

Technological support for neurodiversity in education: The case study of Chatheros Academy for dyslexics

Abstract

Neurodiversity is estimated to affect 15% to 20% of the population. Among these conditions, dyslexia is one of the most common, often involving difficulties with accurate and fluent word recognition, spelling, and decoding abilities, leading students to spend more time catching up in class. This poses a significant challenge in education, which can be addressed through technology. Using the case study of the ChatHeroes Academy application and exploratory research made on its users, the factors supporting students with dyslexia in learning with technology are identified. Our investigation shows that technology may help students with dyslexia by providing humor, visually attractive avatars, the possibility to read the text aloud, limiting stress by not showing anger or impatience, testing knowledge and providing outcome immediately, providing possibility of continuous repetition and returning to the beginning of learning without peer pressure, reminding about homework, and offering possibility to move and stop learning at any time. Additionally, the users recommend that systems designed to educate people with dyslexia should offer large letters that are easy to read, voice recording when answering a chatbot question instead of writing, learning in the VR environment to further increase the immersiveness of the application, learning on a phone and multi-sensory exercises (audio, movement), opportunity of learning in a group with other peers suffering from dyslexia to reduce alienation and teach teamwork skills.