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Adult Education and Technology in a Rural County: The Irony of Persistent Poverty and 'Progress' in the Information Age

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Abstract: *Information and communication technologies (ICTs) have brought many new challenges for adult education. In this qualitative study, a framework is proposed to address the disparity known as the Digital Divide in a persistently impoverished rural county in the southern United States.*

Background and Purpose

Technology should be our friend in the creation of a better life; it should complement human abilities, aid those activities for which we are poorly suited, and enhance and help develop those for which we are ideally suited. That, to me, is a humanizing, appropriate use of technology. (Donald A. Norman, 1993, *Things That Make Us Smart, p.23)*

In some location in every country of the world, a privileged, dominant group with influence has the optimum information and communication technologies (ICTs) readily available, with the fastest speeds and access to powerful data that has the ability to transform their lives. These groups also possess the necessary educational background and technological understanding to operate these tools for their advantage. This scenario is in direct contrast with individuals living in impoverished urban and rural regions who have little or no access to computer technologies. Nor do the poor have the requisite education to maximize their learning potential and become digitally empowered. Wresch in *Disconnected: Haves and Have-Nots in the Information Age* (1996) wrote that "the poor are excluded from much of the world's information and no one has even begun to outline a solution to the problem" (p. 58). Demographic factors such as income, (NTIA, 1999, 2001), cost (Morissett, 1996) education, race, (Novak & Hoffman, 1998) that contribute to this disparity. This disparity has been called the *Digital Divide* (Morrisett, 1996*)*.

The world is quickly changing from an industrial to a post-industrial and knowledge-based economy that uses ICTs (Salzman, 1994). A relationship exists between society and its technologies, and this association creates new possibilities and concerns. MacFarlane (1998) comments on this societal transition to what he calls a *knowledge economy* [Italics added]:

Over the coming decades higher education will be transformed by a powerful combination of economic, social and technological forces. The role which technology will play in this process is complex, but can be considered in an illuminating way in terms of three interacting economies–a cognitive economy, a learning economy and a knowledge economy. (p.82)

The Digital Divide exists predominantly in rural locations (Lenhart, 2003, NTIA, 2000). Many experts (Castells, 2001; Warschauer, 2003) fear that if universal access to ICTs does not soon become a reality, millions of rural Americans will be further disassociated from a technologically proficient world. Guerstein (2003) states: "Of particular interest is the context of communities and opportunities resulting from dramatic changes in local circumstances and opportunities resulting from technology change and globalization of production and competition . . ." (p.5). How does the rural adult learner perceive the experience of learning

about information and communication technologies? What factors facilitate or impede these adult learners in learning with computer technologies?

Relevant Literature

The Digital Divide indicates a deeper socioeconomic, educational and political divide within our society. Poverty portends to be a major contributor to the educational and unequal diffusion of technology in the United States (Solomon, Allen, & Resta, 2003; NTIA 2001). Poverty in the United States has increased consistently during the twentieth century (Carl Vinson Institute of Government, 2003; Glasmeier, 2002). In today's world this lack of technology-oriented knowledge is called *digital illiteracy* and *information poverty*. Cronin (1995) defines information poverty as "not knowing what options exist, being an information 'have-not,' that threatens to create a class of electronically colonized info poor techno-peasants" (p.32). According to Buckley (1987), information poverty indicates the absence of computers and access to communication. Physical access to computers is the basis of measurement used by the U.S. Department of Commerce/NTIA,1999; 2000, 2001, 2002) in addressing the Digital Divide: "People without computers and access to communication lines will be the information poor in the future unless other avenues for access are provided" (p.47). These studies explicitly demonstrate that a difference of opinion exists within the academic community regarding the definition of access and the extent of the digital divides. Kearsley (2000) offers these comments on the Digital Divide:

> A much worse aspect of the culture gap is the so-called Digital Divide. It has been well documented how computers are easily available to the "have" (i.e., middle and upper class urban/suburban) and not so available "have-nots" (i.e. poor rural/inner city individuals). This introduces a social stratum to online learning, which is highly undesirable. (p.43)

To actively participate in the information-age society, individuals must become digitally literate (Negroponte, 1995). This condition that requires access to, and knowledge of, the use of networked computing devices. An inability to understand the potential of a computer system and to communicate effectively is a sign of digital illiteracy or information poverty. Rural geographical areas are more at risk for having high levels of information poverty than urban areas and the Southern region of the United States has the highest levels of digital illiteracy in the world (NTIA, 2000). In our world today we are surrounded by technology in many forms (e.g. cellular phones, price scanners, cars with computers, genetically engineered food etc) and it is important to become digitally literate to understand these changes and to be a participating member of society.

For this study, information poverty is defined in a geographical context between urban and rural areas. Information poverty and digital illiteracy are viewed as a disadvantage because it deprives individuals of valuable information that could benefit them. Why is it so important to study the impact of learning with ICTs on rural individuals? Mack (2001) responds that we are at a crucial juncture in society, and those without the skills to access this information will be the unemployed and disenfranchised of tomorrow. For example, the contrast between the technology "haves" in the urban center of Atlanta and the rural "have-nots" in rural Georgia, less than 100 miles away, is staggering.

Most research has continued to focus on content or the technology and not the individual. Brown and Duguid (2000) argue that if researchers examine the information too closely they run the risk of overlooking the social context and why the information is or is not

important in the first place. "By taking more account of people and a little less of information" (p.19) would be the preferred means to determining the utility of technology in their lives.

There are those (e.g., Kenway, 2001; Kvasny, 2002; Norman, 1993; Turkle, 1983) who advocate a more human-centered view of technology and people. According to Loader (1998) "little attention has been given to a consideration of the consequences of uneven technological diffusion for social inequality" (p. 4). What is the relationship between poverty and technology and how can we gain insight from within the social context of the problem? Postman (1993) argues that technology systems are ecological and there are dynamic cause and effect relationships. New ventures such as the Internet would affect the political, economic and social systems within any community. Likewise, Kenway (2001) and Rudd (1999) argue that we are missing important aspects when examining the implications of the diffusion of ICTs. They emphasize such technologies as tools for learning or as a means of enhancement. In particular, they claim it is more important to ask "What are the quality of life and social justice issues which arise?" and "What sort of polity will new technologies help bring into effect?" (Kenway, 2001, p.149).

The Black Belt

In 1903 W.E.B. DuBois wrote about the struggles in the Black Belt in his famous book *The Souls of Black Folk*. He chronicles the history and context of a region caught up in the throes of post-slavery and what it means to be Black at the beginning of the twentieth century in an age of industrial progress. Figure 1 shows the geographical extent of the Black Belt region and how it stretches from Virginia to Eastern Texas in the 1930s. Figure 2 shows the same region from the 1980 and 2000 U.S. Census reports. Poverty is persistent and spreading in the Black Belt region. In 1936, sociologist Arthur Raper
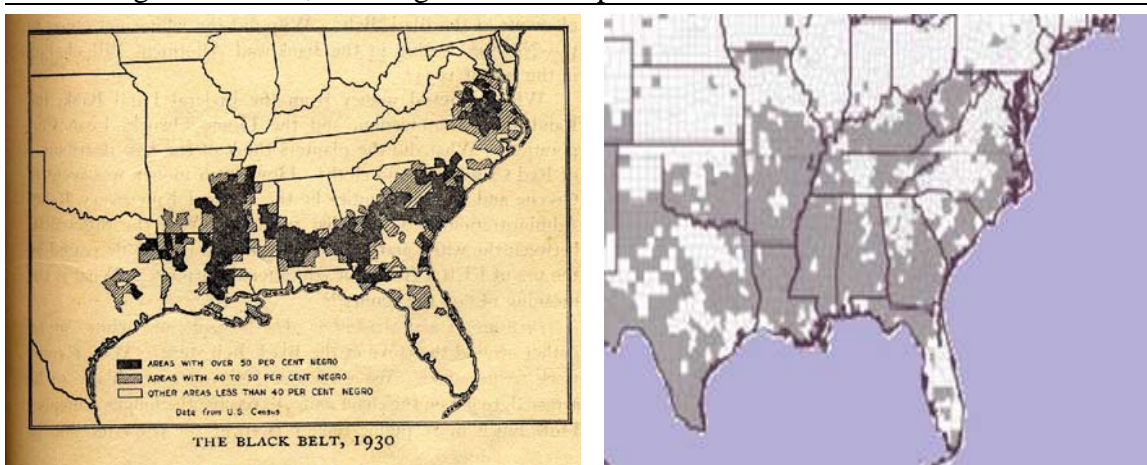
Figures 1 & 2. The Black Belt. Data from 1930 U.S. Census. From "Preface to Peasantry: A Tale of Two Black Belt Counties" (1936). University of North Carolina Press. Adapted with permission of the publisher. *Persistent Poverty Regions in the United States from 1980-2000* From "Dismantling Persistent *7. Persistent Poverty Regions in the United States from 1980-2000* From "Dismantling Persistent Poverty in Georgia: Breaking the Cycle". Carl Vinson Institute of Government, 2003 Retrieved May 5, 2003 from http://www.cviog.uga.edu/poverty/april/Adapted with permission of the author.

published *Preface to Peasantry: A Tale of Two Black Belt Counties*. This study conducted from 1929-1936 examined rural Greene and Macon counties in Georgia over a period of seven years and provides great ethnographic detail about the historical antecedents of the Black Belt region and how the area was once prosperous but had fallen into despair, illiteracy, and poverty.

Design and Methodology

This study examined the benefits and side effects of computer technology in rural communities and relies on the experiences of the adult students to provide insight and meaning. As Lincoln and Guba (1985) state it is essential to carry out research in the natural setting or context of the entity (rural ICT program) for which the study is proposed because realities are wholes that cannot be understood in isolation from their context. The primary data gathering instrument was the researcher because it would be virtually impossible to prepare, a priori, a nonhuman instrument for the variety of realities that would be encountered. In addition to knowledge expressed in language form, the tacit (intuitive, felt) knowledge is encouraged to be used because the nuance of multiple realities can be appreciated only in this way. Qualitative methods are required for this study because they are more adaptable to dealing with multiple realities and expose the nature of transaction between investigator and respondent.

Participants and Setting

The selection of participants included men and women from diverse backgrounds based and socioeconomic status (educational status, marital status, employment status etc.). Purposive or theoretical sampling is preferred for research using naturalistic inquiry because the researcher may be able to increase the scope or range of information exposed as well as likelihood that the full array of multiple realities can be uncovered. Participants in the study included eight adult education students, four adult educators, and members from the community including the president of the Chamber of Commerce, the editor of the local newspaper, and the head librarian of the public library

Data Analysis

I employed the use of computer assisted qualitative data analysis software (CAQDAS) to help organize and manage the interview data. The organization of the interview transcripts, the field notes from observations, and the numerous documents collected were digitized for quick retrieval and analysis. The entire data set included interviews, observations, photographs, documents, and any other artifacts that were relevant to the stories shared that have developed during the interviews.

Discussion

This study found more factors that impede the students' use of technology that those which facilitate their use. Those impediments included: uncertainty about change, fear of technology, need for guidance, inexperience, relevance, the social context of the persistently impoverished county, and the perceived need. There was a noticeable change in the lives of the student participants when they began using computer technologies. Over the 6-month period I witnessed students who were able to learn new skills both from technology and with technology. For example, Dickey was able to search the Internet and successfully locate musical information and lyrics to several songs he sings. Due to her persistent and optimistic attitude to learn more about ICTS, HM eventually began employed part-time. She noted that it was her familiarization with technology that made the difference. Mary continues to use computer technologies as an educational supplement in her quest to graduate with a GED. Sue has taken additional classes in computers at the main campus of Athens Technical College and, like all of the other student participants, continues to progress.

The students acknowledged the importance of being able to "fit in" and be a part of something that has utility in their lives. This suggests a willingness to conform to what they

deem as socially valuable. Dickey and Sue also compare themselves to other who have social capital through the use of ICTs. In their minds, the application of computer technology has inherent social capital.

Implications and Recommendations

Adult educators face critical issues of defining what is to be learned about using ICTs. Yet, few practitioners and researchers have analyzed the operational definitions and specific knowledge base for digital literacy or competencies in the adult lives. Rather, digital literacy is often prescribed by technology experts and external environments that designate a desired universe of skills and knowledge. Figure 3 shows the four interrelated factors to be addressed for effectively addressing the Digital Divide. A brief explanation of each component is provided adjacent to each variable.
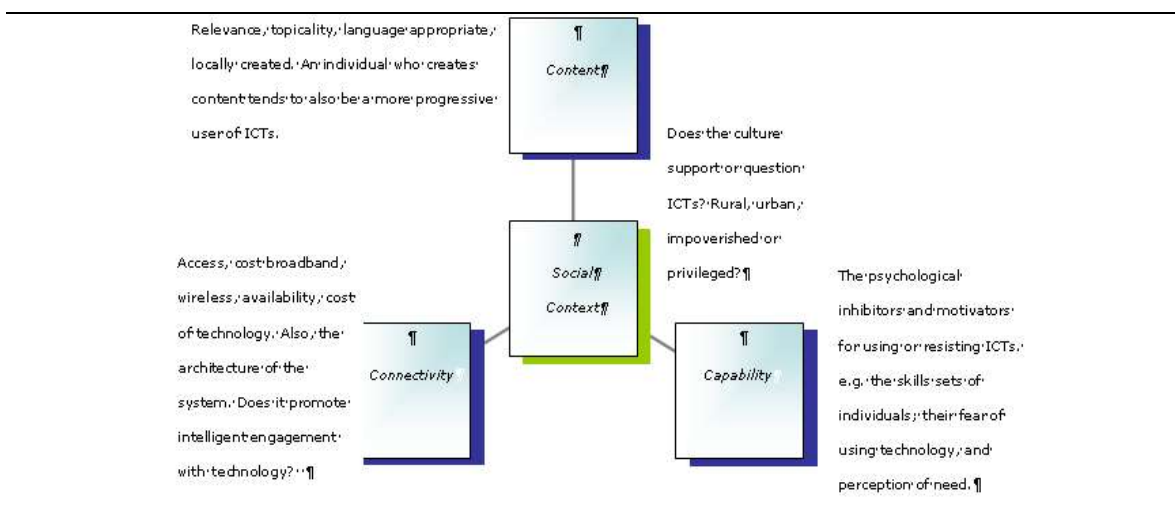

Figure 3. The 4-C Framework

The technical issues of capability, connectivity, and content are dependent on the central issue of context. This research also concludes that exploring the social factors surrounding the use of ICTs in rural areas can help in lessening the effects of the Digital Divide and the many issues of social justice such as inequality and disparity.Information and communication technologies hold promise to bring our world closer together through greater understanding of the social and cultural values of many diverse groups. It also has the potential to divide. When the tool of technology is not effectively and properly taught there is potential to widen the schism between the coexisting and competing social systems.

Understanding the social context plays an integral role in an individuals' learning experience. Many rural areas are underserved, but as technology becomes more ubiquitous (e.g. e-learning, emerging synchronous educational technologies) it will become more important to study how individuals are making sense of this social phenomenon. As adult education pioneer Eduard Lindeman states, "The source of highest value in adult education is the learner's experience" (1926/1961 p.6).

References

Brown, J. S., & Duguid, P. (2000). *The social life of information*. Boston: Harvard Business School Press.

Carl Vinson Institute of Government (2003). *Dismantling persistent poverty The information age: Economy, society and culture. Vol I. The rise of the network society in Georgia: Breaking the cycle.* Retrieved May 5, 2003, from http://www.cviog.uga.edu/poverty/april/

Castells, M. (2001). *The Internet galaxy: Reflections on the Internet, business, and society.* New York: Oxford University Press.

DuBois, W. E. B. (1903). *The souls of black folk.* Chicago: A.C. McClurg & Co.

Glasmeier, A. K. (2002). One nation, pulling apart: The basis of persistent poverty in the USA, *Progress in Human Geography, 26*(2) 155-173.

Guerstein, M. (2003). Perspectives on urban and rural community informatics: Theory and performance, community informatics and strategies for flexible networking. In S. Marshall, W. Taylor & Y. Xinghuo (Eds.) *Closing the Digital Divide: Transforming regional economies and communities with information technology.* London: Praeger. 1-11.

Kenway. J. (2001). The Information superhighway and postmodernity: The social promise and the social price. In C. Praechter, M. Preedy, D. Scott and J. Soler (Eds.), *Knowledge, power and learning* (pp. 215-225). London: Paul Chapman.

Kvasny, L. (2002). *Problematizing the digital divide: Cultural and social reproduction in a community technology initiative.* Unpublished dissertation. Georgia State University, Atlanta, GA.

Lincoln, Y., & Guba, E. G. (1985). *Naturalistic Inquiry.* Beverly Hills: Sage.

Lindeman, E. (1926/1961). *The meaning of adult education.* Canada: Harvest House.

MacFarlane, A. (1998). Information, knowledge and learning. *Higher Education Quarterly, 51* (1) 77-92.

Mack, R. L. (2001). *The Digital Divide: Standing at the intersection of race and technology.* Carolina Academic Press: Durham, North Carolina.

Morrisett, L. R. (1996). Habits of mind and a new technology of freedom. *First Monday,* Retrieved April 21, 2003, from http://firstmonday.org/issues/issue3/morrisett/index.html

Negroponte, N. (1995). Being digital. New York: Knopf.

Norman, D. A. (1993). Things that make us smart: Defending human attributes in the age of the machine. Reading, MA: Addison-Wesley.

Novak, T.P., & Hoffman, D.L. (1998). Bridging the Digital Divide: The impact of race on computer access and Internet use. Retrieved June 1, 2004 from http://elab.vanderbilt.edu/research/papers/html/manuscripts/race/science.html

NTIA (2001). The state of rural technology in Georgia. Retrieved March 6, 2003, from: www.ntia.doc.gov/ntiahome/broadband/comments/Georgia/ruralit.htm

Postman, N. (1993). Technopoly: The surrender of culture to technology. Vintage Books, New York.

Raper, A. M. (1936). Preface to peasantry: A tale of two Black Belt counties. University of North Carolina Press.

Solomon, G., Allen, N. J., & Resta, P. (Eds.) (2003). Toward digital equity: Bridging the divide in education. Boston: Allyn & Bacon.

Turkle, S. (1983). *The second self: Computers and the human spirit.* New York: Simon & Schuster.

Warschauer, M. (2003) *Technology and social inclusion.* Cambridge, MA: MIT Press.

Wresch, W. (1996) *Disconnected: haves and have-nots in the Information Age.* New Brunswick: Rutgers University Press.