Chapter 7
The Utilization of Technology Tools and Preparation of Preservice Teachers for Literacy Instruction in the Age of Virtual Learning

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ABSTRACT

The onset of the COVID-19 pandemic forced a sudden shift to virtual teaching and learning for teachers and students at all levels across the country. Surveys of K-12 teachers resulted in a compilation of technology tools utilized for reading instruction during virtual learning. Content analyses sought to connect technology tools to various components of the lesson cycle, and longer-term research to examine quality tools and pedagogical approaches to teaching reading in virtual settings is discussed. Implications for educator preparation programs and future curricular directions are examined.

INTRODUCTION

Background

In March of 2020, when schools closed across the US due to COVID-19, the transition to virtual learning took on various forms. Most school districts temporarily ceased all instruction while district officials and teachers devised plans for distributing devices and providing virtual instruction for an unforeseen amount of time. Additionally, both urban and rural districts faced the additional challenge of an inadequate infrastructure for all students to access reliable wireless internet for virtual instruction. Teachers reported that their school districts problem solved as new challenges emerged and new health guidelines and mandates evolved. Many school districts distributed devices and set up wireless hotspots to support online connectivity. Some rural school districts that faced extreme challenges with the lack of an adequate wireless infrastructure instead provided hardcopies of lessons and assignments to be completed by students at home. Still other districts assigned curriculum teams at the central administration level to create online asynchronous lessons to supplement the synchronous virtual lessons classroom teachers were rushing to plan and implement with limited knowledge of virtual or online pedagogy. Some state departments of education worked with public television to provide K-12 broadcasted lessons to supplement online learning (Alabama News Center Staff, 2020). District administrators and educators worked in "crisis mode" to deliver the best possible instruction for the remainder of the school year, under the constraint of social distancing, with longer-term solutions as the priority for summer planning.

In this chapter, we explore how K-12 classroom teachers navigated virtual reading instruction at the onset of the COVID-19 pandemic when learning and instruction moved from face-to-face to online practically overnight. Exploratory investigations into the ways in which teachers instructed and students learned during the spring of 2020 are just now emerging in the literature (e.g. Chen & Greenwood, 2021; Fisher & Frey, 2021; Garcia, et al., 2021; Washburn, et al., 2021). While it is too early for extensive and in-depth data collection and analysis of research findings on learning outcomes, there is much to gain from asking questions about the pedagogical decisions district and school administrators and classroom teachers made during what is being referred to as "crisis schooling" (e.g., Avashia, 2021). The purpose of the study highlighted in this chapter was to examine the technology tools and applications K-12 teachers implemented for reading instruction during virtual learning and teaching. A content analysis sought to connect technology tool usage to various components of the lesson cycle at the elementary, middle, and high school levels. Variations in lesson and content delivery are discussed, and we consider implications for longer-term research and practice from an educator preparation program and teacher educator perspective.

LITERATURE REVIEW

Implementing Technology Tools

Technology tools and applications, which once played a supplemental role in face-to-face classroom reading instruction, became staple components in literacy learning (Chamberlain, et al., 2020). The use of technology and multimodal approaches to reading instruction are not a recent development (Kress, 1996; Lenters 2018), but rapidly transitioning to reading instruction solely delivered virtually presents

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