Chapter 3

Preparing Teachers to Integrate Digital Tools That Support Students' Online Research and Comprehension Skills

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ABSTRACT

Supporting students in acquiring flexible skills for a fast-paced technological world is a challenge. Teachers need access to high-quality training and resources that shape teachers' beliefs, improve self-efficacy, and build pedagogical knowledge surrounding technology integration. This qualitative exploratory case study explored the implementation and challenges one teacher faced when using small groups to develop upper elementary grade students' online research and comprehension skills. Using the challenges the teacher discovered, including technology issues, instructional challenges, and students' lack of computer knowledge, the authors propose several implications for implementing an instructional framework to teach online research and comprehension skills and provide educative curriculum examples for supporting teacher education efforts.

INTRODUCTION

I think they are quite knowledgeable about the Internet. Even from that first day, when they went on the web without prompting and she typed in her website and the other student was typing in Wikipedia over here, I'm thinking ok I'm not needed here. I can just leave the room! Anyway, it's really more so something they do at home.

- Fifth Grade Teacher, Bronx, NY

Digital literacy is a hot topic in education today for many reasons. New technologies are continually shifting conceptualizations of literacy and global communications in the world. Over the last decade, there have been increased calls by business leaders, policymakers, and leading educational organizations to meaningfully integrate digital literacies into the school curriculum (International Literacy Association [ILA], 2018; International Society for Technology in Education [ISTE], 2017; Organisation for Economic Co-operation and Development [OECD], 2015; Pew Research Center, 2014; Wagner, 2008). These calls focus schools on preparing graduates to locate information, critically evaluate and analyze information, collaborate and connect with others, and produce and share information to achieve personal, professional, and academic goals (Coiro & Dobler, 2007; OECD, 2015). Yet, schools have a long way to go to support students in acquiring flexible skills for a fast-paced technological world, particularly with teaching students skills and strategies for reading and researching online. Students who aren't adept at accessing and using information found on the Internet will not have "full access to education, employment and social opportunities afforded by digital devices" (OECD, 2015, p. 91).

While some studies report classrooms with successful technology integration (Salyer, 2015), others report missed opportunities for developing and supporting 21st-century literacy skills (McDermott & Gormley, 2016; Paciga, 2019). Some research even suggests that, when accounting for digital literacies, the reading achievement gap is larger than expected. Leu et al. (2015) reported that economically advantaged seventh-graders outperformed their economically disadvantaged peers on an online research assessment, but all performed at low levels, especially when evaluating and communicating information on the Internet (Leu et al., 2015). Internationally, this problem has been noted as well. In 2015, student performance on the Programme for International Student Assessment (PISA) indicated that only 8% of fifteen-year-olds internationally performed as skilled online readers, while 18% performed at low levels demonstrating basic ability to locate simple information in short digital texts when provided with explicit instructions for doing so (OECD, 2015). This performance gap exists even as 72% of students indicate using digital devices at school, with students spending an average of 25 minutes a day using the Internet at school (OECD, 2015).

Despite this gap in classroom instruction and student performance in 21st-century literacy skills, teachers perceive instruction in these skills to be important (Hutchison & Reinking, 2011; Van Allen & Zygouris-Coe, 2019). A survey of literacy teachers conducted by Hutchison and Reinking (2011) found that these participants rated the importance of integrating technological tools into their instruction higher than their reported use of these same tools. In addition, when asked to define technology integration, participants' responses indicated "they see integration more often as enhancing conventional instructional goals or using technology for its own sake as opposed to adopting new instructional goals involving new activities" (Hutchison & Reinking, 2011, p. 323). The quote from a practicing teacher at the beginning of this manuscript starts to examine some of the possible causes of this complex problem, ranging from teachers' perceptions of their students' skills to teachers' own lack of knowledge and limited experiences with technology. For these reasons and many more, it is clear that teachers need more support integrating instruction in online research and comprehension skills within existing classroom structures and instructional contexts in order to develop and support students' digital literacy skills.

In this chapter, we present findings from a qualitative exploratory case study intended to explore the implementation and challenges one teacher faced when using small groups to develop upper elementary grade students' online research and comprehension skills. The results of the study were used to develop an educative curriculum that utilized an online guided reading framework to support both the students'

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