
Distance Education and the Digital Divide: An Academic Perspective

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Abstract

This paper will address how the digital divide affects distance education. Lack of access for some students does raise concerns. Access to technology is often defined by what students don't have: what is called a digital divide. Access also is defined by the speed of Internet connections. Access in the future will be even greater as more computers emerge. The divide is huge. "Even as more Americans purchase computers and flock online, most of the disparities that emerged during the latter half of the 1990's remain" (Mossberger, Tolbert, & Stansbury, 2003, p. 35). Whose responsibility is it to bridge the worldwide digital divide? Policymakers and politicians who are in a position to effect change, because it is not just an education issue. The society is becoming an information-laden one. The more information that can be collected the better. Industries are relying on information in order to stay competitive. "However, there remains a digital divide based on race/Hispanic origin, income, location (central city and rural areas), and other demographic characteristics. The lower socioeconomic and minority groups continue to fall further behind the more affluent population" (Sarkodie-Mensah, 2000, p. 23). It is important to remember that access is still a barrier for many distance learners. This is effectively shutting them out of the opportunity to connect with the rest of the world, engage and participate as a lifelong student. This is changing with the rapid introduction of broadband. In an article in the *Community College Journal of Research and Practice*, Cedja stated, "The disparity in broadband connection between rural and urban and suburban is important to address, however as the use of broadband technologies in distance education continues to increase" (Cedja, 2007, p. 299). Broadband is important to the distance education population because most distance learning courses will recommend that you have a broadband connection. By definition, a broadband connection can accommodate the rapid transfer of large amounts or packets of information. To raise rate of the broadband offers faster services are delivered to end users.

Introduction

The digital divide has generally been defined as the gap in access to technology by socioeconomic status, race, and/or gender. In their book, *Virtual Inequality*, Mossberger, et. al. (2003) defined digital divide as "the patterns of unequal access to information technology based on income, race, ethnicity, gender, age, and geography" (Mossberger, et. al., 2003). Addressing the digital divide is also important because technology can connect people to a wide range of opportunities. In his 1999 book, *Electronic Literacies: Language, Culture, and Power in Online Education*, Warschauer stresses that electronic literacy becomes an important aspect in contemporary society and states, "Reading the Web means intelligently finding, evaluating, and making uses of a great variety of sources of information" (Warschauer, 1999, p. 158). Information literacy needs to be recognized not simply as computer literacy or the ability to use technology. Quality education is a universal goal. As stated in the book, *Bridging the Diversity Divide*, "As institutions of higher learning prepare students for an era of explosive change, curricula, and literacies must also reflect the expanding frontier of knowledge" (Chun, 2009, p. 10).

Recently, the potential of information technology to enhance teaching and learning has been demonstrated in virtually every subject matter discipline. The digital divide is real and furthers the information gap. "The lack of fundamental technology-related skills—such as using a mouse and typing, using e-mail, locating information on the web, and using word processing and spreadsheet programs—is a clear indication of the need for policy attention to this issue" (Mossberger, et. al., 2003, p. 38). Since technology continues to permeate our daily existence, it has become necessary to own a computer just to compete in today's world. Information is knowledge and knowledge is power. Today's society has shifted from an industrial society to an information

society. Technology proficiency has become an economic imperative. The business world has adopted technology; so much of the future work will require computer skills. Schools must teach students these skills to meet this challenge. "The new economy is a global one in which capital, production, management, labor; markets, technology, and information are organized across national boundaries" (Warschauer, 1999, p. 15). Schools take seriously their responsibility to prepare students for the workplace. Today's high school education curriculum must include technology skills for entry into the labor market.

Technology provides people expanded and independent learning opportunities when access is equitably distributed. There are still a growing number of deprived urban neighborhoods, with a vast number of unskilled workers, poorly educated youth and adults, and limited financial resources. The main cause of digital divide is the lack of access to information and training for high-tech jobs. Technology can become the force that provides equitable access to educational opportunities for all regardless of location, social, and economic circumstance. Because of this fact, education has become a lifelong process. Numerous organizations are attempting to provide training and access to technology, such as the Urban League and Project SOAR. Project SOAR is a development program for Appalachian American and African American men and women where computer training takes place. To be empowered, people need training and technical support to master new technologies. "Empowerment is essential in a democracy because it allows individuals to work in partnership and harmony with schools, community leaders, and policymakers to make decisions" (Solomon, Allen & Resta, 2003, p. 43).

Digital Divide and the Educational Process

Technology is important to student learning. The impact of the World Wide Web on education and in every aspect of our community is profound. Access to the information available from cyber-space is crucial because information can be used in routine everyday life for education, business transactions, personal communication, information gathering, job searches and career development. Chun stated, "The framework of talent, technology, and tolerance requires amplification as universities seek to maximize their talent potential and respond to the urgent pressure and opportunities of globalization" (Chun, 2009, p. 18). By closing the digital divide, people would be given equal opportunity to communicate and support their quality of life.

The digital divide prevents people from getting an education because they don't have access to the right technology. Bridging this divide will accelerate everyone's ability to learn, share, interact, and solve problems together "The digital divide looks at the role which computers are playing in widening socioeconomic and educational gaps throughout our society" (Bolt & Crawford, 2000, p. 121). As Distance Education Librarian, this author sees that the gaps are impacting on the educational process because the on-campus student has access to the latest technology whereas the off-campus student, many of whom are in small towns, have to rely on outdated equipment and dial-up modems.

Equipment quality is relevant to questions of equal access. Better hardware, better software and faster connection are the basis of having access to all that the Web has to offer. Schools must teach students to become computer literate to meet this challenge. Sadly, school districts are strapped financially and cannot incorporate technology into the classroom is imperative to prepare students for living in the twenty-first century. As a result, there are huge variances in the quality and quantity of computer education in our public schools. Well-known challenges are associated with the costs of maintaining and upgrading technology. The Telecommunications Act of 1996 was supposed to redress the digital divide between the advantaged and disadvantaged schools and school systems. The Act required that every classroom be wired, but technology changes rapidly. Strong leadership is essential in the quest for digital equity. "Leaders for today and tomorrow must focus their work directly or instruction to insure that all children have equitable access to the high-quality learning experiences associated with advanced technology" (Solomon, et. al., 2003, p. 174). The goal of equity is to empower all individuals to achieve academic and personal success in order to acquire knowledge and information through the ability to access innovative communication technology.

Technology can make learning more individualized. Distance education uses technology to empower student learning. Distance education students must be responsible for their own learning. Technology makes learning more immediate. Learning can be fostered through strategic uses of technology. Access to hardware and software for development and use of educational applications, both on and off campus, are essential for success. Self-paced learning has become possible with computers. Distance learning is not dependent upon time or place and in many ways it can be more flexible than the traditional model. Therefore, it can be seen that technology and

distance learning is a good match. "The digital generation uses today's technologies to maintain social networks and bridge and build new ones in the Web-based social networking sites of their age, via their instant messages" (Harwood & Asal, 2007, p. 162). The new technologies are interwoven into the fabric of today's society if everyone does not have access to the technology; the ones denied access will be at a distinct disadvantage when it comes to education, the job market, and being competitive in today's society.

One solution to the problem is OpenCourseWare (OCW), is a term applied to course materials created by universities and shared freely with the world via the internet. The OCW movement began at the Massachusetts Institute of Technology (MIT) with the launch of MIT OCW in October 2002. Henk Huijser of the University of Southern Queensland stated, "The potential opportunities that OpenCourseWare (OCW) offers in providing wider access to tertiary education" (Huijser, 2008, p. 1). OCW provides free online resources to distance learning students which will lessen the digital divide by providing access for all students. We must incorporate open source software in administrative computing environments, curriculum, collaborative research, and other development programs. The OpenCourseWare (OCW) movement has helped some of the world's best universities offer teaching, learning and research resources by publishing their faculty's course materials online and making them available free of charge. Despite the fact that most OCW projects are not technology projects, all of the OCW rely on web-based technologies to facilitate the open sharing of knowledge. In her book, Chun states, "Even the most effective organizational learning tools have no appreciable impact without an unwavering commitment from institutional leadership to attain results" (Chun, 2009, p. 99).

Digital Divide and the Adult Learner

Another challenge is digital inequality at the individual user level. The students that this librarian works with demonstrates this fact because they have been out of the academic arena for years, they are not accustomed to searching electronic databases. The skill level of the returning student is limited because when they were in school, to find books they used the card catalog filled with 3x5 cards and to find periodical references you used paper indexes. Information gathering has changed so much in the intervening years that the returning student must catch up. Those who have easier access to resources and more freedom to use them are likely to extract more from the Web. For example, a student who understands how search queries can be refined through the use of multiple terms in a query will likely turn up helpful results almost regardless of the search engine used. A knowledgeable user will quickly find relevant results. Nonetheless, even the use of such refined search queries requires additional knowledge on the part of the user.

Adult education has had a particular concern with the skills of literacy. "Learners can develop the literacy, numeracy, problem solving, and technology skills that are actually used in everyday life (Ginsburg, 2000, p. 81). The role of the librarian is to teach motivated patrons how to use the library collection. "For the skill divide, two important distinct concepts are incorporated: technical competencies and information literacy" (Choemprayong, 2006, p. 203). The librarians' role is to teach information retrieval from the Internet. The students are aware of the fact that they are not up-to-date on finding information on the World Wide Web. They are seeking skills from me that will help them provide good research skills. I try to teach using active learning whenever possible. Active learning is a method of educating students that allows them to participate in class. Allowing the students to participate in class by hands on experience will allow students to use these skills. This is important when teaching adults. Active learning meets the expectations of the students and makes for an effective learning experience. By teaching how to use the World Wide Web properly and search the various databases for articles, I lead the students towards better and more useful material needed in their studies. Library professionals, particularly in the academia, realize that information literacy plays a critical role in learning process. They have attempted in various ways to address issues related to information literacy and have endeavored to make information literacy an integral part of the college curriculum. The goal is to help students succeed, not only during their years in college but also in their life-long career choices.

Libraries and the Digital Divide

According to the American Library Association, the mission of libraries to provide equitable access to information for all Library administrators can help ease the digital divide by providing equal access to all patrons. They need to institute appropriate policies to make equal access happen. Public libraries have helped narrow the digital divide by providing free access to computers and the Internet. So, we must create solutions that enable everyone to participate in the digital world. One solution is that public libraries provide use of computers. Libraries have a key role in assisting in closing the "digital divide." Public libraries have helped close the digital divide by bringing free Internet and computer access to the common person--particularly those who lack access at home or work. Mossberger et al. found that "in fact those lacking a home connection

are less likely to use the Internet in other places such as libraries.” (Mossberger et al, 2003, p. 33).

Society is recognizing the fact that only an educated, skilled, and information-literate person can contribute more to the economic productivity and societal well-being. To make sure that everyone is able to become an educated, skilled, and information-literate person, librarians and faculty at institutions of higher education throughout the world will need to work together as partners to provide the education needed in the age of information.

Solutions

The solution to the issue of digital inclusion is one of working together to create open education and bridge the technological divide. Administrators can solve this inequality by increasing the bandwidth. Increasing the bandwidth helps the digital divide because sufficient reliable bandwidth for Internet connections will upgrade the technology necessary for distance education classes. Affordable broadband access can make distance learning courses easier to access. Wireless Networks can be used for bridging the digital divide because of the advantages it provides such as implementation cost is cheaper than wired network and it is ideal for rural areas where many distance learners are located. Wireless networks are easy to set up and inexpensive; making it the perfect solution to the digital divide. Administrators can also address the skill divide by instituting educational programs intended to bring competency skills of searching the Internet. Library administrators should provide programming to its patrons to develop their skill level .such as providing a workshop on how to search the Internet. In today’s world, the Internet is the information tool of choice. Administrators must do everything in their power to bridge the digital divide.

Conclusion

The Internet enables exchange of information without regard to geographical boundaries. Lifelong learning has become a necessity. Given that technology skills are increasingly important to finding employment, a lack of access to technology reinforces negative outcomes in the labor market for those with limited education. In the final analysis, no one should be left behind as our nation advances into the 21st Century, where having access to computers and the Internet may be a key to becoming a successful member of society. For Internet use several dimensions of equipment quality are relevant to questions of equal access.

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