing higher education in the past 100 years and because of the restructuring of the delivery method, educational institutions now deliver courses at various times and places and have begun to change the sense of community for which these institutions have been famous.

In addition to formal classes that are delivered via the internet and the e-learning community, there are other types of learning taking place through this medium. Telementoring, an online service that has been developed by many organizations, allows knowledgeable adults to answer questions electronically much as they would in person (O'Neill & Harris, 2004). Examples include "Ask Dr. Math" and "Ask-a". Limitations of this service include the lack of the opportunity for students to develop ideas with the same teacher over time and with the teachers' perception of the student. No sense of community is fostered. On the other hand, expert guidance takes precedence and learners are able to access a wide variety of topics. An interesting observation that O'Neill & Harris (2004) point out is that the communication between the student and teacher in the social setting of telementoring takes place between people who are in two entirely different settings. Some problems may exist in their being able to relate to each other as they struggle to understand each other's perspective. This may be offset by the fact that the student is freer to ask questions and voice concerns without being concerned that someone will know.

Home and Workplace Learning

Home learning is possible through the use of television and print materials. Sharon Barry (1979) discusses a way parents can access learning by viewing television shows with a printed guide. This medium, also usable in classrooms and adult education programs, is adaptable for just about any learning environment.

Learning in the workplace was addressed by Clarke (2005) and focused on whether various aspects in the work environment would have an effect on learning. Surprisingly, he found that there was little support for a relationship between workplace learning environment conditions, learning transfer and training outcomes as he hypothesized. Documented studies show a significant relationship as well as studies in addition to his that show no significant relationship. He concluded that organizations need to know how to improve workplace learning and that they can only do this with more research regarding the influence of the environment. Hodkinson & Hodkinson (2003), in their study involving the workplace, found that learning in the working environment is both purposeful and incidental.

In addition to job related training in the workplace, topics may include language improvement and basic educational skills. The Office of Vocational and Adult Education in Washington, D. C. sponsored the *Workshops in the Workplace: A Business Education Partnership* (1998) from November 1994 to January 1998. In the final report,

it was determined that learning in a social context was important and that the workplace is an ideal setting for literacy development because it is the context in which many learners have their most extensive social contacts.

Adult Learning

It is also important to understand why and where adults seek educational opportunities so those types of situations can be optimally designed. This design then brings us full circle back to the types of social settings that adults require. Lawson (2005) explains that adults seek to increase their skills in order to improve their job opportunities and their own personal knowledge. Knowles (1998) defines adult learning as "the process of adults gaining knowledge and expertise" (p. 124). He says that adults want to be in control of their own learning and that the outcome of the learning can be personal growth, general knowledge, or amusement. "Life change is another driving force that will cause an adult to want to learn. The core principal of andragogy is that adults are most ready to learn when the learning meets an immediate life need, and are most motivated when it fills an internal need" (Knowles, 1998, p. 172). Determining why an adult is seeking knowledge is an important factor in deciding how to impart that knowledge.

Apps (1991) explains that learning in the workplace or a community setting has become popular because of the busy schedules of adults and the fact that they want control over the place, time, and pace of their learning. He mentions that adults want to be able to choose when, where, what time, how slowly, and how fast they encounter these learning opportunities. His ideas about adult learning encompass an accumulation of information, change in behavior, improved performance, change in knowledge, attitudes, and skills, a new sense of meaning, cognitive restructuring, and personal transformation. His concept of adults as learners involve global versus local, social versus alone, auditory versus visual with the overall picture being somewhat "turbulent at times with peaks, valleys, and plateaus, fits and starts, moving forward and sliding back" (p. 34).

Merriam and Brockett (1997) distinguish between adult learning and adult education. They define adult learning as "a cognitive process internal to the learner; it is what the learner does in a teaching-learning transaction, as opposed to what the educator does. Learning also includes the unplanned, incidental learning that is a part of every day life" (p. 6). Their definition of adult education is "activities intentionally designed for the purpose of bringing about learning among those whose age, social roles, or self-perception define them as adults" (Merriam and Brockett, 1997, p. 8).

Moss and VanDuzer (1998) assisted learners in controlling their learning by presenting them with problems to solve or products to develop. This "project-based" learning functioned as a bridge to help students learn English by using it in class and real life situations outside of class. They placed the learners in situations that required them to actually use English in order to communicate and to work in pairs or teams. The learners found this type of learning to be exciting, challenging, and meaningful.

Kerka (1998) looked at adult learning from the perspective of volunteers and their learning opportunities. She found that the volunteer pool included senior citizens, students in service learning projects, full-time professionals, homemakers and the disabled. The types of learning depended on the context of the volunteers' jobs and settings. Although formal education and training were a part of all volunteers' learning, much learning occurred through experience, interaction, observation and incidental activities.

Imel (1998) studied the integration of technology into adult learning. In referencing Ginsburg, she noted that he found four basic approaches. These were technology as curriculum, as a delivery mechanism, as a complement to instruction, and as an instructional tool. As a curriculum, technology skills are taught. In the delivery mechanism it can be a means for instructional delivery through computer based learning systems, televised instruction or video or audio tapes. Technology may be used to complement instruction and extend learning by allowing the learner to practice or supplement his own learning. As an instructional tool, technology can be used for word processing, Internet searches, distance education, and immediate access to resources. Burge and Carter (1997) suggested ways to structure the environment after determining what adults want when technology is used: 1) a chat room or communication area, 2) fast access, 3) promote independent and interdependent activities, and 4) use intuitive and essential learning tools. Imel (1998) suggests that the focus be on the learning and not the technology.

David Stein (1998) explains the situated learning strategy in relation to adult learning. He gives students the opportunity to learn content through activities and to use cooperative learning to acquire knowledge. Learning is important for the experience rather than the subject matter and becomes a social process integrating content, context, community, and participation. His hope is that the classroom is transformed from "a source for transferring knowledge from the instructor to learners to a resource for interpreting, challenging, and creating new knowledge" (p. 5).

Computer and Internet Access Challenges

People living in high-income households are more than twice as likely to have home computers and Internet access as people living in low-income households (Corporation for Public Broadcasting [CPB], 2003, p. 4). Among adults, less than 25% of those with annual incomes below $25,000 have Internet access at home, compared with more than 75% of those with annual incomes above $50,000 (Cooper, 2002, p. 4). Particularly troubling is that the socioeconomic group with the most quickly growing rate of Internet access is comprised of people in the $100,000 to $150,000 household income range, followed by those in the $150,000-and-up bracket. Meanwhile, people in households making less than $25,000 per year experienced the smallest increase in Internet access (atnewyork Staff, 2002, p. 1). Consistent with these gaps, people in lower income brackets are much less likely than people in upper income brackets to enjoy high-speed Internet access from home. According to Mark Cooper, Director of Research for the Consumer Federation of America,

> While lower income households have been gaining access to the narrowband Internet, the Internet has not been standing still. Upper income households have moved on to high speed Internet service. The percentage of upper income households (incomes above $75,000) that already take high-speed Internet is as large as lower income households (incomes below $25,000) that take narrowband Internet at home. In other words, lower income households have fallen a full generation of technology behind (Cooper, 2002, p. 5).

Although technology affords many advantages, integrating technology with fair and equitable access to all can be very challenging. Nevertheless, there are numerous groups and organizations willing to find ways to battle those challenges.

> Though poor neighborhoods and families face daunting challenges, technology deployed in education can help remove inequities between the schools of the inner city and the suburbs, between cities and rural districts, and inequities faced by people with physical disabilities and by Native Americans. Technology can become the force that equalizes the educational opportunities of all…regardless of location and social and economic circumstance. This should be the national goal (Reinventing Schools, p.4).

When integrating technology into the curriculum, it is very important to create plans and policies to ensure equitable access and use for all members of the learning community. Funding and professional development characterize the key means of supporting equitable access and use of technology to ensure technology literacy and to support meaningful learning for all students. However, these means may not provide enough support.

Conclusion

Current literature has much to say about the adult learner, adult learning, and the learning environment, but provides little empirical evidence about whether the social setting where the learning occurs has much effect over the learning. Littleton, Phil, and Whitlock (2004) target the role of the teacher in these settings. They say teachers guide learning by finding out what the students know, responding to the students and incorporating what they know into the flow of the class discussion, and use the classroom experiences they have shared with students in order to reveal and emphasize the value of these experiences.

Within the included studies, designing the learning climate, structuring the environment to promote effective learning and providing a warm, welcoming atmosphere in easily accessible places are all mentioned as ways to build successful learning environments. These environments are located in rural or urban areas, churches, workplaces, colleges and universities, homes, museums, zoos, libraries, or in the virtual community. Research currently does not differentiate between the effectiveness of any of these environments as long as the needs of the students are being met, including those of the disabled learner.

Adult learning is being impacted by the increasing use of technology and the advancement of online learning environments. These environments require different structures and skills than the traditional learning environments while providing the adult learner with readily accessible information and knowledge. Because of the ever increasing demand for learning and knowledge, adult educators need to determine if one social setting is more conducive to learning than another.

Implications for HRD

In the Danville study, data obtained in regard to the different settings (on-site, at the IALR and off-site in various churches) should provide the adult learning community with empirical information as to whether one setting is more beneficial than another. The use of technology in the study will add another factor. The results of this study

will have impact on designs of the learning environment for many areas of adult education, including, but not limited to human resource development, adult education, rural economic development and online education.

Much of the research discusses the importance of making students feel a part of a community, a school, or a class when they come to learn. Merriam and Brockett (1997) break the learning environment into physical, psychological and social aspects. Physical refers to the actual space where learning takes place, psychological involves both the teacher and the learner and their ability to engage in "genuine exchanges" (p. 150), and social recognizes the importance of race, sex, and other social factors. Their statement "the key point is that the learning environment is an area ripe for research and innovative practice" (p. 151) gives credence to the proposed study.

Results may have implications for human resource development; adult education; rural economic development; and online education since rural communities are often where less access to technology is found. By addressing some of the issues for adults in rural communities, economic development may be enhanced as well as education level in the online environment since computer skills may be enhanced. The study may have an impact upon HRD and adult education policy, theory, and practice. With the continued growth of rural economic development, this study may have an impact on future programs and methods.

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