

Transferable Reading Skills Using Accessible Technology and Accommodation Strategy

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Contributor: Michael G. Fiore (The Sierra Group, Inc.)

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316 West Valley Forge Road
King of Prussia, Pennsylvania 19406

Peer Review Team: Richard Miller, CRC
Mary F. Flynn, RN, COHN-S (Aetna, Inc.)

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As our experiences working with consumers who are receiving vocational rehabilitation services continues to grow, Sierra has been able to expand the content and value of our rehabilitation engineering assessment reports. One of the expanded features of our rehabilitation engineering evaluation reports, which we now refer to as “Assessment and Planning Reports”, is our inclusion a section that specifically addresses functional workplace literacy skills. These literacy observations include recommendations for using assistive technology and some rehabilitation engineering strategies to improve literacy results for consumers who require better literacy skills in order to gain employment.

Sierra has also expanded our evaluation reports to include a larger variety of training resources for consumers; as well as recommendations that address gaining vocational internships for individuals with disabilities who are job seeking.

This White Paper describes Sierra’s approach to Transferable Reading Skills gained via Accessible Technology and Accommodation Strategy.

Background

The Workforce Investment Act of 1998 (WIA) defines literacy as "an individual's ability to read, write, speak in English, compute and solve problems at levels of proficiency necessary to function on the job, in the family of the individual and in society." This definition of literacy is broader than the traditional concept that most of us often consider. As information and technology has increasingly shaped our society, the

literacy skills we need to achieve competitive employment have gone beyond reading; and the definition of literacy for workplace purposes has come to include the skills listed in this WIA definition.

Individuals with disabilities, low-income adult learners, and other institutionalized individuals are the most in need of literacy educational services according to The Pennsylvania Department of Education in their ABLE State Plan surrounding Literacy Needs Assessments. These reports establish the link between literacy skills and self-sufficiency. Likewise, the results of the Disability Research Institute’s Longitudinal Study of the Vocational Rehabilitation Services Program also illustrates and further support this linkage between reading skills and competitive employment. In fact, the National Institute for Literacy suggests that more than 25% of individuals with disabilities have very low (Level-1) literacy skills.

Outcomes

The Sierra Group has been building and refining our model of delivering transferable reading skills using Accessible Technology and Accommodation Strategy for over 11 years. In addition to our work as the Managing Consultant to a pre-vocational training program for adults with disabilities in Philadelphia, Sierra has been using our assessment and training tools to drastically enhance literacy skills for individuals across the country who are designated Most Severely Disabled (MSD).

The following pre- and post-training data represents a component of literacy benefits obtained when Sierra employed technology aided reading tools to a group of 107 adults with disabilities as part of a study on *A Return on Investment Analysis of Functional Reading Skills Training.* This study compares the individual’s results at the time of the initial rehabilitation engineering evaluation; and again at the conclusion of training.

Measure	Pre-Training Scores	Post-Training Scores	Results
Reading Speed of print text prepared at the 7 th grade reading level.	81.1 words per minute +/- 33.3. <i>Median and quartile results support this distribution.</i>	141.2 words per minute +/- 61.0. <i>Median and quartile results support this distribution.</i>	75% increase in reading speed.
Reading Comprehension Scores of print text prepared at the 7 th grade reading level.	34.1% +/-26.8. <i>Median and quartile results support this distribution.</i>	84.4% +/- 20.0. <i>Median and quartile results support this distribution.</i>	140% increase in comprehension.

The above results represent a combined 75% increase in reading speed; along with a 140% increase in comprehension. These results are measured at the 7th grade reading level. Training occurred during in about 50 hours of low-cost training in a structured technology curriculum.

Discussion

The average age of the 107 participants involved in this technology assisted literacy training was 32.6 years. Approximately 72% of the individuals had no prior work history. Most, nearly 85%, had a high school diploma or GED, and 15% (16 individuals) had some college level instruction. The training on reading speed and comprehension generally required 40-60 hours of facilitated instruction. All grade level reading measurements were made using the Flesch-Kincaid index.

Methods Used

Using technology that supports Rapid Serial Visual Presentation (RSVP), words are presented rapidly at a fixed location on a monitor. Numerous studies support that reading without eye-motion allows for reading speeds up to 3-4 times faster than normal. In addition to using this inexpensive assistive technology on a standard office computer, Sierra utilizes vocabulary-building skills presented via interactive MS PowerPoint slides to reinforce word identification skills.

Sierra has also developed a formula that allows us to identify a critical font size for an individual that supports their maximum reading ability. Once the critical font size is identified we train users to their adjust font, line spacing, character spacing, and margin limits on electronic text to support their reading needs.

Using these approaches simultaneously, while building functional vocabulary strengths, Sierra has observed that functional reading skills are in fact significantly increased and this increase assists individuals as they work with their vocational rehabilitation counselors to build expanded competitive employment skills and obtain work. When we talk about disability, we are talking about the social reaction to an impairment or physical fact. The label of disability can be said to be a social, political, and disproportional economic construction that is based on a societal interpretation of impairment.



The Workplace Technology Foundation
316 West Valley Forge Road
King of Prussia, Pennsylvania 19406
Telephone 610.992.1011
www.workplacefoundation.org