

LIS 550 - ASSIGNMENT 2

DIGITAL DIVIDE

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The purpose of this paper is twofold. On one hand, based on Barzilai-Nahon's proposal, "Gaps and Bits: Conceptualizing Measurements for Digital Divide/s," I am advocating for a wider, more inclusive definition of digital divide that would lead to more comprehensive research. On the other hand I offer action items based on the available research to reduce the digital divide existing in the current population, particularly in the school age group.

The recently released National Center for Education Statistics report on "Computer and internet Use by Students in 2003" is a good example what is missing from current research on the digital divide. It addresses "priority education data needs." In the process of doing so it collected and analyzed lots of monotypical indexes on US students' computer and internet use and access. I do not question the value of knowing how age, socioeconomic, demographic, disability, metropolitan, gender and family/household types and status influence computer and internet use. The report provides excellent numbers in these areas; for example

- 80 percent of kindergartners use computers
- use of both technologies is higher among Whites than among Blacks and Hispanics
- those living in households with higher family incomes are more likely to use computers and the internet
- students without a physical disability are more likely than their disabled peers to use computers and the internet
- there are no differences between the sexes in usage.

The report also provides an accurate picture on the difference between home and school use ("many disadvantaged students use the internet only at school"), and the differences between private and public schools ("public school students are more likely to use computers and the internet at school.") It also ventures into the area of what students do on computers and the internet (playing games, working on school assignments, and connecting to the internet.") The authors of the report even did some basic bi-topical analysis on how two variables influence in each other.

In order to have a comprehensive US communication and information policy we have to understand the problems. For simplicity's sake I will call this by its established, most commonly used name, "digital divide", while being aware that other terminologies, such as "social inclusions," exist. The survey examined issues related to digital divide, but the primary problem lies in how the concept was formulated, what was included and excluded, and how the indexes were related, if at all. I posit that the basic approach of the research is not satisfying the needs of creating an effective policy.

Digital divide in its earliest incarnations was identified as a simple issue of access. This was the report's primary focus and it correctly saw that as such it is a non-issue by now, because, "most students use computers and a majority use the internet." However, to get a more meaningful picture, access can and should be defined in a more granular way. It should include infrastructural factors, such as the nature and the capacity of the communication channels, the number of computers per capita, the type and number of ISPs (internet service providers.) Another aspect of access that the report was missing is the consideration of how and whether people with special needs can access the internet.

The report did not cover affordability issues at all. This concept (in relation to digital divide) extends to the availability of hardware, software, the cost of internet connection and the relative costs to average income. NCES did a first-rate job of covering most of the socio-demographic factors in their survey, but missed to consider religiosity and language. It also treated race and ethnicity as a single category. The survey's concept of internet use is also limited. They only examined what the students did online, but were not interested in frequency and length of usage and the users' skills.

The evaluative comment above can and should be applied to the redefinition of the digital divide concept, even if the subject of my analysis was a report on research of students' access and use.

However, the age group examined is especially important. The future of the country depends on whether we continue to manage to educate children to be innovative, creative, and knowledgeable. I would like approach this question from a particular perspective, based on DiMaggio et al's paper, "From Unequal Access to Differentiated Use: A Literature Review and Agenda for Research on Digital Inequality."

The underlying assumption of the digital divide is that technical skills, and familiarity with the internet is beneficial to one's life. DiMaggio's literature review concluded that computer and internet use correlates to higher income, albeit the direction of the causality is debated. For most students the income potential is more important than the actual income they generate while being fulltime students. Nevertheless, the skills they gain in their formative years influence their long careers choices. If we want to create equal opportunities for every person to reach her/his highest potential we need to work on closing the digital divide among them.

Another beneficial result of Internet usage is that it helps the communication and growth of informed citizens; it does not lead to passivity or privatism. (Though, it may cause social withdrawal though on the short term.) These are also important for school age children. The sooner they learn to form their own opinions and use critical thinking skills, the better off they are. Internet usage can hasten this process.

Besides conducting more directed research I have three specific recommendations to alleviate the problems of digital divide. But first, a more comprehensive research is needed to learn the depth and nature of the problems. All the factors that I mentioned in the first part of the paper should be measured, weighed and combined into a comprehensive set of metrics. That way the nature, extent, location and target of digital divide related issues will be known and more adequately addressed.

The existing research shows that the quantity and quality of usage between home and school varies greatly. Disadvantaged and public school students use computers and the internet more at school

than at home. This means in most cases that the students to computer ratio and the time spent using the technology is not ideal. As DiMaggio pointed out, one study proved that using school computers had a negative effect on test scores. Therefore, I recommend that the government initiate a program for public school libraries lending laptops to the most disadvantaged students. Working from the safety and leisure of home could speed up the students' learning and could maximize her/his opportunities.

Second, I would like to recommend a shift on how we think about the internet. Instead of a special, privileged, luxury type of commodity it should be thought of as basic infrastructure required to function in the 21st century. A consequence of this approach would be the governmental support of internet access. Private and government programs already exist to provide computers for the underprivileged. I suggest that the kind of financial support that is provided for low-income families to have phone access should be extended to internet access. The government should offer to subsidize internet connections for those who may not be able to afford it on their own. This would help to decrease the gaps.

Finally, I would like to recommend a government policy for creating (and supporting the maintenance of) non-English language webpages. The objective is to support geographic areas (be it on the neighborhood, city, county or state level) and communities where significant portions of the population do not speak English at all, or not as a first language. Making at least the governmental webpages available in languages of the intended audience would be a first step. A second would be providing help to non-governmental organizations and even private sector entities to turn their online presence multi-lingual. This could directly benefit non-English speaking residents.

This paper offered a framework to create a more precise and granular understanding of digital divide. It resulted in the advantage of actionable items; a few of which I have listed. This approach combines the best of both worlds, because it will both advance the field of studies and provide tangible results.