

DEA – An Advanced Tech Tool for Personalized Linguistic Training for Italian Children with Dyslexia

Purpose. In this research, we deployed an advanced technological tool to improve the linguistic and reading skills of Italian children with developmental dyslexia (DD). While research has shown that linguistic interventions to enhance phonological and morphological awareness in DD children have direct benefits for their reading skills, access to such programs is often limited by high costs and lack of customization. To address this, we developed a program providing an innovative, personalized approach to support reading through phonological and morphological training.

Method. DEA (Dyslexia Exercises Application) is a free, accessible web application for linguistic training that offers interactive, highly personalized linguistic activities optimized for autonomous remote learning, with a novel focus on morphology. The study involves 30 DD Italian children (aged 8-11) who participate in a 10-week for 20-minute sessions three times a week, and other 30 DD children as a control group. In the pre-intervention, each child completed preliminary tasks on reading, phonological and morphological skills, which will be readministered post-training to assess its effectiveness.

Results and Conclusion. DEA's interactive and adaptive design aims to enhance reading skills by fostering engagement and supporting individualized, multisensory learning. It enables therapists to monitor progress and tailor the training to each child's linguistic and cognitive profile, ensuring a more effective intervention. The first results of the ongoing training are expected by May. The expected outcomes are significant improvements for the experimental group in phonological and morphological competence, with direct effects on their decoding skills regarding accuracy and reading speed.