Chapter 105

Teacher Education and Digital Equity:
Research in the Millennium

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ABSTRACT

For close to two decades, researchers have discussed the prevalence of digital divide in the United States. Scholars have also proposed principles to bring about digital equity. The purpose of this chapter is to examine both conceptual and empirical reviews and studies conducted in this millennium to bring about digital equity. The chapter informs teacher education programs, researchers, school administrators, policymakers, teachers, and other stakeholders about evidences and recommendations to bring about digital equity in US K-12 and teacher education.

INTRODUCTION

The population projection for the United States as of July 1, 2012 was 313 million (US Census, 2012). According to the National Center for Education Statistics (NCES), in 2012, the population of the US over 3 years of age was 297 million, and out of this group, there were 222 million people or 75% who used the Internet (NCES, 2013). Of the persons who had neither high speed Internet access nor any Internet access at home, about 35% found the cost of the Internet expensive and about 11% did not have an adequate computer to access the Internet or did not have a computer. Additionally, people who had not graduated from high school, those living in the rural areas, and senior citizens—all adding up to millions of people in the nation—had slow speed Internet connections and limited choices. The American Community Survey Reports (2014) indicate that in 2013, 87% Asian, 78% White, 67% Hispanic, and 61% Black households had Internet connection, even as the US was the world's leader in advanced wireless broadband Internet services, such as 4G LTE (White House, 2015). On January 14, 2015, President Obama declared, "Today high speed broadband is not a luxury, it's a necessity" (White House, 2015, p. 1). In early 2016, the data available for Internet-access are of 2013-14; the US population data as of

December 31, 2015, was 322 million (US Census, 2016). In terms of computer-ownership, 93% Asian, 85% White, 80% Hispanic, and 76% Black households own computers (American Community Survey Reports, 2014). Table 1 shows the data for income categories and percentages for computer ownership and Internet-access.

The data for Internet-access, computer-ownership, and income groups for 2015-16, are likely to be different than those that are currently available. The available data-sets confirm that not every US citizen has access to the digital world and increasingly so in lower income groups.

A "digital divide" therefore exists in the nation or rather, continues to exist. Gorski (2005) states, "A new approach for framing the digital divide must be critical of digital inequities in the context of larger educational and social inequities" (p. 6). In this chapter, I will examine research on digital equity in the US conducted in this millennium.

BACKGROUND

Hoffman and Novak (1998) credit Lloyd Morrisett, the former president of the Markle Foundation, for coining the term "digital divide," to differentiate between the "information "haves" and "have-nots"" (p. 1). The lack of access to computers and Internet constitutes the "First Digital Divide" (Attewell, 2001, p. 253). Attewell attributed the "Second Digital Divide" to the social differences that exist in the use of computers at home and school. Students from lower economic classes, urban areas, as well as African-American and Hispanic students used computers more at school than their counterparts from affluent, suburban, and White diverse groups, who used computers more at home than at school. Hoffman and Novak (1998), based on their 1996-1997 study, reported the existence of a digital divide between White and African Americans. The authors also pointed out that African American households with incomes of $40,000 or more owned a home computer and used the Internet similar to their White counterparts. Hoffman and Novak (1998) therefore concluded, "Access translates to usage" (p. 391). McConnaughey and Lader (1998) expressed an increasing digital divide between African Americans and Hispanics on the one hand and Whites on the other, in the years from 1994 to 1997. Hoffman and Novak (1999) found similar results in their surveys conducted between 1996 and 1998. Gates Jr. (2000) wrote:

Unless we utilize the new information technology to build and deepen the forms of social connection that slavery, a century of segregation, and subsequent class divisions within the black community have severed,

Table 1. Income categories and percentages for computer ownership and Internet-access

Income Categories	Percentage of	
	Computer Owners	Persons with Internet-Access
Less than $25, 000	62.4	48.4
$25,000 to $49,999	81.1	69.0
$50,000 to $99,999	92.6	84.9
$100,000 to $149,999	97.1	92.7
$150,000 and more	98.1	94.9

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