

ENHANCING

LITERACY SKILLS THROUGH TECHNOLOGY

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WHAT IS LITERACY?

The term *literacy* means many things to many people. In the 1800s, recitation literacy helped redefine the skill of reading and speaking. A century later, literacy was more than just reading aloud; readers needed to know, comprehend and make sense of text. Some would argue that a current definition for literacy would not be complete without discussing the term "information literacy." Certainly, in the 21st century, the acquisition of literacy skills goes beyond the printed page, beyond phonics, decoding, encoding and synthesizing information from printed paper-based text. In this century, literacy skills are also reinforced through user interaction with multimedia-based software. Technology can extend the act of becoming literate beyond the far-reaching electronic text of hyperlinks and out into cyberspace.

RESEARCH TO SUPPORT READING/Writing INSTRUCTION

The Partnership for Reading <www.nift.gov/partnershipforreading> stated in 2001, "There is relatively little systematic research into problems involving computers or other technologies in the teaching of reading." Can reading instruction *only* be delivered by a human? According to their research, two areas support the use of technology. First, the use of hypertext that links to definitions (the underlined words that link to descriptions, sound, graphics, animation) and second, the use of computers as word processors support the connection between reading instruction and writing.

A HISTORICAL JOURNEY

Much of the K-12 literacy software developed in the 1980s and 1990s addressed literacy skills through drill and skill practice, and through tutorial. Reader Rabbit (The Learning Company/Riverdeep), Reading Blaster (Davidson and Associates, now Vivendi Universal Interactive), Writing to Read (IBM), WiggleWorks (Scholastic), Storybook Weaver and Word Munchers

(MECC, now Riverdeep) engaged learners with a colorful, game-like, enticing interface. Multimedia-based computer software of this era was able to motivate the learner to interact, respond and to produce an end product using word-processing tools.

A new generation of literacy software is evolving that extends the learning beyond reading, writing and rote instruction. Software systems now link to the Web, work on a WAN, and contain sophisticated intelligence to prompt students into levels of higher-order thinking, reading, synthesis, writing and collaboration.

THINKING SKILLS, SETTING THE COGS IN MOTION FOR LITERACY

BrainCogs is a unique product that provides a foundation for developing literacy skills. The Institute for Learning and Development, Mass Interaction and FableVision Studios created a product that strongly supports learning theory. Kelly Fischbach, director of Educational Outreach for FableVision, describes BrainCogs as "a tool that combines all of the cognitive processes (remembering, organizing, prioritizing, shifting and checking) that great readers and writers need to effectively receive information and interpret meaning. BrainCogs also provides strategies for students to express language through writing."

Eileen Marzola, a 32-year veteran educator from the New York City Schools whose work has focused around children who are "at risk," has used BrainCogs to enhance students' understanding, retention and retrieval of content. "By using multiple strategies for studying and test-taking, students have a chance to experiment and find the best 'fit' for their own learning styles. They have opportunities to practice the strategy as often as they feel it is necessary. When strategies like this have been taught in the past, the largest omission has been in helping students to apply the strategy to their own situations. That application step is built into BrainCogs."

