Chapter 102
Technology Integration Models for Digital Equity

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ABSTRACT

The purpose of this chapter is to examine the empirical reviews and studies on technology integration models in teacher education programs with a view to bring about digital equity. The chapter informs teacher education programs, researchers, and other stakeholders about evidences and recommendations on research on technology integration models.

INTRODUCTION

The wealth of eight men equals that of the 50% of people in poverty in this world. Furthermore, technology, as one of the essential ingredients of human economy, instead of fostering equity, has created unemployment in the working class and has simultaneously enhanced the wealth of business owners (Oxfam International, 2017). One of the roles of technology is to "shrink long-standing equity" (US Department of Education, 2017, p. 3). However, reality shows that the digital divide which came to be in the 1980s, persists at gargantuan proportions today. Critical scholars see this division in terms of existing systemic inequities and continue to strive to bring about digital equity.

The base goal of the digital equity movement is to contribute to the larger social justice movement by eliminating digital inequities—racism, sexism, heterosexism, classism, linguicism, ableism, imperialism, and other forms of oppression—as replicated through these electronic media. (Gorski, 2007, p. 458)

Gorski specified in his six principles for bringing about digital equity that ". . . all children must be exposed to new technologies in progressive, pedagogically sound ways. . . . all people must have access to culturally relevant, meaningful, and consumable computer and Internet content" (2007, pp. 459-460).

UNESCO (2011) states, "[Information and Communication Technology (ICT) promotes] the equality of women and men and advance[s] the human rights of all citizens, particularly for minorities" (p. 6). Darling-Hammond, et al., (2005) believe:

First, fluent use of technologies is now a societal goal for curriculum. Today's students will need to use a variety of technologies in their future lives as workers and citizens, thus schools must play a role in closing the gaps in access to this knowledge represented by the current "digital divide" in home and community access. (p. 187)

Therefore, schools must effectively integrate technology (Warschauer & Matuchniak, 2010). The US Department of Education in its December 2016 policy-brief spelled out:

In today's technology rich world…educators need to be prepared to meaningfully incorporate technology into their practice immediately upon entering the classroom.…As schools of education provide more meaningful integration of technology into teacher preparation programs, and provide sustained professional development for faculty, we need to work to ensure that every new teacher is prepared to select and use the most appropriate tools to support transformative teaching and learning. (p. 5)

Therefore, the integration of technology in schools and in teacher education programs (TEPs) becomes vital.

TECHNOLOGY INTEGRATION

The National Center for Education Statistics (NCES, 2003) defined Technology Integration as:

the incorporation of technology resources and technology-based practices into the daily routines, work, and management of schools. Technology resources are computers and specialized software, network-based communication systems, and other equipment and infrastructure. Practices include collaborative work and communication, Internet-based research, remote access to instrumentation, network-based transmission and retrieval of data, and other methods. This definition is not in itself sufficient to describe successful integration: it is important that integration be routine, seamless, and both efficient and effective in supporting school goals and purposes. (p. 75)

The International Society for Technology in Education (ISTE) has provided standards and performance indicators for teachers. Their 2008 Standards are as follows:

1. *Facilitate and inspire student learning and creativity*
2. *Design and develop digital age learning experiences and assessments*
3. *Model digital age work and learning*
4. *Promote and model digital citizenship and responsibility*
5. *Engage in professional growth and leadership*

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