Running Head: Digital Divide on Social Justice

# The Effect of the Digital Divide on Social Justice

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Abstract

The authors present an overview of the impact of the Digital Divide on education and explore why it is imperative that students be equipped to use technology, especially high-speed, internet accessible computers. They discuss how the acquisition of technology literacy skills necessary to achieve the social justice goal of providing all children with resources necessary to learn to their full potential will be critically impeded if the effects of the Digital Divide are not addresses. It is speculated that high minority and/or high poverty students and their families will be disenfranchised if the constraints of the Digital Divide are allowed to continue.

There is a need for Michigan students to be technically literate as a precursor to success in post-secondary education and the workplace. To address this need, the Michigan Department of Education (MDE) has developed educational technology standards for each grade level. The Educational Technology Standards and Expectations address operational competencies, social, ethical and human issues, technology communication, research, problem solving and decision making tools. The MDE indicates the standards provide an outline of learning expectations for students. They will also be used in the future to assess students' technology literacy levels. The MDE defines technology literacy as "the ability to responsibly use appropriate technology to communicate, solve problems, manage, integrate, evaluate and create information to improve learning in all subject areas and to acquire lifelong knowledge and skills in the 21st century". (2006, p. 2) They further recommend that all teachers possess these skills and be able to teach and integrate them into their instructional plans. At present, such noble ideas will not be accomplished because all children will not be provided with the same opportunities to develop proficient technology skills as a consequence of the Digital Divide.

The broadest and most comprehensive definition of the term Digital Divide can be found in the widely used internet encyclopedia, Wikipedia. The term Digital Divide:

> "refers to the gap between people with effective access to digital and information technology and those with very limited or no access at all. It includes the imbalances in physical access to technology as well as the imbalances in resources and skills needed to effectively participate as a digital citizen. In other words, it is the unequal access by some members of society to information and communication technology, and the unequal acquisition of related skills. The term is closely related to the knowledge divide as the lack of technology causes lack of useful information and knowledge. The Digital Divide

may be classified based on gender, income, and race groups, and by locations. (Wiki, 2009)

Nieto and Bode (2008) define social justice as "a philosophy, an approach, and actions that embody treating all people with fairness, respect, dignity and generosity"(p. 11). One of the social justice goals is to provide all children with the resources necessary to learn to their full potential (Nieto & Bode, 2008). If all children have access to high-speed, internet-accessible computers, we are giving them the opportunity to achieve to their full potential and have access to the goods and services capital of society. However, the effects of the Digital Divide may preclude some children from developing proficient technology foundation skills and experiences needed to use the internet for academic and work-related endeavors.

Lack of Accessibility to the Internet

For many children, their first exposure to the internet is thorough experiences provided in school. Unfortunately, the Digital Divide precludes all children from equal access to this resource. On the surface, high-speed, internet accessible computers seem to be everywhere in our schools and community. It is reported that 94% of classrooms in America have computers with internet access, including. 15% of classrooms with wireless internet capabilities. Nationally, the ratio is one high-speed, internet-accessible computer available to four (4) students. (Wells & Lewis, 2006 & Day; Janus & Davis, 2006) However, high minority schools, where over 50% of the student population belongs to minority racial or ethnic groups, this ratio rises to one high-speed, internet-accessible computer for every six (6) students. (EPERC, 2007) Once students leave school, the availability of the internet changes drastically based upon multiple factors. Blau (2002) indicates the Digital Divide becomes more than a simple inconvenience as access grows; it becomes a critical barrier to information.

High-speed, internet-accessible computers are in the homes of fewer than 20% of high minority households. Of those with the capability, less than 40% of high minority students use computers at home for school related activities. Such computers are only available in approximately 10% of households earning $15K or less. Less than 30% of students in these households use computers at home for school related activities. (Snyder, Dillow, & Hoffman, 2009). For economically disadvantaged students, limited access is primarily related to a lack of disposable income and is not cultural. However, the lack of access has a direct and immediate impact on their academic performance. (Kalyanpur & Kirmani, 2005)

In high minority and/or high poverty communities, student access to this resource is limited. It is essential for all students to have computers in their schools and homes containing current software and high-speed internet access and printing capabilities. There is an immediate impact on students' ability to progress in school when the technological resources are available. (Valdaz & Duran, 2007)

The development of the operational skills needed to use the internet to increase academic performance can be critically inhibited as a result of the lack of access to state-of-the-art computers and internet-based resources. Students do not acquire the skills needed to operate various application packages and this impacts their academic performance in a many ways. (Kalyanpur & Kirmani, 2005) In order for students to be successful in school and beyond, they must be provided with opportunities to develop proficient internet skills. Schools must begin to bridge the Digital Divide to ensure that all students have equal access to digital and information technology and are able are able to participate in the democracy that is America. As such, today's students must have opportunities to familiarize themselves with the cyberworld. Judge, Puckett, and Mee (2006) findings indicate the factors that positively affect academic

achievement include that students have access to high-speed, internet accessible computers in all classrooms, that students develop proficient technology skills and that students frequently use such computers at home.

Students will need to develop proficient internet skills to participate fully in the American economy. Student use of internet-based resources is influenced by what they actually see the people around them using and how those individuals use the technology in their everyday lives. (Blau, 2002) In general, these opportunities appear to be plentiful.

Over 75% of employed adults use the internet and email regularly. They use the internet to seek information about products and services (78%), access news, weather and sport information (67%) and view television, movies and listen to the radio (21%). However, the internet is only used by approximately 40% of high minority adults compared to over 70% of white Americans. Education levels also factor into adult internet use. Fewer than 25% of adults without a high school diploma use the internet. Internet usage rate tripled to over 75% of adults with a Bachelor's degree. (Day, Janus & Davis, 2005) Income is another factor in adult use of the internet. Fewer than 50% of adults in household earning less than $10K use the internet for any purpose. While, almost 80% of those earning $75K or more use the internet for multiple purposes. (Snyder, Dillow & Hoffman, 2009)

Solutions to Promote Social Justice

As, the number of high minority citizens continues to grow, so does the number of children affected by the Digital Divide. Unless measures are taken to address the disparities in access to internet-based resources, the nation will disenfranchise the majority of its citizens. The quality education promised in America will not be possible, if adequate technological resources are not readily available to all students. (Mason, & Dodds, 2005)

To begin to address the issues created by the Digital Divide, Laptop-On-Loan programs could be implemented that would provide students with state-of-the-art laptop computers and wireless internet cards to complete school assignments. Districts may also considering working with their computer vendors and wireless internet providers to offer current technology to parents and students at reduced rates. These vendors may be able to arrange financing programs, as well. To encourage and increase usage by adults within high minority and low-income communities, schools could provide free, or low cost high-speed, internet training classes, in the local school buildings. These classes could include topics such as, Finding a Job Using the Internet, How to Post a Resume on the Internet or How to Pay Utilities on the Internet.

Community organizations could band together to purchase such computers in bulk, thus reducing the costs, then re-sale them to the citizens in the community. The same could be done with wireless internet cards. The costs of wireless internet access is projected to decrease similar to the rapidly decreasing costs of cellular phone services. As such, group discounts may soon be available to acquire wireless internet access, as well. Almost all adult have some form on cellular phone assess. Through negotiated bundling agreements, wireless service providers would provide cellular and wireless internet access for reduced rates through the community organization.

## Conclusion

As the internet becomes the primary mode of communication of almost all forms of information, it is imperative that students be equipped to use the technology. Local and state governments must begin to view providing citizens with access to high-speed, internet accessible computers as important as other social program. Students and their families will be disenfranchised if such constraints are allowed to continue. The federal government has made a

start with the Universal Service Fund (eRate) by reimbursing schools and libraries for internet connectivity expenses. At one time, eRate funds could once be used for the acquisition of computers and related peripheral devices; however, the practice ended several years ago. Many school districts no longer participate due to reductions in reimbursement levels. As such, low-income district are unable to regularly upgrade computers to meet the ever-changing technical requirements for access to high-speed internet applications. Local and state governments must ensure that resource allocations include provisions for districts to maintain current technology.

Thus, if America is to provide equity in education and promote social justice and inclusion for all students; then it must address the issues resulting from the inequity in access to high-speed, internet accessible computers, both in schools and in the children's homes.

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