iPads, Autism and Research

RESEARCH

With the advances in technology allowing for more portable, interactive systems, widely used tools such as computers and tablets have become commonplace in many homes, classrooms and workplaces for individuals with Autism.

Best practice guidelines for individuals with Autism have indicated that the use of **visual supports** can be beneficial to learning; therefore the use of interactive, visual learning methods such as the iPad may be effective for some individuals.

IPads can be a beneficial learning tool for the following reasons:

- ✓ Apps can often be personalised for the user
- ✓ Allow for adaptation to materials
- ✓ Promote independent learning opportunities
- ✓ Provide immediate feedback through visual, tactile and auditory methods
- ✓ Portable and easy to use
- ✓ Socially acceptable

Recently there has been a large amount of research around to use of technology as a learning tool for individuals with Autism. This research has shown that technology can be an effective learning tool in some of these areas:

- Fine Motor Skills
- Supporting transitions
- Development of expressive communication skills
- Social Understanding
- Academic skills development
- Self care
- Time management and organisation

In a study by O'Malley & Donehower (2014) to investigate the iPad for math's instruction it was found that the iPad could be an effective instructional tool to enhance learning and independence.

Roger and Roger (2013) reviewed the use of iPads to support development of language, reading skills and math's development. They concluded that the use of iPads can be of benefit to students, however that further research is needed to plan for supports.

Ozen (2017) found positive outcomes with children with ASD and their siblings using iPads to learn social skills through games.

Meister & Salls (2015) also found positive outcomes through the use of video modelling to teach daily living skills.

Whilst positive outcomes have been observed, it is important to note that not all individuals will benefit from the use of technology to aid learning. It is important to know and understand the person's needs before introducing any tool.

It is recommended that families and staff contact their therapy teams for assistance before introducing the iPad as a learning tool.

> *'Broadly, technology is no different from any other tool.*
> *The power comes not from what it is, but rather how it is used.*
>
> Ayres et al, 2013

EVIDENCE BASED PRACTICE FOR SUPPORTING PEOPLE WITH AUTISM

The following areas have been identified as key to providing evidence based support for people with Autism (Roberts & Prior, 2006):

Key Area:	Considerations for Technology
Individualised support and services	Every person will have individual areas of needs as well as their own learning style. When identifying appropriate technology options to use with a person, it is important to consider: • The person's strengths and interests • What activities the person is currently learning Many technology options can be personalised for the individual such as: • Adjusting text size • Setting time limitations • Adjusting degrees of difficulty • Adjusting access capabilities for the device
Highly structured and supporting learning environments	Providing structured and supportive learning environments offer the person a framework for successful learning. Technology options may be more successful if introduced in a clear, routine situation. This could be supported through the use of visual timetables, schedules and timers for example. Apps can also be chosen that foster predictability and routine within their design such as repeating key language or concepts.
Support transition between settings	Technology can be used to support a person's transition between activities and across different areas in a variety of methods. Technology may: • Be used to prepare an individual for an upcoming change for example displaying photos of a new school or developing an interactive story about moving house. • Allow the individual to understand what is expected of them during the transition by presenting information in a clear and concrete format such as a visual schedule or video model of an activity.
Functional Approach to Behaviour Management	Technology and software can be selected that have a focus on positive reinforcement as well as regular and rewarding feedback so that the individual is able to experience success and be an active participant in their learning process. Using interactive technology is one way to increase a person's interest level as many people can find using technology a strong motivator for participation. Technology may also be used to record events or facilitate discussions with visual support, e.g., draw situations, or visually present choices.

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	Additionally, interactive technology methods may assist in teaching replacement behaviours through methods such as providing a method of communication.
Family Involvement	The following areas of consideration are important when introducing technology:
	• Access to resources, training and support for the individual and those around them to learn how to use the technology.
	• Technical support for managing iPads such as updating software, repairs and charging etc.
	• Support in generalising the skills learnt on the iPad to everyday, real life situations.

REFERENCE LIST:

Further information related to the use of iPads with people with Autism can be found in this reference list:

- O'Malley, P. Lewis, M. & Donehower, C. (2014). Effectiveness of using iPads to increase academic task completion by students with Autism. *Universal Journal or Education Research*, 2(1): 90 – 27.
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