

## Chapter XVII

# Diffusion of Educational Technology and Education Reform: Examining Perceptual Barriers to Technology Integration

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### Abstract

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*This study examines educators' perceived barriers to technology integration and the relationship to education reform. Educators and administrators from four elementary schools in Washington state were interviewed in their classrooms during a 3-month period. The schools differed in size, location and social economic status, and reported variances in their Washington Assessment of Student Learning (WASL) scores. While all of the schools reported similar barriers to the use of educational technology, distinct differences appeared between those schools that had done long-range planning during the reform process and those that had not. Specifically, staff in the two schools that coordinated curricula, performance standards and a variety*

*of assessment tools while simultaneously allowing teachers the flexibility to alter the curricula were more likely to state personal responsibility for student learning, and they were also more likely to have overcome barriers to the use of technology.*

## Background

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In a recent campaign commercial, a candidate spoke of the need to improve education and to create quality schools. Lined up along a white wall behind him were rows of computers with elementary students quietly absorbed in the computer screens. The message to the public was clear: Computers and computing technology are not only necessary for quality schools, but are indicative of good teaching and student learning. If the state was to have youth who would eventually be competitive in a global economy, technology would need to be at the forefront of funding and government support.

Computing technology has been marketed as the current solution to education's problems (Rockman, 2000), and the quest for technologically equipped schools has grown dramatically. In 2000, the number of computers in schools numbered more than 10 million (Becker, 2000). By 2003, nearly 100% of all public schools had Internet access, and more than 93% of all instructional classrooms were wired for access. The mean average of computers per school was nearly 136 (NCES, 2004). The estimated cost of technology per pupil in the United States (US) was \$103 per pupil in 2005 alone (Education Week, 2005).

## Purpose

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Research in the integration and institutionalization of educational technology was limited in scope in 1994 (Seels & Richey, 1994), and although educational technology is now available, it is not integrated into classrooms today (Becker, 2000; NCES, 2000). Only 43% of elementary classrooms surveyed used computers on more than 20 occasions during the school year (Becker, 2000). Nationwide, school districts are grappling with education reform and accountability while simultaneously attempting to financially support computing technology and encourage integration by classroom teachers. Currently, there is no clear rationale that explains the apparent difficulty with incorporating the use of educational technology and whether or not there is a relationship between the level of technology integration and the pressure teachers experience as a result of education reform efforts. The purpose of this study was to examine how educators in several schools in a Northwestern

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