

Chapter 5.3

Technology Integration Practices within a Socioeconomic Context: Implications for Educational Disparities and Teacher Preparation

Holim Song

Texas Southern University, USA

Emiel Owens

Texas Southern University, USA

Terry T. Kidd

University of Texas School of Public Health, USA

ABSTRACT

With the call for curricular and instructional reform, educational institutions have embarked on the process to reform their educational practices to aid the lower SES student in their quest to obtain quality education with the integration of technology. The study performed was to examine the socioeconomic disparities of teachers' technology integration in the classroom as it relates to implementing technology interventions to support quality teaching and active student learning. This chapter provides empirical evi-

dence of whether these disparities continue to exist, and their effects on student achievement in the classroom.

INTRODUCTION

The rise and use of educational technology in the 21st century has become one of the dominant issues and challenges facing diverse communities, business and industry, educational arenas and the larger U.S. society as a whole. Amidst the euphoria and craze over the power and the potential of information and communication technology has to transform the way we learn, the ways in

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which we communicate, and the ways in which society functions, there is an increasing debate as to who has access and the consequences of access to full participation in a democratic U.S. society. This debate has particular implication for classroom instruction. Educators concerned about the chronic underachievement of students often fall prey to the allure of technology as a tool for reversing the historical influences of poverty, discrimination, inequity, chronic underachievement, and lack of opportunity because technology has the potential to narrow the achievement gap, if equally distributed or widen the gap if only accessible to selected groups in the educational system (Waxman, Connell, & Gray, 2002; Edyburn, Higgins, & Boone, 2005).

SOURCES OF SOCIOECONOMIC DISPARITIES

Research studies have been devoted to socioeconomic disparity in technology integration and use in education (National Center for Educational Statistics, 2005; U.S. Department of Education, 2005). Becker (2001) found that students from higher income families have been found to use computers in school and in their homes more frequently than students from lower SES families. Students of color from urban schools have also been found to have less access to computers compared to Anglo-suburban students (National Telecommunication and Information Administration, 2006). More recently, lower SES schools are only half as likely to have high speed internet compared to high SES schools (Roblyer, 2006). Consistent with this idea of access are the issues within the digital divide itself. Despite the constraints on school funding in most states, schools have devoted an increasing percentage of their annual budgets to technology. The majority of the efforts of the educational community over the past decade to acquire hardware, software, and Internet access have been successful (Divid-

ing Lines, 2001). However, clear evidence of a digital divide, parallel to historical disparities, continues to distinguish urban schools from their affluent counterparts (Chen & Thielemann, 2001; Guttentag & Eilers, 2004; National Center for Education Statistics, 2004). Historical measures of digital equity have been based on the ratio of the number of computers divided by the number of students. A more recent measure involves determining levels of Internet access. Another dimension of this problem relates to questions about differences in home access to technology, therefore impacting urban student achievement.

A second source of disparity in technology use is how technology is used. Previous studies conducted by Becker (2001) and Finneran (2000) found that low SES schools are more likely to use technology for drill and practice, whereas high SES school uses technology in innovative teaching strategies (Becker, 2001; Finneran, 2000). This idea is consistent with the ideas of curriculum reform and reconceptualization put forth by Pinar (2004). Pinar (2004) suggests that the instruments of computer technology are used to drill and kill students into passing standardized test, not actually being integrated effectively into classroom instruction or pedagogical practice that promote quality teaching and active student learning. He further explains that the current use of computer technology in urban schools generally serve to turn its users (students) into disembodied and alienated subjects. Furthermore, as explained in Becker (2001), high SES students are more likely to use technology for school assignment, use e-mails, and use educational programs.

A third source of disparity in technology use deals with the nature of technology adoption and organizational change. A thorough analysis of major research related to technology and teacher motivation, adoption and usage uncovered important factors that are involved in determining their willingness to use such approaches in the teaching and learning process (Braak, 2001;

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