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Speech-language pathologists' perspectives on augmentative communication and autism spectrum disorder

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Speech-language pathologists' perspectives on augmentative communication and autism spectrum disorder

Abstract

Augmentative and alternative communication (AAC) is a common strategy that speech-language pathologists (SLPs) use to help individuals better communicate. AAC is used to assist or replace verbal communication. This strategy can include pointing at pictures, having a device that speaks typed words, or using gestures such as sign language. AAC is commonly used to help individuals with autism spectrum disorder with communication. Autism spectrum disorder (ASD) is a lifelong developmental disability that impacts social communication and interaction. Individuals with ASD also commonly have restrictive or repetitive behaviors. Past research on AAC has focused more on what it is and why SLPs would use it. There is a paucity of research about specific AAC programs and the successes and challenges that SLPs have faced with them. This qualitative research study seeks to explore the methods and perspectives of SLPs using AAC with their clients, specifically with clients with ASD.

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**SPEECH-LANGUAGE PATHOLOGISTS' PERSPECTIVES ON
AUGMENTATIVE AND ALTERNATIVE COMMUNICATION AND
AUTISM SPECTRUM DISORDER**

By

Madison Lambert

A Senior Thesis Submitted to the
Eastern Michigan University
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Abstract

Augmentative and alternative communication (AAC) is a common strategy that speech-language pathologists (SLPs) use to help individuals better communicate. AAC is used to assist or replace verbal communication. This strategy can include pointing at pictures, having a device that speaks typed words, or using gestures such as sign language. AAC is commonly used to help individuals with autism spectrum disorder with communication. Autism spectrum disorder (ASD) is a lifelong developmental disability that impacts social communication and interaction. Individuals with ASD also commonly have restrictive or repetitive behaviors. Past research on AAC has focused more on what it is and why SLPs would use it. There is a paucity of research about specific AAC programs and the successes and challenges that SLPs have faced with them. This qualitative research study seeks to explore the methods and perspectives of SLPs using AAC with their clients, specifically with clients with ASD.

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Introduction

Review of Literature

Augmentative and Alternative Communication

According to the American Speech-Language Hearing Association (ASHA), augmentative and alternative communication (AAC) is a form of assistive technology that assists or replaces verbal speech and other impairments in both speech-language production and comprehension (ASHA, n.d.-a). Some examples of AAC include manual signs, picture communication boards, and speech-generating devices (ASHA, n.d.-a). The scope of individuals that may benefit from the use of AAC spans across abilities and ages. Young children may use AAC if they have limited to no verbal communication, while older adults who have acquired disabilities (i.e. traumatic brain injuries) may also benefit from a form of AAC (ASHA, n.d.-a). In recent years there has been increased awareness and acceptance of AAC which has resulted in the increased application of AAC with individuals of all ages (Light & McNaughton, 2012). According to Beukelman and Light (2020), around five million Americans could benefit from the use of AAC. This large number of individuals shows how effective AAC can be in different populations. In terms of the popularity of AAC, this strategy for communication has evolved over the past 40 years and more individuals are using AAC services than ever before (Light and McNaughton, 2012). In a study talking to special educators across all 50 states in the United States, about 18% of their students used some form of AAC (Andzik et al., 2018).

Communication is essential to the daily lives of individuals, so it is important for everyone to have access to communication. AAC has a wide range of options for individuals. There are two larger categories of AAC: aided-AAC and unaided-AAC. Aided-AAC involves some external tool or equipment, and the equipment can be electronic or non-electronic (ASHA,

n.d.-a; Gevarter et al., 2013). The advancements in mobile technology have increased the options for electronic aided-AAC devices which allows AAC to be more accessible to a variety of individuals (Light and McNaughton, 2012). An example of an electronic aided-AAC device is a computer or tablet that has a communication application (ASHA, n.d.-a). Some examples of non-electronic aided-AAC options include visual schedules, writing, and communication boards (ASHA, n.d.-a). Unaided-AAC does not involve an external tool or device and it requires the user to have some degree of motor control (ASHA, n.d.-a; Gevarter et al., 2013). Facial expressions, manual signs, and finger spelling are all examples of unaided-AAC (ASHA, n.d.-a). The form of AAC that is introduced to the individual will depend on their communication difficulty, their motor ability, and their communication needs. The speech-language pathologist (SLP) will work with the individual and their family to determine which form of AAC is the most appropriate for them.

How SLPs use AAC

A SLP holds many roles and responsibilities that include screening, assessing, diagnosing, and treating those with communication disorders and differences. These roles and responsibilities include finding, assessing, and treating individuals who may benefit from AAC intervention. In the screening and assessment stages, the SLP may look for indications that an individual might benefit from the use of AAC intervention (ASHA, n.d.-a). In the past, SLPs have used AAC intervention as a last resort for individuals with communication challenges (Ronski & Sevcik, 2005), but recently SLPs have been introducing AAC as a means of increasing verbal speech when appropriate. When a SLP diagnoses a child after assessing them, the diagnosis could help lead the SLP to AAC intervention. For example, AAC intervention is

commonly used with individuals with ASD (ASHA, n.d.-b). It is important for SLPs to remember that each client is different and AAC intervention should be tailored for the individual.

Core words are the most used words in phrases and sentences, and they make up about eighty percent of language (Liberator, n.d.-b). Fringe vocabulary includes mostly nouns, and it is important to have the right amount of fringe vocabulary for the AAC user (Liberator, n.d.-b). The AAC user should have a balance of core and fringe vocabulary to give them access to as much vocabulary as possible, but it is important that the device should be easy to navigate. When SLPs organize symbols on an AAC device, they must consider the user, their literacy abilities, and how much vocabulary is on the device. When an older child or an adult has literacy skills, they can use a keyboard device and have access to a wide variety of vocabulary (Liberator, n.d.-a). Younger children or those with lower literacy skills have symbols to represent their language on their AAC systems (Liberator, n.d.-a). The page approach is one method of programming a high-tech AAC device, and it involves creating pages for different categories of vocabulary such as dinner time, games, and nighttime routine (Liberator, n.d.-a). SLPs need to consider the abilities of the AAC user before introducing a great number of pages because it can often be difficult for children with intellectual disabilities to navigate. It is also important for vocabulary to stay in the same location on the device (Liberator, n.d.-a). This will help the AAC user be able to navigate the device with more ease. Symbols should be added to the device with intention to give the user access to more communication without overwhelming them (Liberator, n.d.-a). More basic AAC systems have one page of core vocabulary to start, but high-tech systems such as TobiiDynavox Snap Core First have multiple pages. TobiiDynavox's Snap Core First is an application that can be downloaded onto a mobile device. The user has a profile that is customized with vocabulary that is specific to their communication needs. This application has a

home page that consists of Core Words, preprogrammed commonly used phrases called Quick Fires, a keyboard, and a tab to go to all the different topic pages (TobiiDynamox, n.d.). Every icon that moves to a separate page has an arrow to let the user know it is a separate page (TobiiDynamox, n.d.). When the user clicks the icons, it will speak the word or phrase for the specific icon (TobiiDynamox, n.d.).

When the SLP begins intervention and treatment for the individual, it is common for SLPs to provide trial periods with different AAC systems (ASHA, n.d.-a). This will help determine if the form of AAC fits the needs of the client and the client's family. Once the AAC system has been chosen, it is the responsibility of the SLP to document the client's progress and modify the device or method as needed (ASHA, n.d.-a). This can include taking feedback from the parents, teachers, and other professionals that work with the child. An individual using an AAC device may have an interdisciplinary team of professionals (i.e., occupational therapists, physical therapists, assistive technology professionals). The SLP is expected to work with these professionals as a team to allow the client to be as successful as possible (ASHA, n.d.-a).

Another important responsibility of the SLP with their clients who use AAC is to educate and train those around them about AAC intervention (ASHA, n.d.-a). It is important for all individuals who encounter the client using AAC to be comfortable with their device, so they are able to communicate. The SLP should educate and train those that communicate with the client including the client's family members and caregivers, educators, and other therapists (ASHA, n.d.-a). The SLP acts as a bridge between the family of the client and the AAC company, so it is important to keep open communication and provide additional support through training or counseling as appropriate (ASHA, n.d.-a). SLPs are also encouraged to advocate for their clients

to provide them with the most appropriate means of communication and give them access to communicating with their family and peers.

AAC and ASD

Autism spectrum disorder (ASD) has been defined as a lifelong developmental disability that impacts communication, social skills, and behavior (ASHA, n.d.-b). An individual with ASD commonly has difficulties with their social communication which includes social reciprocity. When an individual is not able to engage in reciprocal conversation, this could lead to isolation or behaviors of frustration of not being able to communicate (ASHA, n.d.-b). When an SLP is starting intervention with an individual with ASD, they will focus on goals that target the main challenges involved with ASD such as spontaneous communication and engaging in reciprocal communication (ASHA, n.d.-b). Different approaches of intervention are used with someone with ASD and AAC is a common method due to the visual and multimodal component (ASHA, n.d.-b). Individuals with ASD often respond well to visual supports such as visual schedules, so having a method of communication that includes visuals is often effective (ASHA, n.d.-b). SLPs also often use multimodal communication systems that may include gestures, vocalizations, pictures, or devices that speak for them (ASHA, n.d.-b). Different types of AAC incorporate gestures, pictures, and speech-generating devices that could assist with the multimodal communication approach (ASHA, n.d.-b).

Methodology

Purpose and objectives of the study

The purpose of this study was to explore the experiences of SLPs in their work with AAC with their clients with ASD. The researcher investigated what programs, applications, and other strategies the participants commonly use with their clients and their challenges and successes.

AAC is a strategy that is constantly changing, so it is important for SLPs to stay up to date with the most recent strategies.

Research questions

The researcher aimed to explore two questions: how the participants' coursework and clinical experiences prepared SLPs to use AAC with their clients and what AAC programs and strategies the SLP participants used with their clients.

Methods

Qualitative research generates data that is non-numerical, and it usually involves understanding people's experiences, beliefs, and interactions. Researchers may conduct interviews with participants when doing a qualitative research study to give participants an opportunity to voice their experiences and opinions (Pathak et al., 2013). This qualitative research study used phenomenology as the mode of research. Phenomenology is a type of qualitative research that is meant to gain the participants' perspective based on their own experience (Schram, 2006). Phenomenology focuses on what the participants believe is true, not what the interviewer believes is true. With this qualitative research method, interviewers look at all the interviews and pull-out themes. These themes are universal truths for these specific participants as they are true for each of them (Schram, 2006). This research was done through semi-structured, in-depth (Seidman, 2006) interviews based on the participants own personal experiences and their reflections.

Data Collection

Data collection began after this study received approval from Eastern Michigan University's Institutional Review Board (IRB) in November 2021 to protect the participants. Once IRB approval was received and informed consent was collected, the semi-structured, in-

depth interviews (Seidman, 2006) were scheduled between December 2021 and January 2022. Semi-structured, in-depth interviews do not have set questions, but rather the interviews follow a three-part process that consists of the participants' related history, details of their experience, and a reflection on what their experience means. The researcher was able to obtain interviews with four participants. In order to be eligible to participate in this study, the participants had to be an SLP with a certificate of clinical competence from ASHA. The SLPs also had to have experience using AAC with their clients with ASD. The interviews were conducted over the phone, and they were recorded with the SLPs consent. These interviews were recorded and transcribed by the researcher, and all identifying information was removed from the recordings, labels, and transcriptions.

Data Analysis

In order to understand the experiences of the participants, the researcher analyzed each of the interviews. The researcher followed a modified version of Hycner's (1985) steps for phenomenological data analysis which included transcribing, listening for a sense of the whole, summarizing each interview, and identifying themes. To develop themes, the researcher began a line-by-line analysis of the data that took common experiences and developed them into themes. These themes were identified from the transcriptions and the researcher found quotes from each interview to support those themes (Creswell, 2013). This approach was chosen because it was effective and efficient in highlighting the participants' experiences and responses, while protecting their confidentiality.

Participants

To be eligible to participate in this study, the participants had to be a speech-language pathologist with a certificate of clinical competence from ASHA. The SLPs also had to have

experience using AAC with their clients with ASD. Three of the participants worked as SLPs in a multidisciplinary clinic, and one participant worked as an AAC solutions consultant. All participants were given a pseudonym to protect their identity.

The first participant was Bridget, an SLP who works in a multidisciplinary clinic in a suburban community. Bridget has been working as an SLP for over 20 years and has had experience working in a clinic and in a school district. The second participant was Delaney, an SLP who also works in a multidisciplinary clinic in a suburban community. Delaney has worked as an SLP for about five years, and she worked in a school district in an urban community prior to her current position. The third participant, Nicole, also works in a multidisciplinary clinic in a suburban community. Nicole has had seven years of experience as an SLP, and she has worked in a charter school prior to her current position. The fourth participant, Gale, has been working as an AAC consultant for one year and she has had four years of experience working as an SLP prior to her current position.

Results

Basic information about AAC and how it can be used is found through research, but the four interviews with SLPs allowed the researcher to compile a more personal look into SLPs and their work with AAC. While each of the SLP's views and experiences varied, there were three common themes that emerged: SLP education about AAC, family-centered care, and SLP beliefs on AAC.

SLP Education about AAC

The scope of practice of an SLP includes AAC, so it is important for SLPs to be prepared to use AAC with their clients. All four of the participants interviewed for this study commented about their own education about AAC and what they learned in and out of graduate school.

Although these participants each attended a different graduate school, each had one AAC course in graduate school. Delaney's graduate program had an AAC course that focused on how AAC follows the theories of language. Delaney also discussed how she did not find this beneficial since the course focused on the theory of language development which was already taught in other courses. Delaney explained, "I really wish that they would have taught us the basics of how to program the device." On the other hand, another participant, Gale, took a course in graduate school where the professor brought in consultants from different AAC companies such as Tobii Dynavox. This SLP stressed the importance of understanding the latest AAC and being exposed in graduate school. Gale explained, "The research in AAC, the technology, changes so fast, and I think that the professor really needs to stay on top of that which doesn't always happen."

In addition to the education that SLPs receive in graduate school, all four of the participants discussed how they learned about AAC more through on-the-job training and continued education. Delaney said, "Continuing education and trial and error", is where her knowledge about AAC is from. She discussed a specific client who had a speech-generating device when they came to her and how she learned so much through working with them. Nicole, another SLP that was interviewed, also mentioned that she learned more about AAC on the job. Nicole explained, "I think, with our field being so broad, it is just impossible to teach everything in school." Two of the SLPs that were interviewed also talked about the impact that additional training and education had on their knowledge about AAC. Nicole discussed going to conferences and enrolling in courses about AAC and Bridget talked about attending webinars over the course of her years as an SLP. Nicole explained, "I am still learning, always learning", when asked to describe her education about AAC.

Family-Centered Care

When using AAC with clients, it is crucial for the families of the children to be involved. When the SLP is working on teaching a client how to use an AAC device or other method of AAC, the family must be able to both afford any costs associated with the AAC and be supported in learning to use the method or device.

As detailed in the introduction, AAC can include anywhere from a pen and paper to write down when they want to say to a speech generating device that speaks for the client. Delaney detailed the potential costs of a speech generating device which includes the family purchasing an iPad and the application. Delaney explained,

Programs can run anywhere from \$200 to \$500 just for the app. That's not even talking about getting an iPad. And with those programs if you don't have a designated device that you're trying to get insurance to cover the iPad, they won't do it because an iPad is not considered a designated speech device.

This is why Delaney also explained that the family should be a part of the decision-making process to make sure that the AAC device fits both the client's needs and what the family can afford.

In addition to the financial factor of care, SLPs also should work to support families through their child's AAC intervention. Gale, a SLP who currently works as an AAC solutions consultant, detailed her role in her position as someone who is an extra support to the family of the AAC user to help the family learn to program and use the device. Whether an AAC solutions consultant is an option or not, Nicole mentioned that having an AAC device that is "user friendly" is a big factor in choosing a program. Nicole also mentioned, "[SLPs] see these kids a few times a week and then they go home with [AAC device], so we definitely want parents to

also be comfortable with it.” When the parents are comfortable with the device, the child will be able to have more exposure which will progress their language skills even further. Additionally, Nicole discussed the importance of reminding families that it is going to be a process for the child and the family to learn to use this device. Nicole explained, “It's kind of like learning a new language. You're going to make mistakes, and I tell parents that all the time too, we don't expect you to be perfect with it.” This advice will benefit any family or SLP to hear that it takes time for each member of the team to get used to the device or AAC method.

SLP Beliefs on AAC

All four participants in this study had nothing but positive things to say about the impact that they have seen AAC make with their clients. One belief that three of the SLPs shared was that AAC can decrease the frustration of trying to communicate with verbal speech. Delaney discussed one client that she worked with who had the diagnosis of ASD and childhood apraxia of speech. When they introduced a speech generating device, Delaney said, “that stress of trying to communicate went away.” Bridget also described the decrease in frustration and talked about how the device takes the pressure off verbal speech and allows the client to work on their language. Bridget explained that “the research says that using [AAC] doesn't hinder speech and language development, it actually helps them” due to the decrease in stress and frustration. Nicole went as far to say, “I've seen frustration decrease, and I've seen engagement and motivation to communicate increase.” So not only is AAC decreasing frustration, it is allowing children to gain motivation to communicate instead of potentially engaging in behaviors.

In addition to AAC decreasing frustration, the SLPs that were interviewed recognize the importance of AAC giving individuals access to communication. One of the SLPs talked about a client that she had that did not have any form of communication until they were forty years old

when they were given a form of AAC. She then went on to discuss the importance of introducing AAC as soon as possible so that they are given communication as soon as possible. Nicole stressed the importance of “giving them any type of basic communication.” She talked about how when deciding whether to use AAC with a child, she always uses it first because giving the child access to communication is so important. Nicole also said that “[AAC] has so many benefits receptively too, not just expressively” due to the “visual and auditory model” that clients get with AAC that they might not have understood prior. Additionally, Gale spoke about why she recommends AAC:

I recommend AAC because communication is a basic human right and everybody else should have access to communication that works for them. Not everybody has access to mouth words. Not everybody has access to sign language. Not everybody has access to writing, or low-tech and not everybody has access to high-tech and that is why we should always offer options and offer the options for the most robust vocabulary. We can possibly give that person the most fulfilling, the most genuine, communication access possible.

Gale detailed multiple accounts of how AAC has changed the lives of her clients and how it gave those without a voice an opportunity to express themselves.

Discussion

SLP Education about AAC

As AAC becomes more commonly used with individuals with complex communication needs, it is crucial for SLPs to receive comprehensive education on AAC. In a study reviewing SLP education on AAC, 45% of SLPs reported that they provide services to individuals with complex communication needs (Locke & Mirenda, 1992). Despite the increase in AAC users, it

seems that there continues to be a lack of education about AAC for SLPs in their schooling (Costigan & Light, 2010). In another study discussing the education of AAC for SLPs, less than 25% of the SLPs surveyed felt that their level of education on AAC prepared them for working with AAC with clients (Marvin et al., 2003). The participants interviewed in this study shared similar experiences as most of the participants had a single class in graduate school with basic information about AAC. These participants, along with SLPs from other studies, had limited field experience with AAC during their education (Costigan & Light, 2010). This limited field experience was common in the experiences of this study as well, as many of them said they learned with their own clients. Some of the participants described their approach as ‘trial and error’ and ‘on the job learning’.

Due to the limited amount of education available in the graduate setting, the participants of this study discussed the need for continuing education and on the job learning. This is consistent with the sentiments of SLPs in other research studies regarding the need for continuing education (Sutherland et al. 2005). One study found that 41% of school based SLPs in Nebraska needed some form of continuing education in order to feel confident in their ability to use AAC with clients (Simpson et al., 1999). Nicole discussed how broad the field of speech-language pathology is and how it is impossible to teach everything in school. This speaks to the importance of continuing education to ensure that the clients are receiving the best intervention possible.

Family-Centered Care

ASHA supports family-centered care as something that involves a partnership that benefits both the family, the child, and the clinician (ASHA, n.d.-c). Many studies have been conducted to show support of the family-centered approach from the viewpoints of the family

and the SLPs. In a study conducted by SLPs to discuss AAC intervention with families, it was found that the parents should be involved in the decision-making process including writing AAC goals (Starble et al., 2005). In addition, it is important to allow the family to feel comfortable and valued throughout the partnership (Moore, 1992).

This study lines up with previous research that emphasizes the importance of the family members being significant communication partners with the child. Parents and other immediate family members are who the child interacts with the most, so it is important to involve the parents and the siblings in the training and process of learning how to use the AAC method (Starble et al., 2005). The parents should receive in-home training, when possible, on how to program, communicate, manage, and clean the AAC device (Starble et al., 2005; Bailey et al., 2006-a). In past research, it was found that AAC device abandonment is commonly associated with lack of training and education for the family (Philips & Zhoa, 1993).

SLP Beliefs on AAC

As Gale discussed in her interview, all people have the right to communication. This lines up with the National Joint Committee for the Communication Needs of Persons with Severe Disabilities (1992) which states that every individual, regardless of their disability, has “a basic right to affect, through communication, the conditions of their own existence.” This basic right includes the right to request objects and information, to express feelings and opinions, to refuse an object or activity, and to always have a form of AAC that is in good working condition (National Joint Committee for the Communication Needs of Persons with Severe Disabilities, 1992). It is the role of the SLP to find a mode of communication that is accessible to the individual and allow them to communicate in a way that works for them.

When an individual has access to communication, the participants in this study discussed that the individual will have decreased frustration. Delaney mentioned that when they are given the means to communicate effectively, they have less stress about communicating verbally. These findings have been shared with many other researchers in a variety of studies. In one study, a team of special education teachers and SLPs found that when students used AAC devices in the classroom, there was a decrease in their challenging behavior (Bailey et al., 2006-b). This is consistent with Beukelman and Mirenda's (1998) discussion about the connection between communication and challenging behavior, and that challenging behavior is a form of communication. Delaney discussed a client that she worked with that was able to use verbal communication with their AAC device due to having less pressure to communicate with their voice. The SLPs in this study found many benefits to using AAC with their clients that were consistent with the findings of past research.

Limitations of this Study

This study is limited due to the data being collected from a small sample of participants who were female and started practice in the state of Michigan. Three out of four of the participants worked at the same clinic as well. A larger group of participants, potentially in schools and clinics across other geographic locations, would provide more broad perspectives from SLPs working with AAC.

Conclusion

One of the roles that an SLP has is to give their clients access to communication that is appropriate for them, and AAC is a possible mode of communication for many clients with disabilities such as ASD. AAC is constantly evolving and changing to fit the needs of individuals with all different communication abilities. With AAC constantly growing, it is crucial for SLPs

and professors that teach SLPs to stay up to date on the latest research and methods for AAC use. As Nicole explained regarding her knowledge about AAC, “I’m still learning, always learning.” In addition to SLPs needing to educate themselves on AAC, they also need to be there to support the families of AAC users. Gale discussed the importance of supporting families through training, counseling, and any other support they may need throughout the process of learning how to use the AAC device. As Nicole mentioned, learning how to communicate with AAC is “kind of like learning a new language.” Despite the limited education and training in school, all the participants had positive comments and beliefs regarding AAC use with their clients and their families. Bridget discussed that AAC takes the pressure off their verbal speech and allows the individuals around the client to get “insight into their little brains.” Regarding future research, the field of speech-language pathology should focus on educating SLP students in undergraduate and graduate school to better prepare them for working in the field. Qualitative and quantitative studies could be conducted to determine the AAC curriculum for SLP graduate programs throughout the country. Other studies could collect data on the AAC programs available and how widely used these programs are. Finally, qualitative research could be conducted to determine family-centered care in relation to AAC. The participants of this study emphasized family involvement, so more research conducted will benefit clients, families, and SLPs. Giving individuals access to communication that works for them is a huge role for SLPs, and AAC is an option that works for many.

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