Research to Practice Brief

The Use of Pictures in Early Reading Instruction

Over the past decade, the development of new and improved technologies that make it possible to pair picture symbols with words in running text has lead to a dramatic increase in the use of symbol supported text as a reading intervention for students with disabilities. While it is clear that this practice provides some students with access to content they would otherwise be unable to access independently, there are many issues to consider before implementing this practice broadly.

Beginning in the early 1960’s researchers have investigated the impact of pictures on the development of word identification for readers with and without disabilities of all ages. In the earliest of these studies (Samuels, 1967), first graders performed better during training when there were pictures paired with words, but the advantage of pictures disappeared when the students were tested on reading words without pictures. In this study, students learned to read more words when they never had pictures paired with words during training. In a follow-up study, first graders receiving reading instruction that included pictures paired with words learned more slowly than did their peers who never had pictures.

In two studies completed 20 years apart (Singer et al., 1973; Singh & Soloman, 1990), children with cognitive impairments began participating in research looking at the impact of pictures on learning to read words. Of the 8 children in the earliest study, six performed best when they were taught words without pictures. In a study involving more than 160 children in 1st and 2nd grade (Samuels et al., 1974), children were randomly assigned to one of four intervention groups: picture-word, no picture-word, picture-sentence, and no picture-sentence. All of the children engaged in trails until they could identify words without pictures present. Children in the word-only treatment learned words in fewer trials with fewer errors than did the children in the picture conditions.

Even when the intervention was restricted to nouns, which could be clearly represented by pictures, children learned to read more words when they did not have pictures (Saundar & Solman, 1984). In a recent study, Fossett and Mirenda (2005) compared different ways of using pictures to teach children with disabilities to read words. They found that actively matching words and pictures was more successful than learning to read words that were simply paired with pictures. There is also evidence to suggest that instruction aimed at teaching children about the relationship between the words and pictures improved outcomes when pictures are paired with words (Lang & Solman, 1979). Several other studies have concluded that pictures slow the rate of word learning (Pufpaff, Blishak, & Lloyd, 2000; Willows, 1978), particularly when words are read in isolation (Rose & Furr, 1984).
It is important to note that all of this research has emphasized word reading and the effects of pictures paired with words on reading individual words. Only a single study (Samuels, et al., 1974) included sentences as a condition in the study, and the sentences served the purpose of supporting learning to read an individual word. In other words, no research has considered the influence of picture-supported text on comprehension, language learning, and the development of knowledge of print conventions such as the one-to-one match between spoken and printed word and directionality. As such, the research clearly suggests that pairing pictures with words slows down word identification instruction, but there is no clear research to guide our use of picture supported text in supporting areas of reading outside of word reading.

In the absence of research evidence, we must look to current practice and common sense to guide our use of picture-supported text in reading instruction. Consider, for example, the thousands of classrooms across the country that are benefiting from Picture-Assisted Reading™ and Picture-Assisted Writing™ using Picture It© and PixWriter© (Slater Software), or their subscriptions to News-2-You®, “a weekly online newspaper for beginning readers and individuals with special needs.” The success of these products and the numerous reports of increased interest, attention, time on task, comprehension of content, and self-esteem cannot be ignored. However, there are some guidelines to consider in adopting these technologies and materials given the research that we do have available.

First, do not use pictures to support words that you intend students to learn to read and spell. The use of pictures with these words will slow the rate at which students learn them. Use the features of the software tools that generate picture-supported text to eliminate symbols for words that you expect students to learn to read over time. Do not wait until you have evidence that students know the words to delete their corresponding symbols. Instead, delete the symbols for the words you want students to learn to read and you will increase the rate at which the students will learn the words.

Second, do not assume that the addition of pictures makes the text easier for students to comprehend. In general, students who cannot understand the text when you read it to them will not understand the text when it is presented with picture supports. The research suggests that students will learn to understand the individual words when they are presented with pictures, but understanding each of the words in the text individually is not sufficient to support understanding the same words when they are linked together in connected text.

Third, use picture supported text to help emergent readers develop a positive self-image and important concepts about print. Using picture supported text in conjunction with picture supported writing will help emergent readers engage in reading and writing long before they are able to read and spell individual words or even recognize letters.

In the end, we still have a great deal to learn about the impact of assistive technologies such as those that facilitate picture supported reading and writing, but the research does provide
us with evidence that can guide our current practice. In particular, do not pair pictures with words if your goal is to teach children to read individual words. Do, however, use picture supported reading and writing with emergent readers and writers to help them develop critical early literacy attitudes and understandings.

**References:**


http://www.med.unc.edu/ahs/clds