Chapter 8
Supporting Writing and the Writing Process Through the Use of Assistive Technology

Vicki Donne
Robert Morris University, USA

Mary A. Hansen
https://orcid.org/0000-0003-0051-4039
Robert Morris University, USA

ABSTRACT

Writing is an important skill needed for success in education, social communications, and employment. Yet many students with disabilities struggle with writing. They may experience difficulties with handwriting, spelling, sentence writing, fluent writing, and/or revising and editing. The reasons for the challenges vary just as the characteristics of disabilities vary. Some students with disabilities struggle with the motoric aspects of writing while others struggle with the self-regulatory and cognitive aspects. The use of technology and assistive technology can improve student access and performance in writing. An interdisciplinary approach evaluating the barriers in writing, possible solutions, and progress with assistive technology implementation can create effective assistive technology solutions to increase writing achievement.

INTRODUCTION

Common Core State Standards (CCSS) provide one set of standards or expectations of what students should learn in K-12 schools. The initial adoption of the CCSS by

DOI: 10.4018/978-1-6684-6424-3.ch008

the majority of states provided guidelines for writing benchmarks that are integrated with reading and technology and focus on incorporating text-based summaries (Graham et al., 2015; Shanahan, 2015). Writing standards begin in kindergarten with "using a combination of drawing, writing, and dictation to compose or describe events, give information on a topic, or state a preference or opinion." By third grade, students are expected to expand their writing skills by progressing through the planning, revising, and editing phases of the writing process, and show these skills by writing both opinion pieces and explanatory pieces supported by facts. Additionally, third grade students are to "use technology to produce and publish writing using keyboarding skills as well as to interact and collaborate with others" (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). As students progress through their schooling, the expected performances in writing increase in breadth and depth.

Writing is challenging for many students, as it involves the compilation of physical processes such as handwriting and/or typing as well as cognitive tasks such as planning, drafting, and revising (Graham & Harris, 2000, 2005; Graham et al., 2017). Fine motor speed and coordination represent physical traits that have been documented in the literature as predictors of writing fluency for primary-grade students, as they impact transcription (Graham & Harris, 2005; Graham et al., 2012). Writing also includes a social aspect, i.e. following conventions, conveying humor, and communicating with others, with which students with disabilities may struggle (Accardo et al., 2020).

Teaching writing to students with disabilities is complex; therefore, effective instruction must be multidimensional, strategic, and scaffolded (Graham & Harris, 2005; Graham et al., 2012). Research suggests several components for effectively teaching writing, including following a basic framework for planning, drafting, and revising; explicitly teaching key steps in the writing process; and structured feedback relating to each step of the process (Baker et al., 2003; Graham et al., 2012). Implementing these strategies can help students access the writing curriculum and learn the writing process.

Yet, students with disabilities struggle with writing, with 6% or less meeting proficiency (U.S. Department of Education, 2011). The reasons for their difficulties vary. Some students with disabilities have limited strength or endurance and physically struggle with the motor skills required to manipulate writing utensils or technology. Some students with disabilities have delays in language and grapple with the vocabulary demands of writing. Still other students with disabilities experience difficulty with the cognitive demands of writing (Vaughn & Bos, 2020). Research suggests that students with disabilities can increase their abilities from the use of emergent writing (e.g., scribbles and random selection of letters observed for

Digital-Based Interventions for Learners With Mathematics Learning Difficulties

Patrick W. Wachiraand Xiongyi Liu (2022). *Technology-Supported Interventions for Students With Special Needs in the 21st Century (pp. 75-96).*
www.irma-international.org/chapter/digital-based-interventions-for-learners-with-mathematics-learning-difficulties/300023