Chapter 42
Exploring the Use of Technology, Multimodal Texts, and Digital Tools in K–12 Classrooms

Salika A. Lawrence
William Paterson University, USA

ABSTRACT

This chapter explores how teachers and students use technology in K–12 classrooms, the extent to which these practices align to previous research, and the ways in which digital tools are being used to support literacy instruction. Qualitative data from an exploratory, descriptive study were collected and analyzed. Observational data from classroom visits and teachers' reports show that teachers and students use many digital tools including computers, iPads, and videos, and demonstrate practices that characterize 21st century skills such as collaborative learning, technology literacy, and information literacy. Through the use of digital tools, students are provided with different ways to access the curriculum and have the opportunity to interact with a wide range of texts. However, it appears that in-class experiences are fostering only basic technology skills and limited critical literacy practices, and few students are empowered to take leadership and transformative roles in the technology integration process.

INTRODUCTION

Literacy needs and practices change with each new generation because literacy is influenced by social contexts (Brandt, 1998; Gee, 1996; Leu, Kinzer, Coiro, & Cammack, 2004). Today "Google" is a noun and a verb, both of which highlight the significance and influence of technology, information literacy, and access for the current generation.

Across the globe, technology and the internet have revolutionized literacy, teaching, and learning. Students today are shaped by their interaction with varied sources of information, by access to popular culture and mass media, and by interaction with people from diverse backgrounds and perspectives through new technologies. In many instances, Web 2.0 technologies have enabled 21st-century citizens to "participate in twittering [sic], wikis,

blogs, or in various social networking sites (e.g., MySpace, Facebook, YouTube, Flickr); obtain instant information from the web; or participate in a virtual environment through gaming or in a virtual world" (Walsh, 2010, p. 212). As a result, "new educational theories have to be clearly articulated, and research in real classrooms" (Walsh, 2010, p. 213) is needed to learn and document how these tools for teaching and learning are being used. Technology and digital literacy are particularly important when we consider how these practices are used in academic contexts.

Of particular importance in our current context is the curriculum and how teachers use technology to provide students with alternatives and access to content. However, despite the pragmatic benefits of technology, several issues arise with regard to 21st-century literacy instruction. In some instances, "few spaces exist in schools where multiliteracies curricula are enacted, requiring students to critically read/view and design both print and digital texts, harnessing the multiplicity of semiotic systems" (Walsh, 2009, p. 126). Some educators are concerned with the rapid and expansive nature of the communication and technology changes over the past 50 years, primarily because of social implications—namely the impact on citizenship and community around the world (Huijser, 2006). Others believe that content in classrooms is not keeping pace with increasing globalization and the demands for 21st-century employees with new literacy skills—critical thinking, problem solving, collaborating with peers at work, and increasing technology skills (Friedman, 2005). Additionally, the increasing digital divide (Gee, 2008), where students are engaging in literacy activities and using skills outside of school that do not reflect their literacy practices in school, is more problematic when we consider that some students do not have access to experiences that will help to foster their digital literacies. Walsh (2010) also reminds us about "the contradiction between students working with multimodal and digital texts while being assessed

through … [standardized tests] that occur with print-based materials" (p. 212). Although there are many challenges with the use of technology, it has potential in academic contexts to support students' literacy development.

This chapter aims to provide evidence of the potential of technology integration and digital tools to support literacy instruction across the curriculum; and document how the use of technology falls short in some contexts in its ability to foster students' critical literacy skills. To accomplish these goals, the chapter explores how teachers and students use technology in K–12 classrooms, the extent to which their practices align to previous research, and the ways in which digital tools are being used to support literacy instruction. This exploration begins with background information that uses previous literature to develop a framework for 21st-century literacy skills. Then examples from classroom observations and teachers' reports are used to document how teachers and students are using technology. The chapter concludes with the implications of using technological tools for literacy instruction and recommendations for future research.

LITERATURE REVIEW

Twenty-First Century Literacy Skills

Literacies continue to change as technology and communication and information sources emerge (Leu at al., 2004). Moje (2002) suggested that "literacy occurs as youth make use of literacy tools to navigate, resist, construct, and reconstruct popular, academic, and work cultures" (p. 211), which is inevitable as they interact with various sources of information (e.g., the media) and social groups outside of school. Today, "being literate no longer only involves being able to read and write. The literate of the 21st century must be able to download, upload, rip, burn, chat, save, blog, Skype, IM, and share" (Mullen & Wedwick, 2008,

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