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Navigating the Digital Wild West of Apps: How Can Teachers and Parents Find Suitable Apps for their Children with Autism to Improve their Social Communication Skills?

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Navigating the Digital Wild West of Apps: How Can Teachers and Parents Find Suitable Apps for their Children with Autism to Improve their Social Communication Skills?

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Abstract

Background

Since the launch of the iPad in 2010, schools have been increasingly using the devices and their associated applications for teaching children with developmental disabilities (Kagohara et al. 2013). In addition, 54% of households in the UK have a tablet computer and 61% use their mobile phone to access the Internet (Ofcom 2015). The Apple app store provides over 75,000 educational mobile applications (Apple 2016) with over 345 apps specifically for individuals with autism (Fletcher-Watson 2014). Looking for appropriate applications can often be a daunting experience for parents and teachers. There is a lack of standardisation to signal which apps are truly educational on the market, therefore new apps are daily released that are unregulated and untested (Kim 2017).

Objectives

This study aims to provide a state of the art review of mobile applications for iOS and Android tablets for children aged 4 to 11 years old that can foster the development of social communication skills. The app reviews aim to help teachers and parents choose the most appropriate applications for their children and to offer recommendations to app developers when deciding to design educational apps for children with autism to target social communication skills.

Methods: Semi structured interviews and focus groups with parents, teachers, children and academics were conducted that led to the development of guidelines and a list of questions on how to use the tablets and choose appropriate apps for social communication purposes (Mangafa et al. 2016). In this study, particular apps are reviewed against this list of questions in order to be used by children with autism and their teachers or parents/carers to support the development of skills, such as turn-taking, sharing, verbal and non-verbal communication and empathy. The app reviews are based on the UDL framework (CAST 2011), Bloom's Revised Taxonomy and SAMR model. The selection criteria were apps that a) can be used by children aged 4-11, b) cost less than £10, c) are popular among UK special and mainstream schools, d) are research informed or have received awards and good parent/teacher reviews and e) can be used to foster social communication and shared engagement.

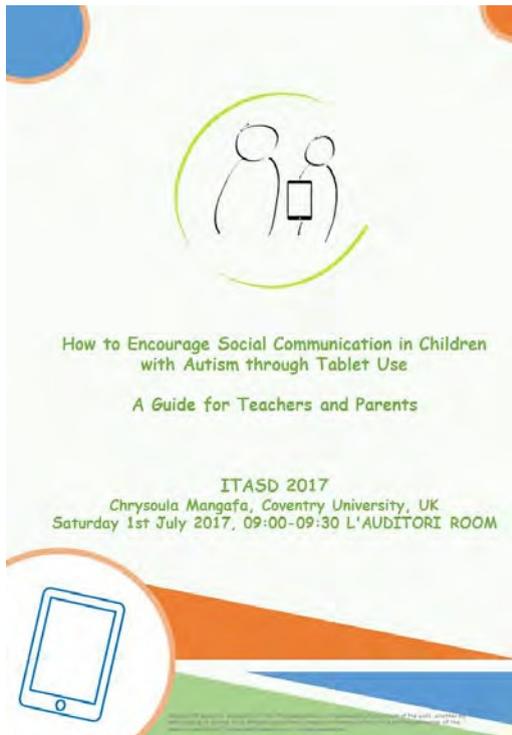
Results

The app reviews (n=60) are reviewed under the broad categories of education, fun, social skills and emotions. The education category includes applications that are designed to teach academic skills. The fun category includes applications that are primarily games, which provide enjoyment and sensory stimulation. In the social skills category, the applications aim to help children practice social skills, such as sharing, waiting for a turn, sustaining a conversation, joint attention and attending to people. In the emotions category, the applications mentioned teach about emotion recognition and facial expressions.

Conclusions

Parents, teachers and app developers should consider that the content of the app should be developmentally appropriate, customisable, engaging, and linked to school curriculum and prior knowledge. The app should be based on research evidence, designed in consultation with end users and researchers and be rigorously evaluated. It is recommended that schools should collaborate with parents to evaluate and recommend mobile applications that they have been using with the children, as this can also contribute to stronger links between

school and home.



Parent and teacher guide.jpg



App selection questions page 1.jpg