

The Implementation of Application Software to Improve Verbal Communication in Children with Autism Spectrum Disorder: A Review

ABSTRACT

Autism-assistive apps offer therapists and caregivers new approaches for educating and assisting individuals with autism spectrum disorder (ASD), mainly in social interaction. Even though these apps are deemed effective, they are not. These autism-assistive apps are not highly customizable, which limits their usefulness. This article examined the application software that was applied to encourage verbal communication in the intervention for children with ASD. The aim was to determine the minimum requirements for a verbal communication intervention app that adequately satisfies children with ASD, caregivers, and therapists. Databases were searched, including Scopus, Springer, PubMed, Education Resources Information Centre, and Google Scholar, with the following free-text terms combining Boolean operators: autism, children, intervention, verbal communication, software, app, and technology. A total of fifteen studies were found relevant, and the following information was collected: participant characteristics, information on the devices and apps, target behaviors, intervention procedures, and intervention outcomes. The findings suggest that the autism-assistive apps effectively improve verbal communication of children with ASD. For that, the apps should be attractive and engaging to the children with ASD, able to identify the child's capability and suggest appropriate lesson activities, as well as encompass specific learning outcomes with multilevel lesson strategy. The apps should also use systematic evidence-based intervention procedures in the activities, be able to evaluate the child's learning progress, and allow caregivers or therapists to keep track of application usage and performance. The use of apps in intervention does provide many benefits. However, they should never replace qualified therapists. App-based interventions make home-based treatment more focused, systematic, and economical.