Chapter II
Technology, UDL & Literacy Activities for People with Developmental Delays

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ABSTRACT

As with technology, literacy is evolving. No longer is word decoding a sufficient skill for independently navigating a text rich environment. For individuals with severe developmental delays accessing literacy has always been a distant, seemingly unachievable goal. As technology has transformed what it means to be literate, it also has transformed how individuals can interact with text. Through technology-mediated interactions with electronic text, individuals with developmental disabilities are beginning to have greater access to the world around them. While technology is no panacea for the learning difficulties these individuals exhibit, it potentially can alter how these individuals gain meaning from text. The purpose of this chapter is to explore this evolving definition of literacy in terms of technology, paired with universal design, which might allow teachers to provide students with severe developmental delays greater access and interaction with text.

INTRODUCTION

Traditional concepts of text-based literacy are narrow, exclusive, and dated (Katims, 2000). The idea that for a person to be "literate," translates into gaining meaning by decoding text and mastering advanced language skills, quite possibly marginalizes a population of individuals whom

have very little likelihood of mastering these skills (i.e., phonemic awareness, working memory, long term memory). Arguably up to a few years ago, the only way for individuals with significant developmental disabilities to interact with text was to have someone read to them. Similarly, because of their significant learning differences, these individuals would not be able to interact with text in a functional way (Katims, 1996; Fish, Rabidoux, Ober, & Graff, 2006; Copeland & Keefe, 2007). For example, an individual with a severe cognitive deficit or developmental disability (DD) could not reasonably be expected to read and follow a recipe to make a meal. It would also be unreasonable to expect them to independently decode the words, interpret the language concepts, and comprehend to any great extent a news story in the daily paper. As we merge text with technology, new frontiers are opening to students who have severe DD that may allow them to extract greater understanding from an environment saturated with text. Electronic text, in the form of web pages, textbooks, and leisure reading material, offer a malleable medium that can tap into other information sources and provide literacy supports for non-readers (Brochner, Outhred, & Pieterse, 2001; Koppenhaver, Coleman, Kalman, & Yoder, 1991).

Generally, to educators and the lay public the ability to read translates into a description of the mechanics of phonetic analysis and comprehension (Ehri, Nunes, Stahl, & Willows, 2001; Ehri, Nunes, Willow, Schuster, Yaghoub-Zadeh, & Shanahan, 2001). Certainly, much of the emphasis of education law in the United States involves analyzing and comparing standardized test scores using measurements of reading ability (Hintze & Silberglitt, 2005). Others can argue whether or not this approach or narrow description of reading success is warranted for the general education population. However, it should be evident that for individuals with moderate to severe DD, standardized measures of reading will not provide us with an accurate picture of literacy gains or use. Our contention in the sections that follow will be to view literacy in terms of the end result such as understanding concepts or information presented through electronic text (e-text), how individuals interact with text (e.g., manipulation and use of technology that presents e-text and supports), as well as if and how they use the information gained from this interaction (e.g., following an e-text recipe). Specifically, we intend to link literacy with the researched based practices for curriculum development and implementation that have been the foundation for high quality programs for these individuals since the 1970's. We will also advocate for defining literacy based on the inclusive environments where many parents and professionals attempt to structure environments that allow individuals with moderate to severe disabilities to meaningfully interact with peers from the general population.

For example, an adult with DD interacting with electronic text delivered on a mobile internet device at a Laundromat (as opposed to reading a magazine) is as natural a definition of literacy as is a friend without disabilities reading a leisure book while waiting for her/his laundry. In this scenario, the fact that both individuals are engaging in similar pursuits sets the stage for communication about what they each are reading. The interventions presented in this chapter that we, as well as others, are testing are designed to determine what electronic supports will best help students gain information and enjoyment from their interaction with literacy related materials presented by technology-based delivery systems. In addition, we will discuss how these interventions can impact the current view of literacy as a concept. Finally, we will discuss how we might enhance literacy beyond the interaction of electronic text and provide individuals with information in other media formats. Before discussing the expanding definition and conceptualization of literacy, it is important to consider the learners on whom this chapter is centered.