Voice Recognition Software as a Compensatory Strategy for Postsecondary Students with Learning Disabilities

Kelly D. Roberts
University of Hawai‘i Center on Disability Studies

Abstract

Research indicates that persons with disabilities who obtain some level of postsecondary education are more likely to be employed compared to those who have no postsecondary education experience. The problem is that often people with disabilities are not able to overcome the barriers that exist in obtaining postsecondary education. When they do enroll in postsecondary education they often experience difficulty staying in, and completing their programs.

The purpose of this research was to determine if assistive technology, in the form of voice recognition software, could assist in overcoming some of the barriers that exist for people with learning disabilities. The study sought to determine if voice recognition software was an effective compensatory strategy for students with learning disabilities in postsecondary education and the experiences of these students in relationship to their use of the software. Follow-up data will be collected to determine if the software is an effective compensatory strategy for the participants in their future employment.

Introduction

Over the past twenty years changes in the nation’s labor market have increased the importance of having a postsecondary education to be able to compete in the job market. Whether it is college; adult and continuing education; or technical preparation; postsecondary education plays a major role in preparing persons for employment and career opportunities (HEATH-VR, 1996). Students who continue their education after high school maximize their preparedness for careers in today’s changing economy as they learn the higher order thinking and technical skills necessary to take advantage of current and future job market trends.

Employment rates for persons with disabilities demonstrate a stronger positive correlation between level of education and rate of employment than we see in statistical trends for the general population (Stoddard, 1998). In 1996, the U.S. Bureau of Census statistics indicated labor force participation rates at 75.4% for persons with less than a high school diploma, 84.6% for those with a diploma, 87.8% for persons with some postsecondary education, and 89.7% among persons with at least four years of college. Proportionately, these labor force participation rates increase even more sharply when compared to increasing levels of education and persons with disabilities. Deplorably, only 15.6% of persons with disabilities with less than a high school diploma currently participate in today’s labor force. However, this participation doubles to 30.2% for those who have completed high school, triples to 45.1% for those with some postsecondary education, and climbs to 50.3% for disabled people with at least four years of college (Reskin & Roos, 1990; Yelin & Katz, 1994). As Gajar (1998) cautions, “[f]or individuals with disabilities, a university education is highly correlated with vocational options and financial success. Therefore, the cost of failure, both to these individuals as well as to society is a pressing concern” (p.384-85).

Research indicates that the academic difficulties experienced by students with learning disabilities in elementary and secondary settings persist into adulthood (e.g. Gerber, Ginsberg, and Reiff 1992) yet an increasing number of secondary students are choosing to continue their education (Higgins and Zvi, 1995). In 1991, 8.8% of full-time college freshmen reported having some form of disability, compared with 2.6% in 1978. Of the types of disabilities reported, learning disabilities were the fastest growing group, increasing from 15% to 25% of all students with disabilities over the 13-year period (Blackorby, & Wagner, 1996). While these findings indicate an increase in the number of people with learning disabilities attending college they do not indicate the number of students graduating or the length of time it takes for them to graduate as Vogel and Adelman, (1992) indicate, people with learning disabilities tend to take longer to complete their program of study compared to their peers without disabilities.

Even though people with learning disabilities often form their own compensatory strategies through “trial and error” or via “training” which then help them to compensate for their learning disabilities (Schumaker, Deshler, & Ellis, 1986) there are still persistent areas of difficulty. Estimates of the number of adults with learning disabilities who exhibit written language disorders range from 80% to 90% (Blalock, 1981). For these individuals...
assistive technology in the form of voice recognition may offer a new strategy to be utilized in the writing process while increasing access and success in postsecondary and subsequent employment settings.

Raskind (1993) indicates that although both remedial and compensatory strategies are beneficial for adults with learning disabilities, the compensatory approach “may offer the most expeditious means of addressing specific difficulties within particular contexts” (p 159). Raskind (1993) also points to the frustration and burnout adults with learning disabilities experience as a result of years of remedial instruction that yielded little benefit, and the appeal of immediate solutions to particular problems as reasons to support the use of assistive technology by adults. Under these circumstances the current study sought the answer the following research questions:

1. Is assistive technology, in the form of voice recognition software, a statistically significant compensatory strategy for person with learning disabilities in postsecondary settings?
2. What are the experiences of persons with learning disabilities who use voice recognition software?

Methods

Participants were recruited from three postsecondary institutions over a period of two semesters. Criteria for participation included postsecondary students who were eligible for services, at the institution in which they were enrolled, under the category of learning disabled. Participants were trained on the use of VRS and were requested to use the software as appropriate, provide three writing samples, keep track of the number of hours they used the software, and complete pre and post surveys. Participants were instructed to call this researcher if additional instruction or assistance was needed. The VRS was available on each campus and Learnout and Hauspie, the makers of Dragon Naturally Speaking (the VRS used), provided 5 complete programs for participants to install on their personal computers.

Writing samples were graded using Fry’s Readability Graph. Post semester focus groups were held to obtain qualitative data.

Results

VRS is not a statistically significant compensatory strategy for postsecondary education students with learning disabilities. But, out of the fifteen participants who were trained on the use of the software two are using it on a regular basis and one is using it intermittently. One participant loves the VRS “it cut my work load in half”. Three others dropped out and five participants found learning a new software program too time consuming while meeting their academic demands. Four persons who were trained on the software did not respond to numerous inquiries from this researcher.

Discussion

After training the VRS it does not recognize the persons voice accurately and quickly enough to be helpful to all persons. One person with the most severe dysgraphia is using the software consistently and finds it very useful. One assumption that can be drawn from this is that the more severe the person’s dysgraphia and the fewer or less advanced their other compensatory strategies the more likely the person is to use the software. Based on feedback from the participants this researcher anticipates that several of them will use the software at a later date. One person who did not use the software during the semester in which they were trained telephoned and asked for additional support.

References