Chapter 3
Urban Education
Technological Disparities: The Debilitating Impact on Our Students for Twenty-First Century Employment

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ABSTRACT

Technological advancements of the twenty-first century have yielded a greater need for systematic aptitude and preparedness for the current U.S. and global workforce. To meet the needs of the twenty-first century workforce requires teachers to alter the manner in which they teach because student needs call for a new type of learning. The twenty-first century teacher has to assist students develop their technological identities for a new culture of learning shaped by technological advances and globalization. This new culture of learning is less teacher focused and more student centered. As more employers demand graduates who have the requisite twenty-first century skills, higher education must also continue to develop students who are problem solvers, effective communicators, critical thinkers, and effective collaborators. This chapter focuses upon the existing digital divide in historically marginalized communities.

INTRODUCTION

The systemic challenges facing urban schools and communities can impede and/or preclude the realization of future critical thinkers and problem solvers. Employers expect applicants to possess these skills as they are crucial to career alacrity and adaptability. As such, technological advancements of the 21st century have yielded a greater need for systematic aptitude and preparedness for the current U.S. and global workforce. The use of technology in urban settings can provide another layer of quality education that equips students of color with the necessary tools to meet the challenges of global citizenry. Yet,
urban centers do not sufficiently provide the resources to students or teachers to adequately meet these
demands, therein increasing the divide between low-income students suffering the affliction of poverty
and their suburban counterparts. This chapter will discuss capacity building for access to educational
technology for students, teachers, and parents, as well as the lack of infrastructure, embedded assump-
tions, and systemic implications. The information presented will appeal to parents, educators, career
counselors, and employers.

BACKGROUND

While advancements in technology have dramatically shifted the ways in which we navigate our day-to-day
existence, these advancements remain inconsistently reflected in our Pre-K–12 educational institutions.
There are unique factors shaping our country’s urban centers that particularly contribute to the ways in
which technology plays a role in city schools. The authors find that technology is in fact underutilized
in the Pre K–12 student populations. While teachers and students of color suffer disproportionately from
equal and quality access to educational technology, teachers of color in these urban school contexts are
twice as likely to possess inadequate technology and information literacy training, skills, and knowledge
to work with technology in a classroom context that would benefit students of color in these environ-
ments (Owen, Song, & Kidd, 2007; Champion, 2017). There is a systemic discrepancy that persists
between expectations for the effective integration of technology within the classroom and the teacher
training provided. This further exacerbates the under-utilization or misuse of technology, since teachers’
capacities are underdeveloped to effectively integrate technology.

21st CENTURY TECHNOLOGY IN URBAN EDUCATION

Issues, Controversies, Problems

Administration and Teacher Capacity

Building teacher capacity takes time and continuous development by experts in a given field. Schools,
which cultivate practitioner training and expertise through innovative programming, are often in tandem
with rising student outcomes (Cox, 2015). Training in technology is no exception. However, as with any
model seeking to develop teacher capacity, there are challenges. Educational technology, as a continu-
ously developing field, creates an additional set of psychosocial and economic barriers preventing the
development of teachers’ and practitioners’ capacities in effective and appropriate use of technology.
Advances in the technological revolution have had a significant impact upon expectations placed upon
K-12 teachers in the development of 21st-century skills such as creativity, collaboration, and critical
thinking among student learners (Oneal, Gibson, & Cotten, 2017). Although arming our students with
the technological know-how will prepare them for 21st century employment (Mouza, 2011; O’Sullivan,
& Dallas, 2017), barriers exists that hinder the full integration of technology in the classroom. Evidence
indicates that teachers’ integration of digital tools into instruction remains sporadic and less than optimal
(Day, 2017; Ertmer & Ottenbreit-Leftwich, 2010). In fact, while personal use of various technologies
such as handheld smart phones or some form of social media remains high for both teachers and their
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