



Pinnelli, S., and Sorrentino, C. (2012) *A Combined Computerized Approach to Improve Fluency on a Dyslexic Reader. Evidence from a Case Study*. Proceedings of 8th International Conference on Education, 5–7 July 2012, p. 958-964

Abstract

This research reports on treatment outcomes obtained from a case study to improve the reading speed of an Italian student with a learning disability that causes severe problems in reading speed and accuracy. The improvements obtained in reading fluency during a 3-month treatment period are compared. Based on previous studies by Allamandri and Coll (2007), the authors of this study believe that treatments that use computerised procedures to automate orthographic lexical and sub-lexical recognition are more effective. The study analyses the combined use of lexical and sub-lexical treatment and some visuospatial attention tasks tailored to the subject's reading profile. The aim of the lexical method was to automate the recognition of words in connected texts. The aim of the sub-lexical method was to automate the recognition of syllables within words in connected texts. This combination was possible using the online software service 'Reading Trainer', created by Patrizio Tressoldi (2011). Although this tool could be helpful for a family that cannot afford professional help or transportation to clinics, we think that incorporating it into a global approach to the problem could produce more satisfactory results.

Finally, the study discusses the pros and cons of this kind of treatment and proposes education criteria to improve the methods.

Main findings

This research presents the use of technology in a case study on a specific learning impairment that has been classified as mixed dyslexia, based on observation and discussion with the teacher. The study offers a global view of reading impairment and focuses on the importance of the educator and the critical aspects of pedagogical activities. Although there was the possibility of distance use of the software, the decision taken was to guide the child throughout the entire treatment. 'Reading Trainer' is a new software program from the research group headed by Patrizio Tressoldi. It was used according to the literature on technology's efficacy in ameliorating reading difficulties. Many studies reach the conclusion that technology use is important to attain results in terms of performance, but it is difficult to know how an educator can interact with technology in order to achieve satisfactory results in children's performance and their beliefs about reading. One real problem is that the marketing campaigns of numerous cheaper software programs lead parents to believe that software will solve their child's reading problems, forgetting the importance of experts and educators. This work aims to highlight the importance of rehabilitation software in training aimed at reducing a specific deficit. However, beyond the technical aspect, psycho-educational treatment does rely solely on a technological device. It is merely one tool that is useful only if it is included in a global approach, in order to work on the perceptive, cognitive, behavioural and motivational aspects that comprise an integrated system suitable for learning.