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## Voice it out loud: Viewing the world through autistic eyes using assistive technology

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**Statement of the Problem:** DeVillers and DeVillers (2014) and Iacoboni (2009) discovered the ability for one to find their voice and actively engage in the world around them, mirror neurons take part in speech production. However, for several sets of children with verbal delays and who are non-verbal, with speech generating devices (SGD). The question posed is whether the devices are more effective in school settings considering the nature of communication and interactions that occur in that setting than other settings. Past researchers made convincing cases regarding the role of language development using SGD in several settings but the one setting that has limited literature is SPG device usage at home (Thunberg, Ashlen & Sandberg, 2011). More specifically, a child with definite understanding of their own feelings and desires it is necessary to hear language used by them to understand what they most desire (DeVillers & DeVillers, 2014). We can observe behavior in expressing wants and needs but the proper verbal expressions for that child's age range can indicate the maturity of the theory of mind (ToM) and development of the executive functioning for their stage of life (DeVillers & DeVillers, 2014) that would lead to the second case of how the child obtains the information for a conversation. For example, when we hear someone try to get things that they want and driven by those wants, they voice and go to the place to get those wants. This approach to ToM development therefore, focuses on the importance of learning words as labels for mental states (DeVillers & DeVillers, 2014). What kind of language reflects or supports the developments of ToM reasoning to give researchers an understanding of the child's maturity is what several studies seeks to answer. Recent research focused on the verbs that reflect the child's mental state (DeVillers & DeVillers, 2014). Rarely do children express their own and/or another's' beliefs until around four years of age. This study has been replicated with children who are slightly and moderately language delayed but has not been studied with adults who are non-verbal and severely delayed in language (DeVillers & DeVillers, 2014). Therefore, to fill the research gap examining the data provided by the population of non-verbal/severely delayed individuals using voice output command aides (VOCA's) in a school, home or day program setting will hopefully answer the researcher's pressing research question.

### Recent Publications:

1. De Villers A P and De Villers G J (2014) The role of language in theory of mind development. *Journal of Top Language Disorders* 34(4):313–328.
2. Iacoboni M (2009) Imitation, empathy and mirror neurons. *Annual Psychology Review* 60:653–6770.
3. Thunberg G, Ashlen E and Sandberg A D (2011) Autism, communication, and the use of SGD in different environments- a case study. *Journal of Assistive Technologies* 5(4):181–198.

### Biography

Tamara C McGill-Carter has expertise in Neuro-Anatomy and Neuroscience with a focus on the intricate workings of the limbic and memory systems. Her master thesis surrounds human memory and encoding, detailing the fundamental changes that creates as well as destroy memories. She also excels in psychological theories and is currently in her final year of the Chicago School of Professional Psychology's Educational Psychology and Technology Doctorate program, due to graduate by next summer. Her dissertation's focus centers on Autism, Theory of Mind and Executive Functioning. Her expertise in neuro-anatomy further expanded while working with individuals with developmental disabilities/delays at several home health agencies, which created several projects centering on how autism and developmental delays affect the brain. She currently holds dual Bachelor's Degrees in Psychology from Indiana University Northwest in Gary and a Master's of Arts Degree from the Chicago School of Professional Psychology, the concentration focus being Trauma and Crisis Intervention.

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