

The Potential of Technology and its Relation to Childhood Development

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Does a child suffer or thrive off the use of technology? The use of how technology affects a child's development is an argument that continues as the world generates more and more technology. While some studies disapprove of the use of technology, or at least limit the usage, others are in favor for it and have developed methods on how children use the technology. "The 'appropriateness debate' centered on the use of play-based learning in early childhood education, with technologies considered by some researchers as threatening the imaginative capacity of young children's play." (Singer & Singer, 2007) Technology is beneficial for childhood development because it can be used to assist children who have delayed development, assist children in social development, and have proven methods using "teach by play".

Children use multiple methods of learning while integrating technology. Two of those methods include playing with technology and learning to use technology through play. The argument can be made that playing with technology can cause a child to not understand how to separate meaning from object. (Leong & Bodrova, 2012). Being able to separate "meaning from object is associated with the emergence of symbolism which is necessary for developing literacy skills." (Smirnova, 2011) On the opposite side of the argument, "children's play with technologies has been associated with 'play effects' that align with commonly valued aspects of play in early childhood pedagogy, such as intrinsic motivation, exploration, cause and effect, problematizing, and social interaction." (Verenikina & Kervin, 2011, as cited in Bird & Edwards, 2015).

Social development is difficult for some children, including those with and without disabilities or disorders such as Autism. There is a third play style that may help with that social interaction; it is a hybrid style of playing and technology. O'Mara and Laidlaw, two researchers, describe an event that a 5-year-old and 3-year-old were having a tea party with their stuffed animals. Between them was an Apple

iPad with an app that displayed a Tea Party. This app allowed the children to play with technology and learned how to be social and imaginative while using both virtual and physical objects (O'Mara & Laidlaw, 2011, p. 150). While technology can be used for play, it can also be used for strictly learning.

The results of an at home survey were published in 2018 asking parents how devices were used at home. While as expected, most children were apt to use the electronic devices for games and streaming applications, there were some who used the devices specifically for applications that assist with Autism. "The most common uses of technology were playing games, watching YouTube and listening to music." (Fletcher-Watson et al., 2019, p. 1523) Comparing to the "typical" child, a child with autism was suggested to communicate and play together when using technology. (Farr et al., 2010) Children with autism tend to have reading and language delays. Fletcher-Watson, etc., reported that "Individuals with higher reading and language abilities reportedly had access to more devices, more independent usage of different interfaces, and spent more time using technology, than children with lower reading and language abilities (Fletcher-Watson et al., 2019, p. 1527)

While electronic devices and technology are utilized for a variety of applications, schools can utilize the tech for educational purposes. A survey was completed on schoolteachers and support staff. This survey targeted the opinions of the instructors on technology used within the school setting in conjunction with children who have disabilities. The teachers describe how they identify and minimize challenges that arise for children with learning disabilities. One of the teachers, identified in the survey as "Maggie", told the researchers "Children on the autism spectrum don't respond to other people as well as they do to technology so it's a critical piece of tool to them to learn to progress for those in general education, and assistive technology supports all children to do well in their natural environment and school." (Tamakloe & Agbenyega, 2017, p. 32) Additionally, the researchers receive the testimony of other school staff on assistive technology. "Assistive technology helped children achieve their specific

learning objectives as well as enjoy the process of learning, kids with disability respond better to interactive technology than talk. (Tamakloe & Agbenyega, 2017)

There are some risks to allowing children to use technology, Nidal Agha, and Ahmad ZaaZa completed an extensive study on these risks. Agha and ZaaZa found “The use of digital technology has been associated with lack of attention, aggressive behaviors, physical inactivity, obesity, and sleep problems in preschool and school age children.” (Agha & ZaaZa, 2021, p. 57) It was specified in the article that “The overuse of technology in early childhood has been found to be related to cognitive, language, and social/emotional delays in community-based research” (Agha & ZaaZa, 2021, p. 57) Understanding that it is the “overuse” of technology that can cause delays in the development, the parents need to be reliable enough to heed the warnings and abide by the suggested times for technology. For example, having 3-4 hours of daily physical activity and social interaction or no technology an hour before bedtime. (Agha & ZaaZa, 2021)

While there are risks with using technology in child development, there are also many benefits. The amount of technology usage is on a continuous rise, especially as more technology is being developed to assist humans in their daily task. For instance, Tesla’s self-driving car is an extreme advancement in technology, and more Tesla models are being created, while in turn, there are more Tesla consumers. Understanding the purpose for the technology could influence good habits. Additionally, keeping a strict and dependable schedule for technology use could prevent poor habits. If a child can be taught to appreciate the technology, then the child could take full advantage of the learning and personal development potential.

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