

Autism and Technology

Autism is a disorder that is becoming more and more prevalent today (Waterhouse, 2008). Although autism has been researched for 50 years, currently there are a lot of unknowns regarding the causes of the disorder. It is characterised by an impairment in social interaction and communication with others (Szatmari, 2003). Autism typically first becomes observable at infancy and people with the disorder often have difficulty expressing emotion or observing emotional cues from others. Symptom of autism are usually first observed between the ages of 12 to 24 months; verbal communication often regresses or is underdeveloped during this time (Helpguide.org, 2013). According to Autism Speaks (2013), the disorder occurs in 1 in 88 children; 1 in 54 boys and 1 in 252 girls. Our understanding of autism has dramatically changed in the past decade. Although there is a lot of research that still need to be completed on autism, recent studies have discovered some information that could help further research, perhaps lead to the discovery of the cause(s) of autism, and aid educators in helping autistic children learn most effectively.

A correlation between autism and genetic abnormalities has been recently verified. Caglayan (2010) states “During the past few years, genetic research in ASDs has been successful in identifying several vulnerability loci and a few cytogenetic abnormalities or single base mutations implicated in the causation of autism.” Szatmari (2003) states that there may be susceptible genes on chromosomes 2, 7, and 13 but they are unsure exactly which genes are susceptible.

In 1977, Folstein and Rutter did a study on autism in twins; they found that identical twins had increased odds of both having autism compared to fraternal twins. This study has been replicated and the results are well-grounded (Szatmari, 2003). Because identical twins have the same DNA, this would imply that genetics plays a role in the causation of autism. This might also imply environment plays a role since, in cases of autism in identical twins, often one of the twins will be autism-free; thus DNA cannot be

the sole cause. An example of an environmental factor in autism is Thalidomide; a drug that was given to pregnant women for nausea. This drug, given to a mother during pregnancy, was found to have a correlation to the disorder in infants (Szatmari, 2003). The correlation of autism to the MMR vaccine has been debunked (Szatmari, 2003); the initial study correlating the two has been found to be biased and unreliable.

Research on how autistic children learn is also being completed. Barnes et al. (2008) did a study on incidental learning in children with Autism Spectrum Disorder. They found that the children with ASD had spacial reasoning skills equivalent to those without ASD. Barnes et al. (2008) state the finding provides evidence for “the integrity of learning processes dependent on integration of spatial and sequential contextual information in high-functioning children with ASD.” I understand this to mean that high functioning ASD children can learn spatially; they are not compromised in this area of learning. Autistic children have poor organizational skills in addition to difficulty communicating with others (Oasis @ MAAP). The strengths and weaknesses of autistic children can be used to help educators find ways to effectively teach children with ASD.

As a teacher, I am continuously provided with challenges in teaching my students. Although most students behave and learn similarly, no student is the same. In fact, students with ASD provide me additional trials as a teacher, mainly because I am still learning about ASD. I very badly want to teach my students as effectively and efficiently as possible, however, I do not know how to most effectively teach a child with ASD. In fact, I find it additionally challenging because I want to cater to them but also do not want to hold back others in the class. Learning about the strengths and challenges of autism and how technology can individualize learning, I believe I can provide a more valuable learning experience for my autistic students through technology. I believe an iPad, tablet, or smartphone would dramatically aid an autistic child in learning. First, as I have experienced myself, Evernote is a fantastic application that can help a student to be organized. It has a “To Do” checklist with due date reminders. Pictures, audio, and other forms of attachments can be added to the reminder(s). Evernote is a great way to

keep an autistic student organized and it also has many capabilities that cater to an individual with specific needs. An iPad or smartphone also has the ability to integrate countless beneficial applications in one location. For example, on my smartphone, I have my calendar, Evernote, Internet, Google Drive (with the ability to create and edit documents), e-mail, Google maps, camera, music, Kindle and Nook reader, Sketchbook, Google Hangout, and much, much more; this allows me to have everything in one location that I can access anywhere. For a child with ASD, they may not want all those applications, however, they can download applications that cater to their needs. They can access the internet, take pictures, even draw pictures if they wish. In addition, the website Autism Speaks has a list of applications (<http://www.autismspeaks.org/autism-apps>), covering just about every subject area of life, that have been recommended as useful to those with autism. Technology is becoming so advanced with so many options it can help just about any person make their life a little simpler.



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