Creative Work Accommodation

Pearl Gryfe, BSc, OT(c)

CASE HISTORY: Thomas is a 42-year-old gentleman who works as a scientist for the Ministry of Natural Resources (MNR) in Northern Ontario. The client suffers from an impairment of ability to fully decode written language. The medical term used to describe his impairment is dyslexia; however, Tom refers to his condition as “word blindness.” In spite of his disability, Tom has succeeded academically to obtain a degree in biology by accommodations made through his educational institutions and support from his family. In 1992, Tom graduated from university and began working full-time for the Ministry of Natural Resources (MNR).

Tom’s job as a scientist requires a strong ability to process visual and written information. His wife had been providing the necessary support and assistance in the area of interpreting his notes, note taking, editing and report writing. Tom’s job now requires him to travel, thus, serious consideration to accommodating his disability at work was needed.

Tom was referred to the Assistive Technology Clinic (ATC) at Sunnybrook Health Sciences Centre by a senior administrator for the Human Resources Branch of the MNR.

CLINICAL CONSIDERATIONS: Functional enquiry revealed a healthy male, looking his stated age who appears in good physical condition. Neurologically, Tom presents well. According to the literature, learning disabilities are the product of neurological damage which occurs during fetal development. Slagius et. al (Sept. 1996) suggest that visual and language processing disorders are concurrent in dyslexia and continue into adulthood. The malformations produced are unique to each individual and do not resemble acquired neurological damage. Consequently, treatment models of these disorders must be developed independently and cannot be based on acquired adult aphasia or dyslexia literature. (Chase, C. Aug. 1996). Studies in the Journal of Learning Disabilities (Montali et al, May 1996) and in the Journal of Brain and Language (Lovett et al, July 1994), have shown that when information is presented through visual and auditory channels simultaneously (ie. Bimodal presentation), speed of processing and memory recall are enhanced. In addition, computer speech based training increases literacy skills. Thus, there is clear clinical evidence for using these technologies in accommodating this group of disabilities. There are also studies (Stafford et al, Apr. 1995) that have looked at using coloured overlays or lenses (eg. Irlen Lenses) in attempts to remediate reading difficulties; however, this examiner has not been able to determine any conclusive findings based on these studies. ATC does not have the resources for Irlen Filter testing; however, testing with the bimodal technologies was clearly indicated with this client.

TREATMENT/APPROACH: Visual perceptual tests which examine visual perceptual ability; presence of unilateral visual neglect, and speed of visual, perceptual processing were administered to determine the best approach for this client. Tom’s raw score and performance behaviour were within normal limits and he was above average in a number of tasks with the exception of the speed of visual perceptual processing in the visual short term memory tasks. Recall was most difficult when it involved sequencing. In practical terms this translates into losing one’s place; omitting letters, difficulty remembering telephone numbers, keeping the numbers in order or changing the order of letters or words.

Functionally Tom’s hearing is intact and within normal limits; however, perceptually Tom reports that he is easily distracted by noise. His wife explained that Tom’s senses are all activated at the same time so that he cannot tune out background noise, sights, sounds, smells etc.

From previous academic reports, it is clear that Tom has an IQ on the above average and superior range. Tolerance for reading and writing tasks is 20 minutes using conventional methods of reading and writing (ie. Voice recognition and speech output) tolerance for these tasks increased significantly.

OUTCOME: Tom was trialed on a voice recognition system with auditory feedback using Dragon Dictate 2.5 Classic Edition with JAWS 2.0 (build 29—the latest release). The JAWS software did not work using Windows '95 therefore Tom was trialed on a Windows 3.1 platform. A brief training session was done with Tom and he was able to train and use Dragon for dictation quite quickly. Utilizing these technologies, tolerance and concentration proved to be up to five hours with only one break for lunch. As Tom’s work involves dictation of scientific text and inputting numerical information into spread sheet software, a trial was done using Excel and voice recognition. This proved to be technically problematic; however, Tom was quite effective in utilizing it despite the technical problems. Monitor colours were set to the least fatiguing colours (ie. pastels, light background and dark text). Spell check and grammar check were far more effective and less frustrating with the auditory feedback. As a result, Tom could now work independently and no longer required assistance to complete his work tasks.

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