

Chapter 57

Helping Struggling Writers: Assistive Technology as Part of Intervention Programming

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ABSTRACT

Assistive Technology (AT), in the domain of special education, is defined as both tools and services. This chapter provides a description of this definition, what recent national and international writing assessment results indicate, what the characteristics of struggling writers are, and how AT can help these children improve and manage the complex and interdependent task of creating prose, story writing in particular. Key examples of AT services are Self-Regulated Strategy Development (SRSD: a step-by-step process for teaching a student a strategy) and mnemonic strategies (the use of keywords to help a child retain the steps in managing a task such as story writing). In the context of writing, AT can range from a pencil grip to a complete computer system with writing-assistance software. Furthermore, the author reviews his own research studies about story writing and how integral AT is to helping these children. Finally, the need for students' pre-requisite practice with AT is emphasized.

INTRODUCTION

Writing can be a challenging task. Generating story ideas, organizing them into a sequential timeline, applying spelling, grammar and punctuation, while writing the outline and draft texts are the key challenges for children who struggle with story writing (Troia, 2009). Recent assessments of children's writing skills have documented the extent of the issue. The most recent National Assessment of Educational Progress (NAEP; 2012) for writing indicated that as few as 25% of students in public schools can write at a proficient level or higher. This number is even lower for children from diverse backgrounds such as low-income families or English language learners.

To address the needs of struggling writers, educational researchers have developed evidence-based practices to help these children improve their story-writing skills (Graham & Harris, 2005; Reid & Lienemann, 2006). These practices can be considered as assistive technologies (AT). The Individuals

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with Disabilities Education Improvement Act (IDEIA; 2004) defines AT as any service or device to help children in the learning process. An example of each is mnemonic-strategy instruction (as a service; Scruggs & Mastropieri, 1990) and word-prediction software (as a device; Batorowicz, Missiuna, & Pollock, 2012). A mnemonic strategy is a key word for which each letter represents a sequential part of the step-by-step process to manage a task (e.g., POW = Plan, Organize, and Write). In the context of writing, AT could be a variety of items from a pencil grip to a sophisticated computer system with writing-assistance software.

The objectives of this chapter are to:

1. Define AT from the perspective of special education;
2. Review students' performance on writing assessments (e.g., NAEP, 2012);
3. Describe how the writing process breaks down for struggling writers;
4. Describe mnemonic-strategy instruction and how teaching struggling writers a step-by-step process can help them better manage writing tasks; and
5. Describe AT components that can supplement mnemonic-strategy instruction and help struggling writers better manage story writing.

BACKGROUND

The Challenges of Struggling Writers

Writing may be considered the most difficult core academic skill to master as compared to reading and math (Klassen & Welton, 2009). In reading a text, one must decode the prose, but it has already been planned, organized, and generated. This applies to math as well; the text (i.e., the math question) has already been provided. In writing, both encoding and decoding are required. To help children manage academics and a core skill such as writing, teachers can provide children with AT.

The IDEIA (2004) defines AT as both a device and a service. The most common definition cited for AT is “any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of a child with a disability” (see Sec. 300.5). Examples can include a wide range of tools such as pencil grip, smartphones, digital tablets (e.g., iPads®), and computers. An AT service is an activity that directly assists a child with a disability in the selection, acquisition, or use of an AT device. The process of a teacher providing instruction to a child to improve a skill using a pencil grip could be one example. The growing prevalence of AT (especially tools such as tablets and smartphones) in the general population has prompted assessment organizations to include devices such as laptops for students to type their text on a keyboard.

National and state assessments indicate that many children struggle with writing. In 2012, the NAEP released its most recent eighth and 12th-grade results. They indicated that only 25% of students can write at a proficient level or higher. The assessment required students to use computers to type their story products. Other regional assessment (e.g., Washington State [2012] as well as Ontario [Canada]) 2011-2012 results indicated that as few as 60% of students could write at a benchmark level. The 25% versus 60% score differences could be attributed to the format of each test. The Education Quality and Accountability Office (EQAO; 2013) writing tests included having students write a report (e.g., what happened at the

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