

Perspectives of Families and School-Based Speech-Language Pathologists on the Augmentative
Alternative Communication (AAC) Experience

By

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Abstract

This study compared the perspectives of pair-matched school-based speech language pathologists (SLPs) and families of students who use speech-generating devices (SGDs). Data was collected via an online survey that gathered information related to six domains: the assessment process, the support provided by the SLP, the student's goals, the family and SLP's knowledge and perceptions of the SGD, the student's use of the SGD, and family-centered services. Thirteen pairs of SLPs and parents responded to the survey. Their responses were compared to calculate percent agreement within each pair. An additional 31 SLPs and 9 parents, who did not create pairs, also completed the survey. Their responses were analyzed separately.

Results revealed that there was an overall high level of agreement within pairs, indicating parents and SLPs had similar views on the AAC experience. However, responses from unpaired SLPs and family members were variable. In particular, parents who responded whose SLP did not, reported having very different views from their child's SLP and indicated overall dissatisfaction with the services their child received from the SLP.

Clinical implications for SLPs include seeking continuing education opportunities to develop their knowledge and skills in the areas of augmentative and alternative communication (AAC) and family-centered services. There is a need for professionals to provide family-centered services, particularly by understanding family's preferences for support, as well as the family's priorities for their child's communication. Furthermore, the need for SLPs to train other professionals in the school setting to support students who use AAC is also discussed.

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Chapter I

Introduction

In the 2016 Schools Survey conducted by the American Speech-Language Hearing Association (ASHA), 55% of speech-language pathologists (SLPs) reported that they regularly served students in the area of augmentative and alternative communication (AAC) (ASHA, 2016). AAC is a relatively young field which emerged in the 1950s and 1960s (Hourcade, Everhart Pilote, West, & Parette, 2004). Widespread use of AAC systems for persons with severe and multiple disabilities has grown significantly in the last 35 years. The estimated 1.3% of Americans who cannot rely on their natural speech to meet their communication needs may benefit from AAC to supplement existing speech or replace speech that is not functional (Beukelman & Mirenda, 2013). Furthermore, the growing use of AAC is made clear, considering more than half of school-based SLPs provide intervention in the area of AAC (ASHA, 2016). Reasons for growth in the field of AAC include 1) the passage of legislation such as the Individuals with Disabilities Education Act (IDEA); 2) changes in AAC practices, and 3) the availability of AAC. Each of these will be discussed in this chapter.

In addition to the changes in the field of AAC, there has been a shift in service provision. Historically, intervention services for children in speech-language and other health care related fields have been provided using a therapist-centered model (Bazyk, 1989; Beatson, 2006). In this model, the professional is considered the expert, and the family has little or no involvement in the intervention. In recent years, there has been a push to provide family-centered services in which families are involved during the assessment and intervention process, with a focus on supporting the child's whole family. Several studies have explored the implementation of family-centered services (Crais, Roy, & Free, 2006; Dunst, 1995; Mandak & Light, 2017;

Parette, Brotherson, & Huer, 2000). If SLPs are truly providing family-centered services, families should theoretically be satisfied with the services they receive. However, there are studies that reveal families are not always satisfied with the services they receive, especially services for their child who uses AAC (Crisp, Draucker, & Ellett, 2014; Lund & Light, 2007; Marshall & Goldbart, 2008; McNaughton et al., 2008). It is possible that the incongruence between ideal family-centered practices and the services that SLPs provide comes from their lack of knowledge and experience with AAC (Costigan & Light, 2010; Wilcox, Guimond, Campbell, & Weintraub Moore, 2006). SLPs also have their own opinions as to what factors facilitate or hinder successful AAC use (Johnson, Inglebret, Jones, & Ray, 2006). To accurately explore any contrasting perspectives between families and SLPs, it is necessary to survey families and their SLPs in pairs so that responses can accurately be compared.

Augmentative Alternative Communication

As defined by AHSA, AAC is “an area of clinical practice that addresses the needs of individuals with significant and complex communication disorders characterized by impairments in speech-language production and/or comprehension” (ASHA, n.d., para. 1) . Causes for communication disorders that may require AAC include congenital disabilities such as autism spectrum disorder, cerebral palsy, developmental apraxia of speech, intellectual disability, genetic disorders, and other developmental disabilities, as well as acquired disabilities such as traumatic brain injury. When an individual’s natural speech is absent or not sufficient in meeting their daily communication needs, they may benefit from the use of AAC.

AAC systems typically fall within three categories: no-tech, low-tech, and high-tech (ASHA, n.d.) . An individual’s communication through gestures, facial expressions or other body language encompasses no-tech AAC systems. Low-tech AAC systems use materials such

as pictures, symbols, communication boards, icon exchange, or written text as a form of communication. Finally, speech-generating devices (SGDs) are high-tech AAC systems, in which an individual can activate the system to produce audible output through the selection of pre-programmed words and messages. Access methods, or the way in which an individual activates the device, may include direct selection through touch or eye gaze, or scanning through the use of switches. The best access method and most appropriate device for an individual is determined through an AAC evaluation (Beukelman & Mirenda, 2013).

There are many advantages for individuals who use SGDs. They are given a “voice” that can be used to communicate with someone across the room, get someone’s attention without being directly in their line of sight, and more easily communicate from a distance using phones or integrated e-mail systems (Sellwood, Wood, & Raghavendra, 2012). The use of SGDs further develops communication skills, lessens challenging behaviors, and can increase an individual’s involvement in family life and social situations (Drager, Light, & McNaughton, 2010; Light & McNaughton, 2012).

AAC initially emerged in the 1950s and 1960s, expanding in the 1980s to be used by individuals who have multiple or severe disabilities (Hourcade et al., 2004). Core principals of the field have changed during this time. Historically, a candidacy model was followed in which individuals had to demonstrate prerequisite skills to qualify for AAC (Hourcade et al., 2004); currently the field follows the Participation Model from Beukelman and Mirenda (2013), in which competency is presumed and anyone is believed to benefit from AAC.

One of the biggest changes in the field has been the growth of technology, particularly following the development and widespread use of computers and tablets (Hourcade et al., 2004). SGDs are becoming more widely used with these advancements, including the option to put

communication applications on an iPad or tablet. The number of communication applications available for download is rapidly growing, and the relatively low cost of mobile devices and applications is appealing to families (Meder & Wegner, 2015). One study conducted by Calculator (2013) found that electronic communication devices, supported by other means of communication (e.g. gestures and vocalizations), were the most accepted forms of communication by children who have Angelman Syndrome, per parent report.

AAC in the Schools

The passing of the Education for All Handicapped Children Act of 1975 sparked a movement for inclusive education, in which students who were historically segregated because of their disability were provided equal access to education. Through this act and its later reauthorization as the Individuals with Disabilities Education Act (IDEA), students were guaranteed “a free and appropriate education in the least restrictive environment” (P.L. 94-142). This required classroom teachers to assume responsibility for the education of students with disabilities, and led to the development of programs to facilitate these students’ transition into mainstream environments (Hourcade et al., 2004; Osgood, 2005). Additional AAC services were provided to allow students to engage in learning (Zangari, Lloyd, & Vicker, 1994). As such, the implications of this legislation facilitated the growth and acceptance of AAC.

Students need an effective form of communication to access curriculum and meet educational standards. IDEA acknowledges the need for assistive technology, including SGDs, and mandates the provision of assistive technology devices and services when needed to provide access to education for children with disabilities. The need for assistive technology and related services are written alongside the student’s annual academic goals and progress in their

individualized education program (IEP). The growing development of technology discussed earlier makes it easier to provide SGDs in the school setting.

Despite positive changes in legislation and access to technology, facilitating AAC in the school setting comes with many challenges. Calculator and Black (2009) note that students need to be taught skills that foster their membership in their community, have educators who maintain high expectations of them, have consistent access to AAC across their day, have effective use of AAC modeled for them, and have educators who not only ensure they have an opportunity to participate and use AAC in the classroom, but also know how to respond to their communicative attempts. Implementing these ‘best-practice’ recommendations can be challenging in the school setting. Teachers, educational assistants, and other professionals who regularly interact with the student may lack foundational knowledge about the SGD and not have training on how to effectively support the student’s participation in the classroom and other school activities (Kent-Walsh & Light, 2003; Soto, Müller, Hunt, & Goetz, 2001). These trainings are the responsibility of SLPs and other professionals who are knowledgeable about SGDs. Hence, it is important for the school team to have a collaborative and supportive relationship to effectively implement an IEP. Soto, Müller, Hunt, and Goetz (2001) encourage SLPs to share information, work in partnership with other professionals, and view themselves as a member of a collaborative team. Whitmire (2000) describes this collaboration nicely, stating:

Sharing the responsibility for student success involves working in partnership with teachers to plan and deliver the kind of total program that enables students to achieve within the curriculum. It includes speech-language pathologists helping teachers with curriculum, instruction, and assessment modifications, and teachers helping speech-language pathologists with practice and generalization of therapeutic targets. (p. 195)

Calculator and Black (2009) also discuss the importance of collaboration between special educators, general educators, and related service providers. They also cite several studies that highlight the importance of support from administration, including principals, who provide professionals with the time and resources they need to collaborate and support students who use AAC.

General education teachers have shared their experiences about including students who use AAC in their classes (Kent-Walsh & Light, 2003). They observed several benefits, including personal satisfaction and professional growth, some positive interactions between students using AAC and their peers, and increased understanding of students with disabilities for peers. However, there were also many challenges. Teachers felt they weren't knowledgeable about appropriate evaluation methods to determine whether or not students using AAC were making academic gains. They reported that their lack of training and knowledge of AAC limited them in meeting students' needs, and that they experienced increased planning demands to prepare lessons that would include students using AAC, but often weren't given the extra time in their schedule to do so. Teachers also described the challenges associated with being excluded from the planning process, particularly in the development of educational goals for students. Similarly, they indicated that team collaboration was often lacking and they did not have consistent communication with the team. One participant shared that she did not receive any background information on the abilities and needs of one student who joined her class, commenting:

I've never been told that she has cerebral palsy, but she does. Though she has an educational assistant with her in the room, I know nothing – zero. If anything were to cause the educational assistant not to be there, I wouldn't know the first thing about even

pushing her wheelchair, much less getting her to understand or speak. (Kent-Walsh & Light, 2003, p. 112)

Although some positive peer interactions were reported, teachers faced challenges in facilitating these positive interactions. Examples include pairing students to work with the individuals who used AAC and recurring instances in which classmates avoided the student using AAC or did not speak to them directly, instead communicating through educational assistants (Kent-Walsh & Light, 2003).

A difficult aspect of inclusive education is the acceptance of children with disabilities, including those with communication needs that require SGDs. McDougall, DeWit, King, Miller, and Killip (2004) note that attitudes of peers towards students with disabilities “are generally recognized as being a major barrier to full social inclusion at school” (p. 288). General education teachers in the study by Kent-Walsh and Light (2003) observed social exclusion of students in their class who used AAC, reporting that socialization was not occurring at all, even outside of the classroom. They cited a growing gap between classmates’ interests and those of the student using AAC as a possible explanation for this exclusion. The attitude an individual has towards another person impacts the way they act towards them. Students who are less familiar with individuals with disabilities tend to have more negative attitudes towards students using AAC (Beck, Thompson, Kosuwon, & Prochnow, 2010). The attitudes within a student’s learning environment, can positively or negatively impact communication (Beck et al., 2010) and could have additional emotional ramifications. Stigma has been noted to impact whether or not assistive devices, such as SGDs, are used and may even result in the abandonment of the device (Parette & Scherer, 2004). Having a safe and supportive environment in which individuals using

SGDs feel accepted is important for their well-being, communication development, and academic growth.

Family-Centered Services

Once again it was the passing of P.L. 94-142 and later IDEA that greatly influenced the development of the family-centered model. This legislation included families as members of the IEP team to be involved in the decision-making processes for the student's educational evaluation, placement, and service implementation (Family Empowerment Disability Council, 2012). It also introduced the idea of the family as the client, rather than just the child (Pappas & McLeod, 2008). A core value of family-centered services is to recognize that families are the constant in children's lives, and while service-providers come and go, the family will always be present and have the greatest understanding of the child (Beatson, 2006; Parette et al., 2000; Shelton & Stepanek, 1994). The idea of family-centered services does not force family-involvement, but instead provides them with a choice regarding their level of involvement and acknowledges their right to make decisions about intervention (Bailey Jr, Buysse, Edmondson, & Smith, 1992). Furthermore, professionals provide families with the information they need to make informed decisions; respect the priorities and decisions of families, even if they are different than professionals' recommendations; and provide supports and services that are individualized and responsive for optimal family outcomes (Bailey Jr et al., 1992; Dunst, 1995; Shelton & Stepanek, 1994). These practices apply to the provision of AAC services.

Several studies have described parents as the expert concerning their child, their child's abilities, and their child's needs (Marshall & Goldbart, 2008; Parette et al., 2000; Shelton & Stepanek, 1994). In a study by Marshall and Goldbart (2008), parents shared that they were expected to be an expert on their child, noting that their close relationship with their child made

them very knowledgeable of their child's medical and communication needs. However, some parents in the study did not have the desire to be the expert and felt that it was the job of the SLP, especially in regard to AAC devices. These differences underscore the importance of family-centeredness and the importance of understanding the views that families may have regarding their role.

Family-centeredness has been shown to impact the success of services (Angelo, Kokoska, & Jones, 1996). Services that involve the family to their level of comfort are particularly important with AAC in order to facilitate use of the SGD in the home and community environments. In determining ideal practices from parents who have children with Angelman Syndrome using AAC, Calculator and Black (2010) found that parents valued communication and use of the device being integrated throughout the day, rather than targeting skills in isolation, noting that use across the child's day assisted with generalization and carryover of skills across environments.

Family-centeredness appears to decrease in the school system as children get older. Dunst (2002) suggests that this shift may be explained by the perception that families are considered less crucial as children develop and transition through adolescence and adulthood. Parents also perceive these changes, as parents of younger children perceive their speech-language services to be more family centered than parents of older children (Mandak & Light, 2017).

In a study exploring families' and professionals' perceptions of the implementation of family-centered services during assessments, Crais et al. (2006) surveyed 58 families and 134 professionals who had participated in assessments together. Participants were recruited from agencies in North Carolina who provided center-based and/or home-based services to children

with disabilities ages 5 years or younger. Professionals represented a variety of disciplines, but included special educators, psychologists, SLPs, and physical therapists among others. For most families, the assessment conducted for the study was the first or second assessment experienced by the child, with 10 families reporting that their child had been assessed 3-5 times. After participating in an assessment together, families and professionals were asked to (1) identify whether a number of family-centered practices occurred during the assessment and (2) indicate if the family-centered practices listed on the survey were ideal. The authors found that there was an overall high level of agreement between families and professionals for both ideal and actual practice. However there were a few exceptions. Families identified the following three practices as being more ideal than the professional did: families being present for *all* meetings, families reviewing reports and making suggestions, and families writing down observations. In regard to the family-centered practices that occurred during the assessment, families and professionals disagreed more than 50% of the time whether or not the following five practices occurred: the family being asked to write down observations of the child before the assessment; the family having a choice to take part in identifying areas to assess; the family being given a choice to complete an assessment tool or checklist; if a current diagnosis was made, whether the family was asked if they agreed with the diagnosis; and if a previous assessment had taken place, whether the family was asked how they felt about the results. Additionally, there was an implementation gap between what families and professionals agreed was ideal and what was actually being implemented. All 58 families agreed that almost half of the practices were not being implemented as frequently as would be ideal. These practices included family involvement in preparing for the assessment, being asked to share their observations with the professional, and being included in the development of goals for their child. The authors note

that professionals in this study and other studies tended to rate these types of practices as occurring more frequently than families did. Although this is one of the only studies that has matched professionals and family members who participated in an assessment together, results may have been biased by allowing the early intervention agencies to select the professionals and families whom would participate in the study.

Similar findings were present in the study conducted by Mandak and Light (2017), although the SLPs and parents in this study were not pair-matched. Parents of children with autism and limited speech were asked to complete The Measures of Processes of Care (MPOC-20; King, S., King, G., & Rosenbaum, 2004), and SLPs who served children with autism and limited speech were asked to complete the Measures of Processes and Care for Service Providers (MPOC-SP; Woodside, Rosenbaum, King, S., & King, G., 2001). Results revealed that parents perceived family-centered services to be occurring less frequently than SLPs, but data to determine whether or not they were satisfied with these services was not collected.

In connecting what is known about family-centered services to the provision of AAC services, Mandak, O'Neill, Light, and Fosco (2017) propose a framework based on family systems theory and ecological systems theory. They suggest that the framework can be used to close the gap between acknowledging that family-centered services are ideal and actual practice. First, the framework identifies the family as an interconnected system comprised of parental, sibling, and extended family subsystems. Secondly, it recognizes that families function within a variety of contexts or systems that interact with each other (e.g. schools, communities, and society). The authors provide examples of clinical practices related to family system principles. For example, during the process of adaptation, SLPs can be family-centered by being sensitive to the family's needs and demands, acknowledging that implementing AAC impacts family roles.

As families obtain homeostasis, or successful functioning, the SLP can seek opportunities to integrate AAC into existing family routines in meaningful ways. The proposed framework is a reminder that SLPs should involve all relevant family subsystems, viewing the family as a whole unit that is integral in strengthening AAC interventions.

The SLP's Perspective on AAC

Although there is not an abundance of published research exploring SLPs' perspectives on AAC, we are still able to get a general idea of their knowledge of, experiences with, and professional views on AAC. The most recent Schools Survey conducted by ASHA (2016) gathered information about services provided by SLPs in the school setting. Fifty-five percent of SLPs surveyed reported regularly serving an average of 5 students who are nonverbal. These numbers demonstrate the prevalence of students using AAC, making this an important issue for schools, and shows that a large number of SLPs are providing AAC services on a regular basis.

A study conducted by Wilcox et al. (2006) explored early intervention providers' perspectives on the use of assistive technology (AT) for infants and toddlers. AT was broadly defined but included a variety of technology related to mobility, communication, positioning, and more. Of the 967 participants, 214 (22.1%) were SLPs. Thirty-five percent of SLPs agreed with the statement that young children needed to have certain skills before they could use AT. They were more likely to agree with this statement than occupational therapists, physical therapists, teachers, and other specialists. This is one of many misconceptions about AAC that SLPs may have, particularly when they do not have prior experience with AAC. Other misconceptions may include the beliefs that AAC will impede future speech development, or that users are required to start with low-tech AAC to 'prove' they can use SGDs. The number of

SLPs who are misinformed continues to be a persistent issue in the field, despite authors such as Smith, Barton-Hulsey, and Nwosu (2016) who have attempted to dispel AAC myths.

SLPs' knowledge about AAC, or lack thereof, is largely influenced by their graduate education. In a review of available literature, Costigan and Light (2010) found that 18-38% of SLP preservice programs did not offer an AAC course. Furthermore, these courses were not always a requirement towards completion of their program. More than 80% of SLPs surveyed rated the education they received on AAC systems as limited or poor, and less than 25% found their training to be adequate for their professional needs (Marvin, Montano, Fusco, & Gould, 2003). The lack of education in graduate programs is likely due to a limited number of faculty members with AAC experience. In a survey distributed by Ratcliff, Koul, and Lloyd (2008), 54% of respondents reported that teaching staff with minimal to no expertise in AAC were teaching content on AAC. This clearly affects the quality of education future professionals are receiving in regards to AAC. Unfortunately, this leaves some SLPs without the knowledge and skills to effectively support students using SGDs.

Speaking further to the effects of untrained SLPs, Hustad and Miles (2010) attributed SLPs' lack of education to the misalignment of IEP goals. Twenty-two children with cerebral palsy who had communication disorders participated in their study. They found that 21 (95%) of these children needed some form of AAC. However, only 12 (57%) of the identified children had at least one AAC-focused speech-language goal/objective in their IEP. Additionally, 8 children (38%) did not have any AAC-focused goals, and 1 child (5%) did not have any speech-language goals/objectives listed in their IEP. The authors conclude that while it is possible that these children were receiving AAC-related services that were not documented in the IEP, the

study highlights that SLPs do not have sufficient knowledge in understanding when a child may benefit from AAC or when to provide AAC services.

The availability of technology has been reported to be a barrier for professionals serving children with disabilities. Though not specific to SLPs, 43.5% of the early interventionists who participated in a study conducted by Wilcox et al. (2006) reported that families would not have access to devices they could borrow, and 6.8% did not know whether the resources to trial the devices were available. Providers who had little or no training rated the availability of AT, red tape or excessive requirements associated with using AT, and support from a colleague or supervisor as more important variables when considering AT for a child than did providers with more training (Wilcox et al., 2006). This data may indicate that providers with less training are more hesitant to initiate the implementation of AT without extra guidance and support. Data that was specific to SLPs, however, revealed the characteristics they consider when implementing AT with a child and circumstances in which they were likely to include AT on an individualized family service plan (IFSP). They were most likely to list AT on an IFSP when they believed that AT would promote family interactions. The three most important variables when considering the use of AT with a child were: appropriateness of the device, parents' attitude toward AT, and the opportunity to try/borrow AT. This data suggests that SLPs do consider family dynamics and preferences when introducing AT, such as an AAC system.

In addition to the challenges SLPs face in their knowledge and skills regarding AAC, they face additional hurdles in the school setting. High caseloads and additional job-related demands limit the amount of time they are able to dedicate to students using SGDs (Kent-Walsh, Stark, & Binger, 2008). The provision of AAC services is time-intensive, often requiring the creation of additional supports, adaptations, and modifications. This likely impacts the amount

of time that SLPs are able to dedicate to collaborating with others, something that Soto, Müller, et al. (2001) found to be valuable among education teams that serve students using AAC. In addition to limiting regular team meetings, this restricts the amount of time an SLP has to train teachers educational assistants, and family members in effectively supporting the SGD, in which a need for has been cited in many studies (Bailey, Stoner, Parette, & Angell, 2006; Kent-Walsh & Light, 2003; Kent-Walsh et al., 2008; McNaughton et al., 2008; Rackensperger, 2012).

When SLPs are available to provide support to families, they may prefer to use an alternative service delivery model. Anderson, Balandin, and Stancliffe (2015) explored the perspectives of seven parents and 13 SLPs regarding alternatives to in-person training for families who have a new SGD in Australia. Of the 13 SLPs, three were considered “novice” (<2 years experience with SGDs) and 10 were considered “experienced” (3-12 years of experience with SGDs). Experienced SLPs participated in a semi-structured focus group, while novice SLPs and parents were interviewed individually. All participants had experienced receiving or providing support in an alternative service delivery model, including telepractice, parent-implemented intervention, peer-support networks, group services, and/or intensive therapy camps. Acknowledging that many AAC resources are readily available to families online, one SLP who participated in the study cautioned, “how they are implemented and if they are appropriate or not could be debated” (Anderson et al., 2015, p. 190). Some SLPs have recommended the use of short training videos to accommodate families’ busy schedules. SLPs have also had positive experiences providing support via telepractice, through e-mails and phone calls, or other remote strategies such as exchanging USB drives or therapy materials. Although SLPs considered remote support models most useful for maintenance and client follow-up, they also stressed the importance of families having some in-person support as well. Depending on

SLPs' resources, comfort level with technology, and other work-related demands, they may have individual preferences for the ways in which they like to provide support to families.

In exploring the assessment and prescriptive practices, Parette (1995) surveyed early intervention project directors in 50 states, which included SLPs, about their AAC practices. Results revealed that family issues in AAC, such as family training needs, family preferences for the SGD, family routines affected by the SGD, and financial resources required of the family for the SGD were considered to a lesser extent than the child and the SGD itself. The child's preference for SGDs was reportedly not considered by more than half of the states. Service system issues such as the identification of training needs for professionals and paraprofessionals, and follow-up needs after receiving the SGD were also considered to a lesser extent. Approximately 42% of the respondents reported that family satisfaction with the SGD was not measured or that they were unaware of satisfaction being measured during the assessment process. Respondents also perceived families as being overwhelmed by technology, not wanting to participate in the assessment process, and felt that families needed their professional assistance in identifying the appropriate technology for their child. Based on professionals' reports of the services they provide, there is still a need for greater understanding of family issues and how to provide family-centered services. Beatson (2006) notes that SLPs need to "balance technical expertise rooted in the deficit model with the strengths-based model rooted in family-centered care" (p. 2). Just as professionals need to acquire skills in AAC during their preservice education, Beatson indicates that this is the ideal time to for them to also prepare themselves as family-centered professionals.

Bailey, Stoner, et al. (2006) interviewed an AAC team to determine their perspectives on SGD use. While 6 of the 7 participants were special education teachers, the seventh participant

was an SLP, and direct quotes from the SLP are available. As a whole, the team reported that a student's ownership of the SGD was important in expanding their use of the device and the positive impact it had on interactions with communication partners. The SLP in the study mentioned that SGD durability and portability could be a barrier to successful SGD use, citing that the devices broke frequently. On the other hand, devices that were easy to use were seen as a facilitator for SGD use. Participants in the study saw family involvement as both a facilitator and a barrier. Family involvement was reported as a facilitator when there was consistent communication with and participation from the family, and when the device was used at home. Instances in which the device was not used at home, likely because the family could understand the student without the SGD, was seen as a barrier. The SLP also noted:

Parents are willing to get them. Parents are willing to buy them, but parents aren't willing to use them at home... and I don't think it's maybe that they don't value it, maybe they don't realize the potential of what could be said and done. (Bailey, Stoner, et al., 2006, p. 148)

This quote is reflective of the incongruence that may exist between families' and SLP's perspectives of AAC.

One of the most substantial studies documenting the perspectives of SLPs explores factors related to success and abandonment of AAC. The three-phase investigation conducted by Johnson et al. (2006) concluded with a survey completed by 275 members of ASHA's Special Interest Group (SIG) #12 (AAC). Participants' membership in this group may imply that results are not generalizable to all SLPs given that participants were likely passionate or interested in AAC. Nonetheless, their experiences varied, with the number of years as an SLP ranging from 0.5-43 ($M=17.32$), an average number of 16.63 people using AAC on their current caseload, and

the total number of people using AAC with whom they've worked during their career averaging 96.89. Participants were provided with a questionnaire of 103 factors that may be related to long-term success or abandonment of AAC systems. They were asked to rate the percentage of cases they had worked with in which success or abandonment was related to these factors. Of the 41 factors on the questionnaire addressing successful use of AAC systems, over half of them were considered to be important in 80% or more of cases, consequently highlighting the heterogeneity of factors that may contribute to long-term success. The top two factors associated with long-term success, as measured by the average number of cases, were 1) the person who uses the AAC system experiences success (91.76%), and 2) the degree to which the system is valued by the user and partners as a means of communication (90.58%). Other factors were related to matching AAC system features to the needs and abilities of the user, including matching the user's physical abilities (89.42%) and cognitive abilities (88.22%) to the system. This type of feature matching commonly occurs during the assessment process. The high percentage of cases that SLPs associated with these two factors implies that they understand that selecting the best device for an individual's needs and abilities is necessary for long-term success. Similarly, respondents reported that having a system that is adaptable, flexible, and accessible in 84.06% of cases and a portable system that can be used in multiple settings in 81.59% of cases contributed to successful use of AAC. Other factors were related to support for the device from the family and user (89.04%), as well as support among professionals on the team (85.48%). Similar to support, having sufficient training for new communication partners across settings was a factor of success in 83.52% of cases.

In the same study, the top two factors associated with abandonment were 1) communication partners believing they could understand the person who uses AAC without him

or her using the AAC system (77.75%), and 2) partners not providing sufficient opportunities for the person to use the AAC system to engage in conversations (76.8%). Other factors addressed lack of partner motivation (71.66%), the user preferring other, simpler means of communication (70.02%), and the professionals who work with the AAC user not being trained to operate and/or program the system (67.79%). No time for follow-up training, programming/preparation of materials, and team collaboration were cited as factors associated with abandonment in 67.15%, 66.84%, and 66.32% of cases, respectively. Finally, no support from family members (65.89%) and family not being trained to operate and/or program the system (64.52%) were factors associated with AAC abandonment. Generally factors associated with success had counterparts that led to abandonment. For example, support from the family and team members was present in cases of success, while support from those same individuals were weak or missing in cases of abandonment. Similarly, realistic attitudes, valuing the system, and having a sense of ownership were factors of success, but attitude that lacked motivation, fear of technology, or feeling that the system was socially unacceptable were factors in cases of abandonment (Johnson et al., 2006).

SLPs have also discussed funding as it pertains to AAC. The SLPs surveyed in Chmiliar (2007) identified the financial cost as the most significant barrier to implementing AT, noting that “funding is typically the major issue.” SLPs in Johnson et al. (2006) also commented that funding is often “inadequate or difficult to secure.” This additional barrier in obtaining an SGD may discourage an SLP in pursuing AAC for a student.

These studies have explored SLPs’ experiences with and professional beliefs regarding AAC. In some cases it is important to consider that there may be a difference in what SLPs report and their actual practice, especially when challenges they face in their workplace may collide with their professional opinion. This may be a possible explanation for some of the

conflicting experiences with AAC that families have experienced, which will be explored in the next section.

Families' Experiences with AAC

When SGDs are introduced, an entire family is impacted, including their routines and relationships (Angelo et al., 1996; Mandak et al., 2017; Parette et al., 2000; Parette & Hourcade, 1997). Family members must learn new skills to communicate with their child (Goldbart & Marshall, 2004). Each family's hopes and expectations for SGDs are different, and thus they have diverse experiences when AAC is implemented. The literature available on families' experiences with AAC sheds light on both positive and negative factors that have influenced their experiences and either served as facilitators or barriers to successful and ongoing AAC use. In reviewing the literature, the following themes emerged: assessment, technology, family demands, societal issues, and service delivery. Each of these will be explored more thoroughly.

Assessment. Many parents have shared their experiences during the assessment process of choosing and obtaining an SGD. The SLP is responsible for recommending the SGD that best fits the child's communication needs, but should include family input in making this selection (Bailey, Parette, Stoner, Angell, & Carroll, 2006; Mitchell, 2015; Parette et al., 2000). It is important to understand the family's values from the beginning and include them throughout the assessment process. In cases where this does not occur, it may result in prescription of the wrong device, which can cause additional stress to families and even abandonment of the device (Parette & Hourcade, 1997). Parents of children with Angelman Syndrome who were surveyed agreed that ideal practice would include teams considering the family's goals and priorities before selecting an AAC system (Calculator & Black, 2010). Some families have shared that their experiences matched these ideal practices, and were appreciative of being able to provide

their insight as to how appropriate a particular device seemed to be for their child, as well as the opportunity to trial devices before purchasing (Crisp et al., 2014). Other families have experienced negative outcomes and dissatisfaction with the device because of the failure to include them (McNaughton et al., 2008; Parette et al., 2000). Additional dissatisfaction with the assessment process was experienced by participants in a study conducted by Crisp et al. (2014). These families cited long waiting lists for AAC evaluations and noted that in some cases years passed before they received an SGD. Following an assessment, funding to secure the device is another concern for most families (Crisp et al., 2014; McNaughton et al., 2008). Dedicated SGDs are generally expensive, and insurance companies do not always cover the cost. Dealing with denials from insurance companies was one factor of device funding mentioned by families in Crisp et al. (2014). Likewise, the time the time that passes from the initiation of the assessment until receiving the SGD varies, and families may view extended wait times negatively.

Finally, families have also expressed frustration when they were not aware that AAC was an option. One parent has shared, “Unfortunately, even though my child was making NO progress at verbal speech, an AAC option was never mentioned by the school nor any professionals” (McNaughton et al., 2008, p. 47). To learn that SGDs could have been available to their child earlier in their life may leave families with feelings of frustration or remorse in not providing it to their child earlier. It also speaks to the importance of having well-informed professionals who know that SGDs are available for children with complex communication needs or whose speech is not enough to meet their daily needs.

Technology. SGDs themselves have been reported to contribute to positive and negative experiences with AAC. While some families have expressed positive experiences from increased

communication opportunities, others have also experienced difficulties with SGDs (Goldbart & Marshall, 2004; Lund & Light, 2007).

Participants in a study conducted by Crisp et al. (2014) shared several device characteristics that were barriers and facilitators to successful ongoing use of SGDs. Some viewed the device itself as a limitation, particularly when the device had poor voice quality, or the device was too complex for them to navigate or program. Others reported that appropriate high-quality voice supported their child's acceptance of the device and made it much easier for them to be heard. They indicated that slow start up times, short battery life, and too few USB ports made the device less functional than they hoped for. In addition, the device's design and visual characteristics were also important to families. Many parents described devices as being "heavy", "big", and "not very portable", especially for young children who needed to carry them around or when the SGD made it difficult to navigate their child's wheelchair. Families from diverse backgrounds make additional considerations about the technology their child uses, including the availability of various languages and dialects on the SGD, the ability to code-switch, how culturally sensitive icons are, and more (Blake Huer, 2000; Dukhovny & Kelly, 2015; Parette, 2000; Soto & Yu, 2014).

Responsibilities for programming the SGD may depend on how the family and SLP want to share or distribute those duties (Bailey, Parette, et al., 2006). Some families may prefer that the SLP to be the sole programmer and may make requests for the messages they'd like to be added to their child's device. Other parents have reported taking on more extensive programming roles, such as one parent who recalled making an alphabet overlay for their child, which was needed during spelling activities because the school didn't have anything like it (Goldbart & Marshall, 2004). Some families feel that devices are "versatile" and easily "customizable"

(Crisp et al., 2014). They report using a variety of resources in learning to operate their child's device including device manuals, training courses, training from an SLP, telephone and website support from manufacturers, and online groups (McNaughton et al., 2008). The effectiveness of these supports varies.

To examine the impact of AAC on families, Angelo (2000) collected information from families in Pennsylvania via a survey. More than half (58.4%) of the respondents reported that their responsibilities had increased as a result of using AAC. However, 67.3% of participants reported that they did not feel as though the AAC device was a burden and 57.5% reported that their child also did not feel that the device was a burden (Angelo, 2000). On the other hand, it has been suggested that stigma associated with AT, such as SGDs, may result in abandonment. Parette and Scherer (2004) noted that stigma might influence whether a family chooses to implement a device and whether or not the device is used. This is particularly true for families from culturally diverse backgrounds.

In Angelo et al. (1996) found that an area of high need reported specifically by fathers was support in knowing how to operate, program, and maintain or repair SGDs. Families need continued support in using and maintaining their child's SGD. In some cases, damage or malfunction requires the device to be repaired by the manufacturer. More than half of families were satisfied with the SGD warranty and repair services in the survey conducted by Angelo (2000) of 114 families with children with a variety of disabilities. In a smaller study conducted by Lund and Light (2007), seven young men, their family members, and professionals who worked with them discussed the reliability of the technology and shared that breakdowns were frequent. One mother shared:

The only problem with it was that it was always breaking, you send it away to be fixed and you are without the machine for six to seven months... The most frustrating part was not having a piece of equipment that you had had before. It was like taking a step back. (Lund & Light, 2007, p. 328)

Family demands. Parents feel that professionals need greater insight into the family experience of having a child with a disability (Marshall & Goldbart, 2008; Parette et al., 2000). Goldbart and Marshall (2004) noted that “parents’ capacity to engage in the AAC process fluctuates,” which “places a responsibility on professionals to be sensitive to families situations and to attempt to accommodate them with respect to the level of involvement families can undertake at any time” (p. 207). The demands of coordinating various services for their children, other caretaking responsibilities, financial stress, and other priorities can influence the degree to which the family is involved and how much progress is made with using the device at home (Goldbart & Marshall, 2004; Mandak et al., 2017). Insensitivity to family demands can increase the likelihood of device abandonment.

Parents also experience strong emotions throughout their experience with AAC. Families have reported feeling worn down and isolated trying to meet demands (Goldbart & Marshall, 2004). A family’s cultural background can also impact their experience with AAC and the demands they have. Parette et al. (2000) found, “Families wanted professionals to be sensitive to the ‘double stigma’ sometimes associated with being a member of a minority group and having a disability” (p. 185). Some families may feel that carrying an SGD makes a disability more visible, further exacerbating these feelings (Parette & Scherer, 2004). Families have also expressed feelings of guilt and frustration in working with their child and the SGD. One parent

shared, “It is very frustrating because I can see there is a huge potential but there just aren’t enough hours in the day to be able to do it” (Goldbart & Marshall, 2004, p. 203).

Jones, Angelo, and Kokoska (1999) surveyed 59 families in Pennsylvania to identify stressors and supports of families with children ages 3-12 using AAC. Results revealed that acceptability (i.e. how close the child was to parents’ expectations) and demandingness (i.e. physical, social, and emotional demands of the child) were sources of stress for both mothers and fathers. As a whole, parent-related stressors, such as their relationship with their spouse, social isolation, sense of competence, and depression, were sources of greater stress for mothers than fathers. Families who have children with disabilities who use AAC are at risk for experiencing high levels of stress. The study also sought information about the families’ sources of help. The most helpful people and groups identified by mothers were their spouses or partners (60.4%), professional helpers (51.8%), and school/daycare center staff (50%). For fathers, the most helpful people and groups were their spouses or partners (97.1%), school/daycare center staff (58.1%), their own children (56.2%), professional helpers (52.9%), and their spouse or partner’s parents (50%). Fathers reported more help from their spouses and their spouses’ parents and relatives than mothers did. Families who are from diverse backgrounds may also be more likely to rely on extended family members for support, especially if they have collectivist values (Parette & Scherer, 2004). When families rely on other immediate family members as well as extended family, it is important to consider the additional training needs the family may have in order to ensure that all family members are able to support the child in using their SGD (Jones et al., 1999; Mandak et al., 2017).

Societal factors. Families understand and value the positive effects of AAC on their children’s interactions with others. Calculator and Black (2010) surveyed 32 parents of children

with Angelman Syndrome who used AAC. Participants' second and third most frequently cited priorities for their child's communication skills were communicating with a variety of people, and sharing feelings and experiences with others, respectively. One parent commented that "without the ability to communicate, I feel the chances of developing a 'true' friendship are almost impossible," and another believing, "AAC is the bridge between my child and her peers" (Calculator & Black, 2010).

Unfortunately, negative attitudes and limited social opportunities are common for individuals using SGDs (Angelo et al., 1996; Crisp et al., 2014; McNaughton et al., 2008). Families have reported negative reactions from others because their child communicates using an SGD. This leaves families feeling like others do not see the value of the device (Crisp et al., 2014). Others may also be skeptical of AAC, as evidenced by one mother who shared that community members thought her son's device was a gaming tablet (Crisp et al., 2014). This anecdote aligns with the desires of mothers in the study from Angelo et al. (1996) who wanted more community awareness and support for individuals who use SGDs. This speaks to families' desires for their children to have relationships outside of the home and their family.

Some families have reported inclusive communities as a positive outcome of AAC (Lund & Light, 2007). One mother shared a time that her child was acknowledged by a community member and given the opportunity to independently communicate:

... He put in independently at the restaurant 'I want pancakes,' and she [the waitress] asked him what to drink, and he said, 'I want lemonade.' I looked at my husband because that – for that moment in time – the visual contact was with our son. There was no looking at my husband and I. For, in that moment, the waitress had contacted with my

son, a 7-year-old, and she listened, and smiled, and said “thank you.” (Crisp et al., 2014, p. 234)

Families report positive interactions when communication partners use appropriate tone and language with their child and are mindful of their child’s communication abilities, refraining from finishing their child’s sentences (Crisp et al., 2014; McNaughton et al., 2008). Some parents report programming messages such as, “Please do not read over my shoulder,” and “Please be patient while I type what I want to say,” into their child’s device to help facilitate these interactions with people who are unfamiliar with AAC (McNaughton et al., 2008). As the number of individuals using AAC grows, it is important that communities are inclusive and understand that SGDs are an individual’s voice.

Service delivery. The theme of service delivery encompasses families’ perceptions of and relationships with professionals, the goals developed for their child, their views on collaboration, and the training and support they were provided with. Generally, the ‘professional’ refers to the SLP, but some literature also reference teachers and AAC specialists.

Unfortunately, there are several findings that shed light on the negative attitudes of professionals towards families and individuals using AAC (Crisp et al., 2014; Lund & Light, 2007; McNaughton et al., 2008). Mothers have described interactions with education professionals related to their child’s SGD as “disappointing, frustrating, and at times confrontational” (Crisp et al., 2014, p. 232). One mother shared that her son’s teacher had openly said they didn’t want her son in his class (Lund & Light, 2007). Several individuals who use AAC “told stories of negative attitudes held by school personnel that, if not for family intervention, could have stood in the way of opportunities for success” in a study conducted by Rackensperger (2012, p. 110). Other parents have described their interactions with professionals

as “open, helpful, and supportive” (Crisp et al., 2014, p. 234). These comments are consistent with findings in other studies (Lund & Light, 2007; McNaughton et al., 2008). Parents have shared that they are in favor of principals and other key administrators supporting inclusive education, noting, “Without this administrative leadership the resources for effective inclusion are likely not to be present” (Calculator & Black, 2010, p. 37). Teachers who have successfully included students using AAC in their class have reported that families have been satisfied and were appreciative of their inclusive efforts (Kent-Walsh & Light, 2003). Families from culturally diverse backgrounds face additional barriers with service delivery, as AT approaches “are all too often couched in the values and belief systems of Euro American professionals” (Parette, Huer, & Hourcade, 2003, p. 430). One mother in the study from Lund and Light (2007) noted, “services were geared toward English-speaking people a lot more,” (p. 327), and two separate cases of professionals not understanding or meeting families’ bilingual needs were shared. There are clearly drastic differences in the experiences that families may have with professionals.

Attitudes may, in part, be dependent on the professional’s knowledge of AAC. For example, one mother has shared, “We’ve encountered a lot of speech paths along the way who have thought that augmentative communication is not part of their profession” (Lund & Light, 2007, p. 327). Families are aware of the lack of training and preparation that SLPs receive in regard to AAC services. In fact, it is one of the most cited barriers in the literature (Angelo, Jones, & Kokoska, 1995; Lund & Light, 2007; McNaughton et al., 2008). As discussed earlier, SLPs lack quality educational and clinical experiences in their preservice training. This leaves a limited number of professionals who are competent in AAC, and that number diminishes even

further in rural settings, making it even harder for families in those areas to find a service provider (Lund & Light, 2007).

Families are also aware of the need for collaboration among professionals. One family member shared their thoughts on collaboration:

A very negative experience is the lack of collaboration, each sector of professionals believes they can do it on their own... There are lots of good skills around the table and lots of good problem solving skills, but because of professional ideology and people not knowing how to work together, the whole process is diminished. (Lund & Light, 2007, p. 328)

Similarly, when SLPs do not provide training and support to teachers to incorporate SGDs, it negatively impacts the student's education (McNaughton et al., 2008). In other cases, communication and collaboration among professionals have led to positive experiences. This is particularly true when teachers and other professionals receive additional training on AAC and assist in the students' transitions to new grades and teachers each year (Lund & Light, 2007; McNaughton et al., 2008).

Effective AAC intervention also requires meaningful goals and a clear plan that is developed by the SLP, families, and other team members. In creating long-term goals, it is important to parents that the team consider their child's future communication needs. This was a priority for both mothers and fathers in the studies from Angelo et al. (1996) and Angelo et al. (1995). Families have also cited interventions that lack focus as service delivery limitations (Lund & Light, 2007). This was particularly true in instances in which educators had neglected the academic skills their students needed because the technology and operational skills for the SGD had become their priority (Lund & Light, 2007). One parent has noted, "IEP goals should

be the driving force behind deciding what to modify and how to modify" (Calculator & Black, 2010, p. 38). Unfortunately, modifications and additional supports are not always easy to come by. Rackensperger (2012) interviewed 8 high school graduates who used AAC. Obtaining the technology and supports they needed to communicate and complete schoolwork often required additional advocacy efforts from their family. Participants shared their appreciation in their families valuing their education and advocating to keep them in the general education curriculum. Rackensperger notes that children in families who understand school dynamics and are able to navigate issues with supports and accommodations are more likely to have academic achievements. The families in this study had the time and knowledge to dedicate to supporting their students' academic success, but that is not always the case for all families.

Families vary in the extent to which they wish to be involved in AAC intervention and the decision-making process, but all families need professionals to share information with them. The amount of information families have will influence how comfortable they feel in participating in the planning for their student's IEP and throughout the intervention process. Parents have been reported to spend the majority of IEP meetings listening to professionals discuss their child, rather than actively participating in the meeting, which could be due to lack of information, feelings of intimidation, or hesitancy in impacting their relationship with the school if they exercise their rights (Family Empowerment Disability Council, 2012). Parents from diverse backgrounds may also view professionals as authority figures, which makes it difficult for them to participate as equal partners in meetings (McCord & Soto, 2004). When families do not have the information they need to fully participate in the decision-making process, they feel disadvantaged, and distanced from the team and their child's intervention (Marshall & Goldbart, 2008). Additionally, families note that they need information to be in

family-friendly terms, minimizing the use of professional jargon which they may not understand (Anderson et al., 2015; McCord & Soto, 2004; Parette et al., 2000).

Families generally want open lines of communication between them and their SLP in order to have support in implementing AAC into their lives (Parette et al., 2000). One parent reported feeling left in the dark from the beginning, sharing, “Even when it was introduced nobody sat down and said this is why we use AAC and this is what it is going to mean in the future” (Marshall & Goldbart, 2008, p. 94). Another parent wanted professionals to pass along information and ideas of how to support their child with the device (Goldbart & Marshall, 2004). Many families have reported feeling that they needed to be “pushy” in order to get the information they needed or the support they needed for their child (Goldbart & Marshall, 2004; Lund & Light, 2007; McNaughton et al., 2008).

When families do not get the support that they need from professionals, they are left to seek resources on their own and take the role of a clinician or teacher with their child (Goldbart & Marshall, 2004; McNaughton et al., 2008). Families express their continued need to receive support and training on using SGDs with their child and integrating the device into family routines (Angelo et al., 1995; McNaughton et al., 2008; Parette et al., 2000). This support can come in many forms, including in-person trainings, online community groups, telepractice, and support coming from both professionals and other families who have children who use AAC (Anderson et al., 2015).

In summary, families’ experiences related to AAC are diverse. There are many factors associated with the assessment process, the SGD, family demands, society, and service delivery that positively and negatively influence their experiences.

Purpose

What is known about family perspectives and SLPs' perspectives cannot be compared equally because of the context in which that information has been collected. Each AAC experience is unique, and thus it is necessary to obtain the perspectives of pairs of the family and SLP of a given student. To date, this type of direct comparison has not been conducted. The purpose of this study was to compare the perspectives of pairs of school-based SLPs and families of students who use SGDs. Specifically, the relationship between the pairs; perceived knowledge of the SGD; assessment for the SGD; goals for the student; perceived factors that impact successful use and outcomes with the SGD; preferences in the quantity of support provided by the SLP, and preferences in the way in which that support is provided were explored.

Chapter II

Methods

This research sought to explore the similarities and differences in the perspectives of paired SLPs and families of children who use SGDs.

Recruitment

Participants were recruited through a variety of means. Precautions were taken to ensure that recruitment efforts targeted both SLP and family participants. To recruit SLPs, 150 flyers were distributed at the annual ASHA Convention with a QR code and link to the survey. Fifty state speech-language associations were e-mailed information about the study to assist with survey distribution to their members. Some associations confirmed that they shared the information with their members, some were unwilling to send information to their members, and many did not respond. Five school districts from each of the 50 United States were randomly selected using a random number generator and the database of public school districts on the National Center for Education Statistics website (U.S. Department of Education, n.d.) to receive information about the study. E-mails were generally sent to the Director of Special Education requesting that they forward information about the study to SLPs in their district, however, in some cases, e-mails were sent to superintendents, principals, or directly to SLPs depending on the contact information that was available online. Information about the study was also posted in several Facebook groups for SLPs, some of which were specific to AAC and other that were related to the general practice of the profession. Finally, recruitment was also solicited through the ASHA Community Online Boards, including SIG 12 (AAC), SIG 16 (School-Based Issues), Autism, and SLP Schools, as well as the online community board for the Communication Matrix.

To recruit family participants, a random zip code generator was used to select 40 zip codes across the United States. Sales representatives from each of the three major SGD companies (Prentke Romich Company, Tobii Dynavox, and Saltillo) were contacted for the selected zip codes. Some sales representatives covered multiple zip codes. A total of 79 sales representatives were contacted. They were asked to forward information about the study to families in their area with whom they had worked. Information about the study was also posted in a number of Facebook parent support groups for AAC and related disabilities (e.g. Angelman syndrome, Down syndrome, etc.), as well as the online community board for the Communication Matrix.

Participants

The participants for this study included 22 family members and 44 SLPs. Participants were from 24 states across the country, as shown in Table 1.

Table 1

Participants' State of Residence

State	Families	SLPs
	N=22	N=44
California		1
Colorado	1	
Connecticut	1	3
Delaware		3
Georgia	2	1
Idaho	1	1
Illinois	5	7
Indiana	1	2
Kansas	1	1
Kentucky		1
Michigan	1	2
Minnesota	1	1
Missouri	2	1
Montana		1
Nevada		3
New Hampshire	1	1
New Jersey	1	
New York		1
Ohio		1
Pennsylvania	1	3
South Dakota	2	4
Texas		4
Utah		1
Virginia	1	1

Participants reported their race/ethnicity. The survey question allowed participants to choose more than one answer, add their own answer, or indicate that they did not want to report this information. Table 2 presents the races and ethnicity participants identified with.

Table 2

Participants' Race and Ethnicity

	Families N=22	SLPs N=44
Black or African American	1	
Hispanic, Latino, or Spanish	1	2
White	20	38
Prefer not to answer		4

Participants were paired when both a student's SLP and family member completed the survey. A total of 13 pairs participated in this study. An additional 31 responses from SLPs and 9 responses from families were also included in the study. More specific demographic information for these three groups (pairs, unpaired SLPs, unpaired families) is presented in Chapter 3 with the corresponding results for each group of participants.

Survey

The research survey entitled "Perspectives of Families and School-Based Speech-Language Pathologists on the Augmentative Alternative Communication (AAC) Experience: A National Survey Exploring Similarities, Differences, and Implications for the Provision of Services" was used for the study (see Appendix A). The survey was created online using Qualtrics and was displayed as a 16-20-page questionnaire that solicited information about paired families' and SLPs' perspectives. Each participant answered 56-61 questions. The number of pages displayed and number of questions presented was dependent on the branch

logic embedded in the survey. A variety of question types were used within the survey, including multiple-choice, rating scales, and open-ended free response questions.

The survey included seven sections for both the family member and SLP to complete. The first section obtained demographic information about the participant and the student who used an SGD. The next section solicited information about the assessment process for the SGD, who initiated and conducted the assessment, and whether or not the family was involved in the process. The third section solicited information about the support that has been provided to the family for the SGD by the SLP, including whether it was offered by the SLP or requested by the family, what type of support was offered/provided, how often it was provided, each participant's preferences in how and how frequently support for the SGD is provided, and to what degree the SLP understood the family's needs. Within this section of the survey, branch logic was used so that participants were presented with questions relevant to their previous responses (i.e. if a family member reported that support had been provided, they were asked follow-up questions about that support). The specific branch logic used is available in Appendix B. The next section of the survey obtained information about the student's communication goals, the level of involvement the family had in the creation of the goals, and how satisfied the participant was with the student's goals. The fifth section of the survey solicited information about the participant's knowledge of the device and the level of knowledge they perceived the other party to have in being able to operate the device. This section also collected information on how frequently the device was used in various settings, and whether or not the participant felt that the device was the best fit for the student. Questions about the barriers the student faces in using their SGD, as well as factors that positively impact SGD use were in the sixth section. The final section of the survey solicited information about the family and SLP's relationship, including

how their views on AAC differed, and overall level of frustration and enjoyment in working with the other party.

Procedure

Randomized six-digit codes were used to anonymously match the survey responses of family members and SLPs. At the start of the survey, participants were asked if they had been provided with a code from the other party (i.e. family or SLP). If the participant had not received a code, Qualtrics generated a random code at the end of the survey, in which participants were instructed to provide to the other party. It was clearly stated to participants that successfully sharing the code was imperative to successfully matching students' parents and SLPs responses, and thus imperative to the success of the study. At the end of the survey, participants were asked if they were willing to be contacted by the researcher for clarification of their responses or for the researcher to obtain additional information. If they indicated that they were willing, they were provided with space to list their contact information and preferred contact method and time of day to be contacted. In instances in which one participant completed the survey and a second response had not been received by the other participant in the pair, the researcher contacted whomever took the survey first up to two times, if contact information was available. An e-mail was sent to the first participant as a reminder for them to ask the other person in the pair to also complete the survey. The link to the survey and the code that the pair had been assigned by Qualtrics was included in that e-mail.

Asking families and SLPs the same set of questions allowed for investigation into the level of agreement between the two parties. Levels of strict and loose agreement were calculated for 54-63 questions for all 13 pairs. The number of questions varied for some pairs because some questions were excluded from analysis when the pair had not been working together at the

time of the assessment or a participant reported to be confused by a question. Responses were considered in strict agreement when the parent and SLP answered the question exactly the same way (e.g. both parties selected “strongly agree”). Responses were considered to have loose agreement when the parent and SLP answered the question similarly, but did not select the same exact answer (e.g. “strongly agree” and “agree” were counted as loose agreement). Loose agreement was typically considered met when responses were within one point of each other on any given scale. Survey questions in which loose agreement was not obvious (i.e. those not on an easily collapsible on a five or seven point scale) had other rules for agreement. The researcher developed a coding system that allowed for consistency across responses. Survey questions were also divided into six domains to determine if there were certain areas of the AAC experience that parents and SLPs tended to have higher or lower agreement on. The domains were: assessment, support provided, student goals, use of the SGD, knowledge and perceptions of SGD, family-centered services and the family-SLP relationship. For open-ended questions, prominent themes in responses were identified.

Complete responses from the additional 31 SLPs and nine family members that did not create pairs were analyzed separately. These results will be presented in Chapter 3.

Chapter III

Results

This study compared the perspectives of school-based SLPs and families of students who use SGDs by determining agreement between online survey responses of pair-matched SLPs and family members. A total of 239 individuals responded to the survey, and 69 participants completed the survey, resulting in a 29% completion rate. In one case, a student's SLP and two family members completed the survey, creating a triad. One family member's response was randomly selected to include in the study while the second family response was excluded. Additionally, two responses from SLPs were excluded from the study because they were not currently working in a school setting. In total, 66 responses were included in the study.

Paired Participants

Participants were paired when both a student's SLP and family member completed the survey. A total of 13 pairs participated in this study. Seven of the paired responses were initiated by the student's parent, while six were initiated by the SLP. Pairs were from eight states across the country: Connecticut, Idaho, Illinois, Missouri, New Hampshire, Pennsylvania, South Dakota, and Virginia. The students about whom the survey was completed were enrolled at a public school, except for the student associated with Pair 10, who was enrolled at a private school. The family member who completed the survey in each of the pairs was the student's mother. Table 3 presents additional information about the student associated with each pair.

Table 3

Student's Demographic Information

Pair	Student's Current Grade ¹	SGD	Grade Student Started Using SGD ¹	Diagnosis ¹	State
1	1 st	iPad with TouchChat	Pre-K	Autism	PA
2	K	iPad with Go Talk NOW ¹ and/or Wego with TouchChat ²	Pre-K	Salla disease	SD
3	4 th	Tobii Dynavox Indi	4 th	Autism	SD
4	1 st	PRC Accent	1 st	Autism	NH
5	Pre-K	iPad with TouchChat	Pre-K	Apraxia of Speech and Sensory Processing Disorder	IL
6	Pre-K	PRC Accent	Pre-K	Autism	IL
7	4th	PRC Accent	Pre-K	Autism and Corpus Callosum disorder	IL
8	K	Saltillo NOVA Chat	Pre-K	Down syndrome	IL
9	1 st	iPad with TouchChat	K	Apraxia of Speech	IL
10	Pre-K	PRC Accent	Pre-K	Autism	MO
11	K	Forbes Pro Slate with Proloquo2Go	Pre-K	Autism	ID
12	5 th	iPad with Speak for Yourself ² and Sono Flex ¹	3 rd ²	Autism	VA
13	6 th	iPad with TouchChat	6 th	Apraxia of Speech	CT

¹As reported by the student's parent²As reported by the student's SLP

Parents also reported whether or not their child was receiving additional speech-language services outside of the school setting. Five children (from Pairs 1, 7, 8, 9, and 11) were receiving additional services. Participants for each pair indicated their proficiency with the student's device from one of the following choices: a beginner, an advanced beginner, competent, proficient, an expert. Participants' ratings are reported in Table 4

Table 4

Proficiency with Student's SGD

Pair	Parent	SLP
1	Proficient	Competent
2	Proficient	Proficient
3	Beginner	Advanced beginner
4	Advanced beginner	Competent
5	Beginner	Proficient
6	Competent	Expert
7	Proficient	Proficient
8	Competent	Proficient
9	Beginner	Proficient
10	Beginner	Beginner
11	Expert	Advanced beginner
12	Advanced beginner	Proficient
13	Beginner	Beginner

SLPs. SLPs provided information about their experience in the field, including the highest level of education they had received, how long they had worked as an SLP, how long they had worked in the school setting, and information about their caseload. All SLPs reported that a master's degree was the highest level of education they received. With the exception of the SLP in Pair 12, all SLPs reported to be certified by ASHA. Information reported about the relative size of their school district, caseload size, number of students on their caseload using AAC, number of years working in the field, and their level of proficiency in AAC is noted in Table 5.

Table 5

SLP's Experience and Caseload Characteristics

Pair	Size of District ¹	Caseload	Students Using AAC	Years of Experience	Proficiency in AAC
1	Medium	46-60	1-3	1-5	Advanced beginner
2	Small	31-45	4-6	6-10	Proficient
3	Small	46-60	1-3	>25	Advanced beginner
4	Small	15-30	1-3	>25	Competent
5	Small	46-60	13-15	6-10	Proficient
6	Small	15-30	13-15	16-20	Proficient
7	Medium	15-30	10-12	1-5	Proficient
8	Small	46-60	13-15	6-10	Proficient
9	Small	15-30	10-12	1-5	Proficient
10	Medium	<15	1-3	1-5	Beginner
11	Small	>75	4-6	>25	Advanced beginner
12	Medium	46-60	10-12	11-15	Expert
13	Small	46-60	1-3	<1	Advanced beginner

¹Small=less than 10,000 students; medium=10,000-50,000 students; large=more than 50,000 students

The total number of years working as an SLP was the same as the number of years the participant had worked in the school setting, with the exception of the SLPs who were in Pair 3 and Pair 4, who reported working in the schools for 21-25 years and 16-20 years, respectively.

Agreement within Pairs

Strict and loose agreement within the pairs was determined following the methods outlined in Chapter 2. Responses were considered in strict agreement when the parent and SLP answered the question exactly the same way (e.g. both parties selected “strongly agree”). After calculating strict agreement, loose agreement was considered for each of the questions the pair had not yet agreed on. Responses were considered to have loose agreement when the parent and SLP answered the question similarly, but did not select the same exact answer (e.g. “strongly agree” and “agree” were counted as loose agreement). The final calculation for loose agreement built on the strict agreement that was already established within the pair, and thus is the sum of

strict and loose agreement. Table 6 reports strict and loose agreement calculations for each pair. Percent agreement was calculated by taking the total number of questions the pair agreed on and dividing it by the total number of questions answered by the pair, which is indicated in the second column.

Table 6

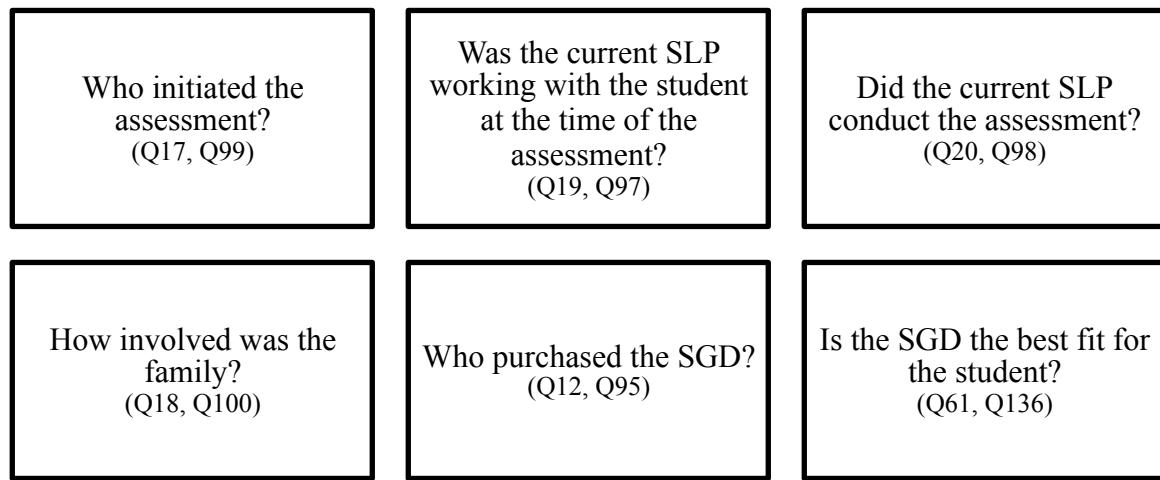
Overall Agreement within Pairs

Pair	Number of Questions Included (n)	Strict Agreement	Strict + Loose Agreement
1	59	50.8%	81.4%
2	63	46%	84.1%
3	59	42.4%	69.5%
4	63	33.3%	65.1%
5	63	39.7%	88.9%
6	63	73.1%	93.4%
7	59	40.1%	67.8%
8	63	44.4%	73%
9	63	39.7%	73%
10	54	33.3%	66.7%
11	59	50.8%	74.6%
12	59	44.1%	81.4%
13	63	39.7%	74.6%

Information collected from the survey was divided into six domains: assessment, support provided, student goals, use of the SGD, knowledge and perceptions of the SGD, and family-centered services. Agreement within pairs was calculated for each of these domains.

Assessment. The questions that were included in the domain of assessment are shown in Figure 1.

Figure 1

Questions Related to Assessment

Strict agreement and loose agreement were calculated for each pair in the area of assessment. Table 7 shows the percent agreement within pairs for the total number of questions related to assessment.

Table 7

Pair Agreement on Assessment Process

Pair	Number of Questions Included (n)	Strict Agreement	Strict + Loose Agreement
1	2	100%	100%
2	6	66.7%	83.3%
3	6	66.7%	83.3%
4	6	50%	66.7%
5	6	66.7%	100%
6	6	83.3%	100%
7	2	100%	100%
8	6	50%	66.7%
9	6	50%	83.3%
10	4	100%	100%
11	2	100%	100%
12	2	100%	100%
13	6	66.7%	83.3%

Four pairs (1, 7, 11, and 12) reported that the SLP was not working with the student at the time the assessment for the SGD was conducted. All four pairs agreed that the device the student was using is “definitely” or “probably” the best fit for him/her. The remaining questions related to assessment were excluded for these pairs.

Six of the nine remaining pairs agreed that the SLP initiated the assessment process for the student to receive an SGD. Of these six pairs, the SLP conducted the assessment in three pairs, did not conduct the assessment in one pair, and the remaining two pairs did not agree on who conducted the assessment. For example, the mother from Pair 8 reported that the SLP conducted the assessment, but the SLP reported that someone else did the assessment. Three pairs did not agree on whether the SLP, family, or someone else initiated the process, but did agree that the SLP was the one who conducted the assessment.

Seven of the nine pairs met requirements for strict agreement ($n=3$) or loose agreement ($n=4$) on how involved the family was during the process. All families were involved at least “a little” during the assessment. One pair (Pair 8) did not meet the requirements for agreement. The parent reported that they were involved “a moderate amount,” while the SLP reported the parent was involved “a great deal” during the assessment. This question was excluded from analysis for one pair (Pair 10) because the SLP did not conduct the assessment for the student and reported being unaware of how the assessment process took place. All nine pairs met requirements for strict agreement ($n=3$) or loose agreement ($n=6$) on whether or not they felt like the student’s device was the best fit for him/her. All pairs agreed that the students’ devices were “definitely” or “probably” the best fit for the student.

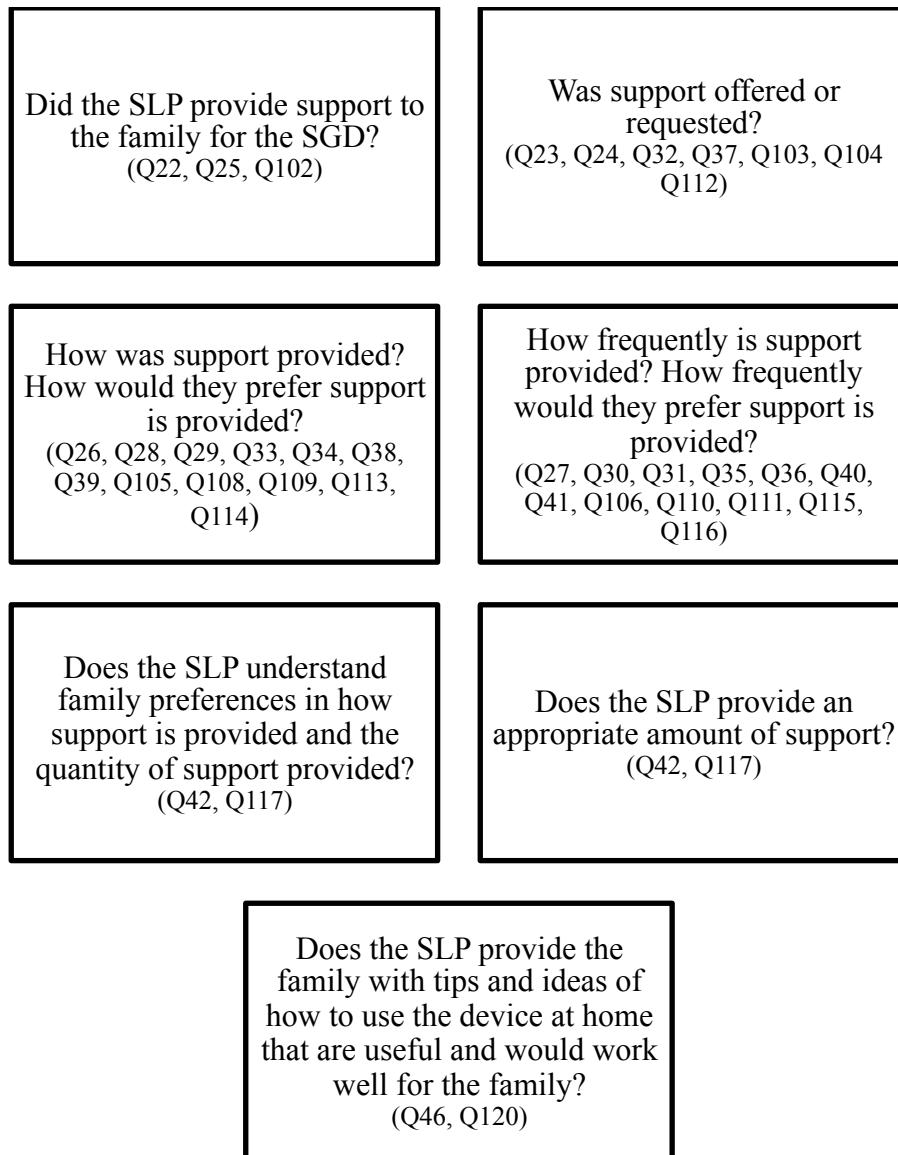
Of the nine pairs who were working together at the time of the assessment, six agreed on who provided the device for the student. This question was excluded from analysis for Pair 10,

as the SLP was not the person who conducted the assessment. The device was provided by the family in three pairs and by the school in three pairs. Two pairs (Pair 4 and Pair 13) did not agree on who provided the device for the student.

Participants were provided with an area to share additional comments about the assessment process. Answering this question was optional, but many pairs left comments. Seven pairs (3, 4, 5, 8, 10, 11, and 13) used this space to report that the assessment was conducted by a professional outside of the school district. The SLP from Pair 12 reported that their district had a designated AAC assessment team. Many parents left additional comments about the timeliness of the assessment, aspects of the process they appreciated, and barriers to completing recommendations following the assessment (i.e. purchasing the SGD).

Support provided. The survey questions related to the support the SLP provided to the family for the SGD are shown in Figure 2. Some questions were repeated multiple times, as branch logic was used in this section of the survey (see Appendix B).

Figure 2

Questions Related to Support

Strict agreement and loose agreement were calculated for each pair in the area of support provided. Table 8 shows the percent agreement within pairs for all questions related to support.

Table 8

Pair Agreement for Support Provided by SLP

Pair	Number of Questions Included=10 ¹	
	Strict Agreement	Strict + Loose Agreement
1	60%	70%
2	40%	60%
3	33.3%	50%
4	10%	40%
5	40%	70%
6	50%	80%
7	40%	50%
8	50%	70%
9	40%	60%
10	10%	30%
11	40%	60%
12	66.7%	88.9%
13	40%	80%

¹Only 6 questions were included for Pair 3 and 9 questions for Pair 12.

Eleven of the thirteen pairs (84.6%) agreed that support for the SGD had been provided by the SLP. Two pairs did not agree on whether support was provided. The mother in Pair 3 reported that the SLP had neither provided support nor offered it, while the SLP reported that support had been both offered and provided. The SLP in Pair 12 reported that support had been offered but not provided, while the mother reported support had been provided.

Eight of the thirteen pairs (61.5%) agreed support had been offered by the SLP. The other five pairs did not agree on whether support was offered by the SLP or if support was requested by the family.

Participants who reported that support had been provided also indicated how the support was provided. A multiple choice question was used to collect this information. Participants were able to choose more than one option, with the option to also write in their own response.

Strict agreement was met when the parent and SLP selected all of the same choices. Loose agreement was met when both participants had 50% of their selections in common. For example, if an SLP reported that support was provided via e-mail and referral to the device company, the parent needed to select at least one of these options to meet the 50% requirement. Participants also reported how frequently support was provided, choosing from “weekly”, “monthly”, “when requested”, or “other”, in which they could write in their own response. Of the eleven pairs that agreed support had been provided, eight (72.7%) agreed on how it was provided and three (27.3%) agreed on how frequently support was provided. Pair 7 agreed on how it was provided and the frequency at which it was provided. Pair 10 did not agree on how support was provided nor how frequently it was provided. Figure 3 shows how support was provided. Figure 4 shows the frequency at which support was provided.

Figure 3

How Support was Provided

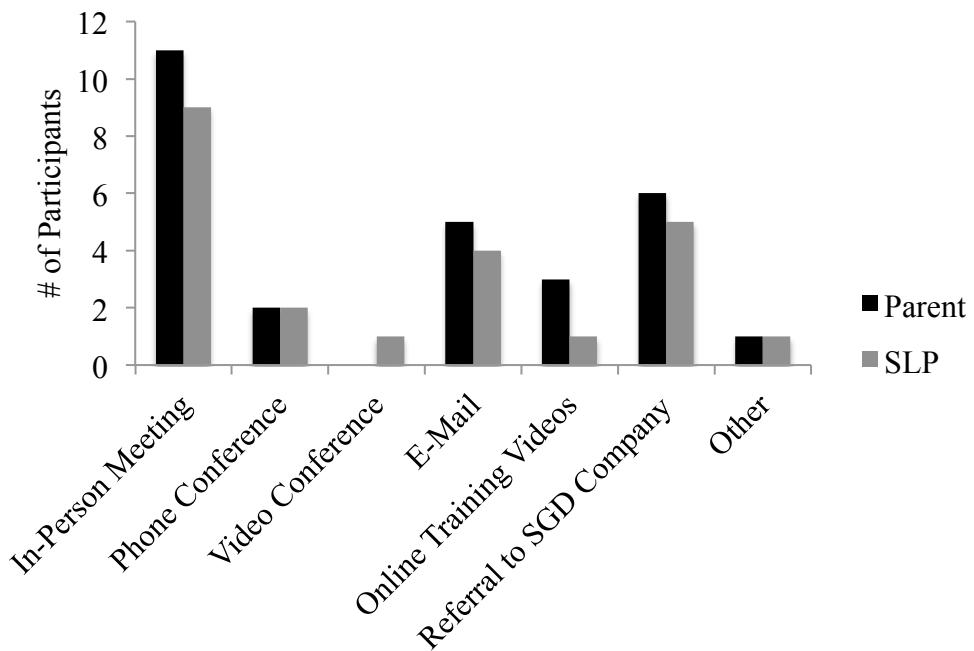
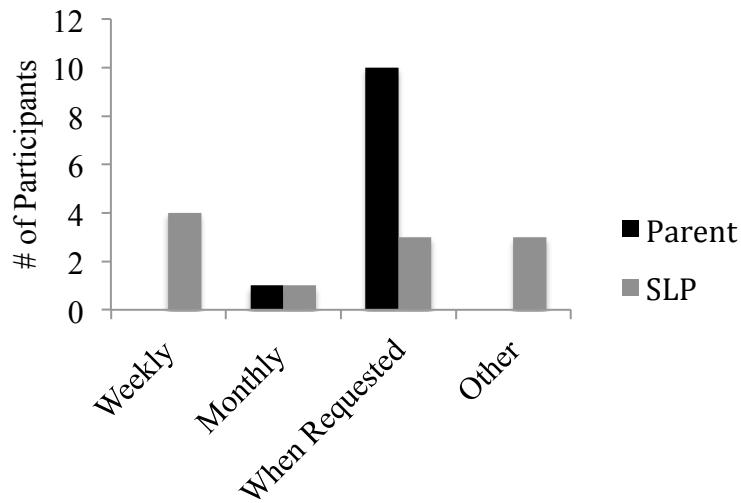


Figure 4

Frequency of Support Provided

The eleven pairs that provided information on how and how frequently support was provided also reported their preferences for support. Questions asking about their preferences in how support was provided and the frequency at which support was provided were structured in the same way as described above. The 50% criterion was also used to determine whether the pairs of parents and SLPs had similar preferences for support. SLPs and parents in five of the eleven (45.5%) pairs had similar preferences for how support was provided. SLPs and parents in three of the eleven (27.3%) pairs had similar preferences for how frequently support is provided. Figure 5 shows paired participants' preferences for how support is provided, and Figure 6 shows their preferences for frequency of support.

Figure 5

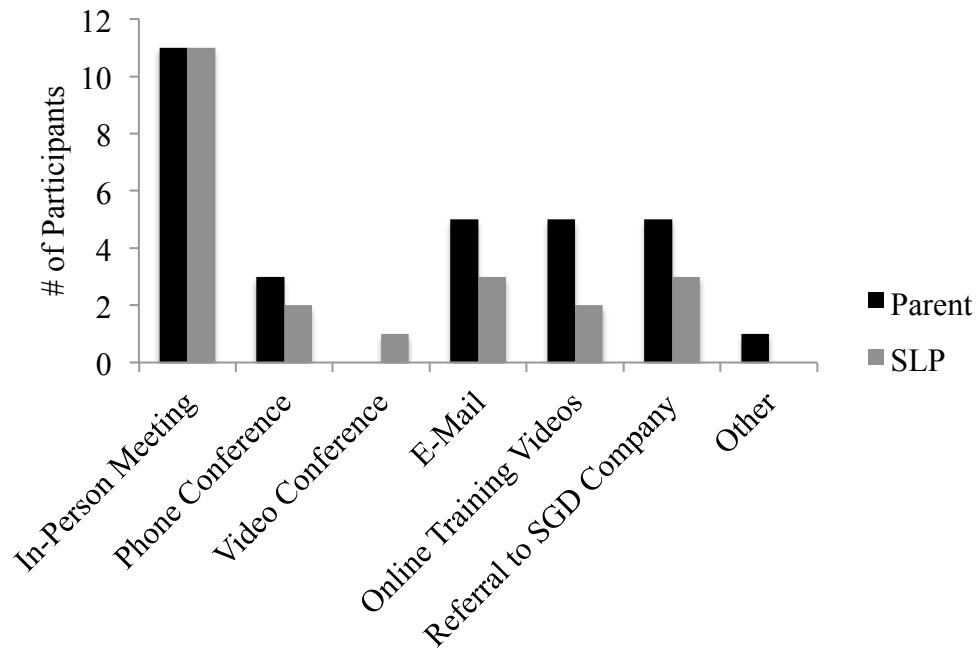
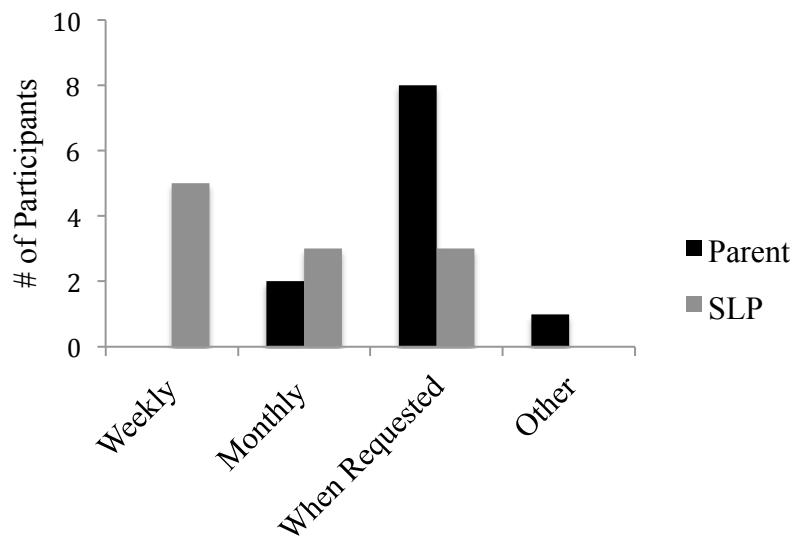
Paired Participants' Preferences on How Support is Provided

Figure 6

Paired Participants' Preferences on Frequency of Support

Family participants were also asked to rate their level of agreement with the following three statements: “I feel that my child’s SLP understands my preferences in how he/she provides support to our family”; “I feel that my child’s SLP understands my preferences in the quantity of support provided to our family”; “I feel that my child’s SLP provides an appropriate amount of support.” SLPs were asked to rate their level of agreement in understanding each of these family preferences as well. All thirteen pairs provided answers to these questions. Eight pairs (61.5%) met requirements for strict or loose agreement on all three statements, all of which were rated on the positive side of the 7-point scale (strongly agree, agree, or somewhat agree). Two pairs (15.4%) met requirements for strict or loose agreement on two out of three statements. Three pairs (23.1%) met requirements for strict or loose agreement on one out of three statements. There were two instances in which a pair had disagreement on opposite ends of the scale (i.e. one person indicated agreement while the other person indicated disagreement). This disagreement within pairs was present in Pair 7 and Pair 11 for questions inquiring about understanding family preferences in quantity of support and providing an appropriate amount of support, respectively.

The final question related to support asked if the SLP had provided the family with tips and ideas of how to use the device at home that were useful and would work well for the family. Six of the 13 pairs met requirements for strict or loose agreement and reported some level of agreeance with the statement (strongly agree, agree, or somewhat agree). In two of the seven pairs that did not agree, the SLP and parent reported on opposite ends of the scale. In Pair 3 and Pair 11, the parent reported some level of disagreement with the statement, while the SLP reported agreeance. In the remaining four pairs, agreement could not be met within the pairs because all four SLPs reported that they neither agreed nor disagreed with the statement.

Student goals. The survey solicited information about the student's communication goals, presenting the questions shown in Figure 7.

Figure 7

Questions Related to Student Goals

What are the student's communication goals? (Q48, Q123)	How involved was the family in the creation of the goals? (Q50, Q51, Q125, Q126)	Do the family and SLP agree about the student's current communication skills and abilities in using his/her SGD? (Q55, Q130)
Are the family and SLP satisfied with the goals set for the student? (Q53, Q128)	Are the goals meaningful and relevant to the student's daily communication? (Q53, Q128)	Do the goals accurately reflect the student's current communication needs? (Q53, Q128)
What factors impact the student's success in meeting his/her communication goals? (Q64, Q139)		

Strict and loose agreement was calculated for each pair on the questions that addressed the student's communication goals. Table 9 shows the percent agreement within each pair for all 15 questions related to the student's goals.

Table 9

Pair Agreement for Student's Goals

Pair	Number of Questions Included=15 ¹	
	Strict Agreement	Strict + Loose Agreement
1	46.7%	80%
2	40%	80%
3	46.7%	86.7%
4	40%	80%
5	26.7%	100%
6	80%	93.3%
7	26.7%	73.3%
8	6.7%	46.7%
9	33.3%	93.3%
10	12.5%	87.5%
11	60%	93.3%
12	13.3%	73.3%
13	40%	66.7%

¹Only 8 questions were included for Pair 10.

An open-ended survey question was used to solicit the student's goals. Loose agreement was considered met when parents and SLPs both mentioned 50% or more of the total number of goals mentioned by both parties. For example, the parent in Pair 1 reported three goals-- initiating communication with peers, answering wh-questions, and making requests. The SLP reported two goals-- answering wh-questions and a goal related to speech sound production. A total of 4 different goals were reported between the two parties. The SLP and parent agreed on one of the four goals (25%). Eight pairs (2, 4, 5, 6, 7, 9, 11, and 12) of the thirteen total pairs (61.5%) met the requirements for agreement on the student's goals.

All pairs agreed that the family had been consulted when the student's communication goals were created. Pairs were also asked to indicate how involved the family was from a five-point scale (a great deal, a lot, a moderate amount, a little, or none at all). For this question, loose agreement was met when the parent's and SLP's responses were within one point of each

other. Eight of the pairs met the requirements for either strict or loose agreement. In all four of the pairs who did not agree on the parent's level of involvement, the parent always rated their involvement to be greater than the SLP rated their involvement to be. Table 10 shows parents' involvement in the creation of the student's communication goals, as reported by both the parent and SLP.

Table 10

Parent Involvement in the Creation of Communication Goals

Level of Parent Involvement	Parents	SLPs
A great deal	5	1
A lot	5	1
A moderate amount	3	7
A little		4
None at all		

The participants also reported whether they were satisfied with the student's goals, if they felt the goals were meaningful and relevant to the student's daily communication needs, and if they felt the goals accurately reflected the student's communication needs. All participants reported some level of agreement (strongly agree, agree, or somewhat agree) with these statements. SLPs and parent's responses were in agreement for all three statements in eleven of the thirteen (84.6%) pairs. Pair 7 did not meet the loose agreement requirements related to the goals reflecting the student's current communication needs. Pair 13 did not meet the loose agreement requirements related to the goals being meaningful/relevant and reflecting the student's communication needs.

Parents and SLPs were asked to rate their level of agreement with one another regarding the student's current communication skills and abilities in using his/her SGD. The agreement for each pair is presented in Table 11.

Table 11

Agreement within Pairs Related to Student's Current Communication Skills and Abilities Using His/her SGD

Pair	We agree on the student's current communication skills.	We agree about the student's abilities in using his/her SGD.
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
Total Pairs in Agreement ¹ (%)	12 (92.3%)	10 (76.9%)

¹Strict agreement and loose agreement

- Strict agreement
- Loose agreement (off by 1)
- Do not meet loose agreement requirements, but rate on the same half of the scale (off by more than 1)

The survey solicited information about factors that may impact the student's success in meeting his/her communication goals. Parents and SLPs rated how likely they believed seven possible factors had impacted the student's success in meeting their goals: peer relationships (Table 12), teachers' and paraprofessional/aides' knowledge of the SGD (Table 13), family's knowledge of the SGD (Table 14), SLP's knowledge of the device (Table 15), availability of the device throughout the student's day (Table 16), the student's knowledge of how to use the device (Table 17), and the vocabulary available on the SGD (Table 18). These survey items were

omitted from analysis for Pair 10 because the student's mother reported she was confused by the question.

Table 12

Likelihood of Peer Relationships Affecting Student's Success in Meeting His/her Communication Goals

Pair	Likely	Neither likely nor unlikely	Unlikely
1	■	●	
2	■	●	
3		■●	
4	■		●
5	■●		
6	●	■	
7	■●		
8	●		■
9	■●		
10			
11	■●		
12	■		●
13	■●		
Total Pairs in Agreement (%)	5 (41.7%)	1 (8.3%)	
	■ Family Response ● SLP Response		

Table 13

Likelihood of Teachers' and Paraprofessionals'/Aides' Knowledge of the SGD Affecting Student's Success in Meeting His/her Communication Goals

Pair	Likely	Neither likely nor unlikely	Unlikely
1	■•		
2	■•		
3	■•		
4	■•		
5	■•		
6	■•		
7	■•		
8	•		■
9	■•		
10			
11	■•		
12	■•		
13	■•		
Total Pairs in Agreement (%)	11 (91.7%)		

■ Family Response
• SLP Response

Table 14

Likelihood of Family's Knowledge of the SGD Affecting Student's Success in Meeting His/her Communication Goals

Pair	Likely	Neither likely nor unlikely	Unlikely
1	■•		
2			■•
3	■•		
4	■•		
5	■•		
6	■•		
7	■•		
8	•		■
9	■•		
10			
11	■•		
12	■•		
13	■•		
Total Pairs in Agreement (%)	10 (83.3%)		1 (8.3%)
■ Family Response • SLP Response			

Table 15

Likelihood of SLP's Knowledge of the SGD Affecting Student's Success in Meeting His/her Communication Goals

Pair	Likely	Neither likely nor unlikely	Unlikely
1	■•		
2			■•
3	■•		
4	■•		
5	■•		
6	■•		
7	•		■
8	•	■	
9	■•		
10			
11	■•		
12	■		•
13	■•		
Total Pairs in Agreement (%)	8 (66.7%)		1 (8.3%)
	■ Family Response • SLP Response		

Table 16

Likelihood of the Availability of the SGD throughout the Student's Day Affecting Student's Success in Meeting His/her Communication Goals

Pair	Likely	Neither likely nor unlikely	Unlikely
1	■•		
2			■•
3	■•		
4	■•		
5	■•		
6	■•		
7	■•		
8	•	■	
9	■•		
10			
11	■•		
12	■		•
13	■•		
Total Pairs in Agreement (%)	9 (75%)		1 (8.3%)
	■ Family Response • SLP Response		

Table 17

Likelihood of the Student's Knowledge of How to Use the SGD Affecting Student's Success in Meeting His/her Communication Goals

Pair	Likely	Neither likely nor unlikely	Unlikely
1	■•		
2			■•
3	■•		
4	■•		
5	■•		
6	■•		
7	■•		
8	•	■	
9	■•		
10			
11	■•		
12	■•		
13	■•		
Total Pairs in Agreement (%)	10 (83.3%)		1 (8.3%)
	■ Family Response • SLP Response		

Table 18

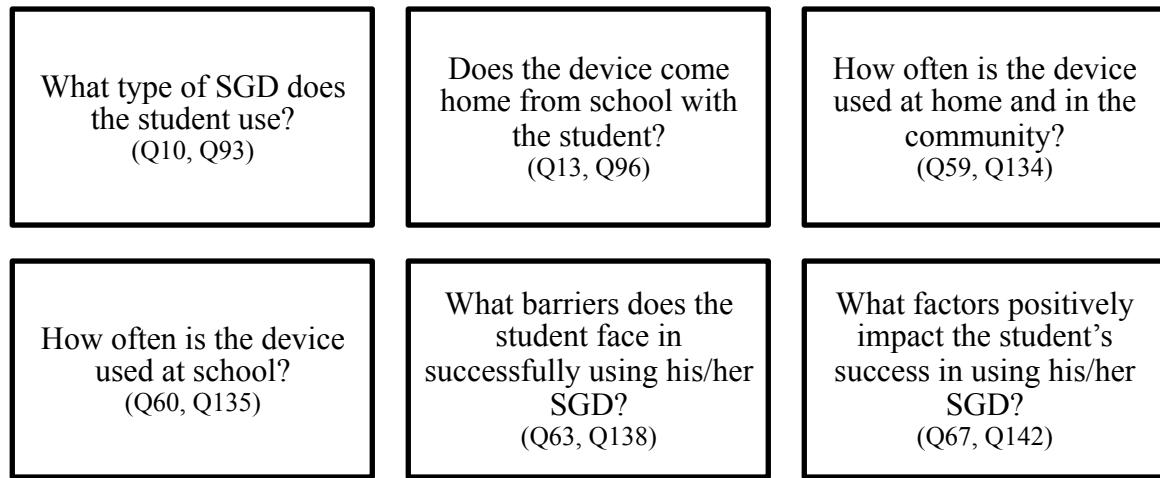
Likelihood of the Vocabulary on the SGD Affecting Student's Success in Meeting His/her Communication Goals

Pair	Likely	Neither likely nor unlikely	Unlikely
1	■•		
2		●	■
3	■•		
4	■•		
5	■•		
6	■•		
7	●		■
8	●	■	
9	■•		
10			
11	■•		
12	■		●
13	■•		
Total Pairs in Agreement (%)	8 (66.7%)		
		■ Family Response ● SLP Response	

Use of the SGD. Questions related to the use of the SGD are listed in Figure 8.

Figure 8

Questions Related to the Use of the SGD



Strict and loose agreement within the pairs was calculated for the questions relating to the student's use of the SGD. Table 19 shows the agreement within pairs across the five questions related to use of the SGD.

Table 19

Pair Agreement for Use of the SGD

Pair	Number of Questions Included=5	
	Strict Agreement	Strict + Loose Agreement
1	60%	100%
2	40%	80%
3	60%	100%
4	60%	60%
5	60%	100%
6	80%	100%
7	60%	80%
8	80%	80%
9	60%	80%
10	80%	80%
11	60%	80%
12	20%	40%
13	40%	40%

At the start of the survey the parent and SLP were asked to identify the type of SGD the student used. Eleven of the thirteen (84.6%) pairs were in agreement as to the type of SGD the student used. Pair 2 and Pair 12 did not agree on the communication system(s) used by the student. Participants were also asked to indicate whether or not the student's SGD went home with them from school. All pairs agreed that the student's device was sent home with them, except for Pair 5 and Pair 12. The SLP in Pair 5 explained that half-day early childhood programs "make it impossible for us to send it home secondary to needs in opposite class." The mother in Pair 12 reported that the family purchased an SGD before the school agreed to provide a device, hence the school-issued device stays at school and the family's device is used at home.

Parents were asked to report how often the child's device was used at home and in the community. SLPs were asked to report how often they thought the device was used in these settings. Parents and SLPs in ten (76.9%) pairs met strict or loose agreement requirements for

this question. Table 20 presents the use of the device in the home and community settings for each child, as reported by parents.

Table 20

Use of SGD at Home and in the Community

Frequency	Parent from Pair
Never	3, 5
Sometimes	9
About half the time	1, 8
Most of the time	2, 4, 7, 12, 13
Always	6, 10, 11

SLPs did not agree with the information reported by parents in Pairs 4 and 13. While the parent in these pairs reported the devices are used “most of the time” in the home and community setting, the SLPs think the devices are only used “sometimes” in these settings.

SLPs were asked to report how often the student’s SGD was used at school. Parents were asked to report how often they thought the device was used at school as well. SLPs and parents in twelve (92.3%) pairs met strict or loose agreement requirements for this question. Table 21 presents the use of the device in the school setting for each child, as reported by the SLP.

Table 21

Use of SGD at School

Frequency	SLP from Pair
Across the school day, including times like recess and lunch	1, 4, 5, 6, 8, 10, 11, 12
Across the school day, but only in the classroom	2, 7, 9
Sometimes, or only in some classrooms; not all the time or in every classroom	3, 13
Only when he/she is in speech-language therapy	
It is rarely used at school	
It is never used at school	

One parent (Pair 13) did not agree with the information the SLP reported. The SLP reported that the SGD is “sometimes” used at school, while the parent thinks the device is used “across the school day, including times like recess and lunch.”

The survey also solicited information about the barriers and facilitators to the student’s successful use of the SGD. First, participants identified barriers they felt the student faced. Participants selected choices from a list of potential barriers and had the option to write-in their own response. Loose agreement was considered met when parents and SLPs both mentioned 50% or more of the total number of barriers selected/mentioned by both parties. Five pairs (38.5%) met strict or loose agreement requirements. Sixteen participants indicated that teachers’ and paraprofessionals’/aides’ knowledge of the SGD was a barrier for the student; this was the most cited barrier by both families and SLPs. The family’s knowledge of the SGD was the second most cited barrier (n=9). The mother in Pair 8 identified using the device at home as a barrier. The third most cited barrier was the student’s knowledge of how to use the SGD (n=8). One SLP (Pair 2) mentioned the device’s set up and organization as a possible barrier to creating phrases and sentences.

The survey provided participants with an area to describe factors that positively impacted the student using his/her SGD. Many parents and SLPs mentioned buy-in from both professionals and families as being an important factor for success. Many pairs indicated that modeling on the device positively impacted the student’s communication. Some parents and SLPs also mentioned the student’s motivation and level of comfort with technology. The mother in Pair 9 also explained that the use of iPads around the student served as an “elimination of the stigma surrounding these devices.”

Knowledge and perceptions of the SGD. The survey questions that gathered information about the SLPs' and families' knowledge and perceptions of the student's SGD are shown in Figure 9.

Figure 9

Questions Related to the Knowledge and Perceptions of the SGD

<p>Do the family and SLP know how to edit/customize the SGD, navigate the SGD, support the student in using the SGD, and handle technology breakdowns with the SGD? (Q57, Q58, Q132, Q133)</p>	<p>Do the family and SLP feel the device is a burden? (Q62, Q137)</p>
<p>Do the family and SLP feel the device carries a stigma? (Q62, Q137)</p>	<p>Do the family and SLP think the SGD allows the student to communicate more effectively? (Q62, Q137)</p>

Parents' and SLPs' responses were compared for each pair, and strict and loose agreement was calculated. Table 22 shows the percent agreement within each pair across the 14 questions related to parents' and SLPs' knowledge and perceptions of the SGD.

Table 22

Pair Agreement for Knowledge and Perceptions of the SGD

Pair	Number of Questions Included=14	
	Strict Agreement	Strict + Loose Agreement
1	50%	78.6%
2	42.9%	92.9%
3	21.4%	50%
4	35.7%	64.3%
5	35.7%	78.6%
6	71.4%	92.9%
7	57.1%	85.7%
8	64.3%	85.7%
9	42.9%	57.1%
10	28.6%	57.1%
11	71.4%	85.7%
12	42.9%	85.7%
13	28.6%	78.6%

The survey solicited information about participant's knowledge and perceptions of the student's SGD. Each participant rated their own knowledge and perceptions as well as the other party's. For example, the family rated their ability to edit the device and rated the SLP's ability to edit the device. Agreement for these questions was determined by cross-examining each pairs' ratings (e.g. the SLP's rating of their own knowledge was compared to the family's rating of the SLP's knowledge).

Four areas were addressed in the survey questions related to knowledge of the device: editing/customizing the device, navigating the device, knowing how to support the student in using the device, and knowing how to handle technology breakdowns. Table 23 presents the number of questions that each pair met agreement requirements, related to both the family's knowledge of the device as well as the SLP's knowledge of the device.

Table 23

Agreement within Pairs Related to the Family's and SLP's Knowledge of the Device

Pair	Number of Questions Pair Agreed On (max=4)	
Pair	Family's Knowledge	SLP's Knowledge
1	4	4
2	4	3
3	0	3
4	1	3
5	2	4
6	3	4
7	4	4
8	3	4
9	2	4
10	4	0
11	4	4
12	2	4
13	2	4

First, discrepancies in the family's knowledge of the device will be presented. The parent in Pair 3 reported that she "strongly disagreed" with knowing how to edit the device, navigate the device, and support her child in using the device, and handle technology breakdowns with the device, while the SLP "neither agreed nor disagreed" with the first three statements, and "somewhat disagreed" with the last. The SLP in Pair 4 rated the parent's knowledge of the device lower than the parent's self-rating on three of the four questions (knowing how to edit the device, support the student in using the device, and handling technology breakdowns with the device). The parent and SLP in Pair 5 each reported to "neither agree nor disagree" on one statement each related to the parent's knowledge of the device. The parent in Pair 6 reported that she "somewhat disagreed" with knowing how to edit/customize the device, while the SLP reported that they "somewhat agreed" with the parent's knowledge in this area. The SLP in Pair 8 reported to "neither agree nor disagree" on the statement related to the parent's knowledge in handling technology breakdowns with the student's device, while the parent reported that she

“somewhat disagreed” with the statement. The SLP in Pair 9 rated the parent’s knowledge in editing/customizing the device and handling technology breakdowns lower than how the parent rated herself. The SLP in Pair 12 reported to “neither agree nor disagree” with the two statements related to the family’s knowledge in editing/customizing and handling technology breakdowns with the device, while the parent reported she “somewhat agreed” with knowing how to do these things. The SLP in Pair 13 reported to “neither agree nor disagree” with the statements related to the family’s knowledge of supporting the student in using his/her device and handling technology breakdowns with the device, while the parent reported “agreeing” and “somewhat agreeing” with her knowledge in these two areas.

Secondly, discrepancies in the agreement of SLP’s knowledge of the device will be presented. The SLP in Pair 2 “somewhat agreed” that they knew how to handle technology breakdowns with the device, while the family reported that they “strongly agreed” with the SLP’s knowledge in this area. The SLP in Pair 3 “neither agreed nor disagreed” with their knowledge in handling technology breakdowns, while the family “agreed” with the SLP’s knowledge in this area. The SLP in Pair 4 reported that they “somewhat disagreed” with knowing how to handle technology breakdowns, while the family reported that they “agreed” with the SLP’s knowledge in this area. The SLP in Pair 10 reported that they “somewhat agreed” with their knowledge in all four of the areas presented, while the family reported that they “strongly agreed” with the SLP’s knowledge in all four areas.

Participants also rated their level of agreement with statements related to the SGD being a burden and the SGD having a stigma. The parents and SLPs in all of the pairs agreed that the SLP did not see the device as a burden. The parents and SLPs in seven pairs agreed that the parent did not see the device as a burden. Five pairs did not agree on the level to which the

parent viewed the device as a burden. One pair agreed that the parent “neither agreed nor disagreed” with the device being a burden. The parents and SLPs in ten of the thirteen pairs agreed that the SLP did not feel the device carried a stigma. Three pairs did not agree on whether or not the SLP felt the device carried a stigma. Parents and SLPs in five of the thirteen pairs agreed that the parent did not feel the device carried a stigma. One pair agreed that the parents felt the device did carry a stigma. Seven pairs did not agree on whether the parent viewed the device as a stigma.

The last survey question related to participant’s perceptions of the device asked participants to rate their level of agreement with the statement, “I feel the device allows the student/my child to communicate more effectively”. They rated their level of agreement with the statement as well as the other party’s. Ten of the thirteen pairs (76.9%) agreed that the parent felt the device allowed their child to communicate more effectively. Twelve of the thirteen pairs (92.3%) agreed that the SLP felt the device allowed the student to communicate more effectively.

Family-centered services and the family-SLP relationship. The survey solicited information related to the family-centeredness of the services provided by the SLP and the relationship between the family and SLP. This portion of the survey answered the questions listed in Figure 10.

Figure 10

Questions Related to Family-Centered Services and the Family-SLP Relationship

Does the SLP understand the family's background, the challenges the family faces, the family's priorities, concerns, and preferences? (Q44, Q119)	Does the SLP fully understand the student's unique needs? (Q44, Q119)
Are the SLP and family satisfied with their level of communication with one another? (Q47, Q121)	Does the SLP explain the SGD, the student's goals, and ways the family can support the student in using the SGD using terminology the family can understand? (Q43, Q118)
Did the SLP spend an appropriate amount of time building rapport with the family? Do the SLP and family have a good rapport? (Q69, Q144)	What level of enjoyment and frustration have the SLP and family experienced working with one another? (Q72, Q73, Q147, Q148)

Strict and loose agreement was calculated for each pair in the area of family-centered services. Table 24 presents the agreement results across the 13 questions related to family-centered services and the family-SLP relationship.

Table 24

Pair Agreement for Family-Centered Services and the Family-SLP Relationship

Pair	Number of Questions Included=13	
	Strict Agreement	Strict + Loose Agreement
1	38.5%	84.6%
2	53.8%	100%
3	46.2%	61.5%
4	23.1%	69.2%
5	38.5%	92.3%
6	76.9%	100%
7	23.1%	46.2%
8	46.2%	92.3%
9	30.1%	69.2%
10	30.1%	76.9%
11	15.4%	46.2%
12	61.5%	92.3%
13	38.5%	84.6%

Six of the thirteen questions included in this domain were presented as a multi-part question in which participants were asked how well SLPs understood six different aspects of the family. The agreement within pairs for this question is presented in Table 25.

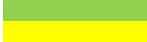
Table 25

Agreement within Pairs Related to the SLP's Understanding of the Family's Background,

Challenges, Priorities, Concerns, Preferences, and the Student's Needs

Pair	The SLP understands the...					
	Family's background	Family's challenges with having a child who uses an SGD	Family's priorities for their child's communication	Family's concerns about the SGD	Family's preferences	Student's unique needs
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
Total Pairs in Agreement ¹ (%)	9 (69.2%)	12 (92.3%)	10 (76.9%)	10 (76.9%)	10 (76.9%)	10 (76.9%)

¹Strict agreement and loose agreement

	Strict agreement
	Loose agreement (off by 1)
	Do not meet loose agreement requirements, but rate on the same half of the scale (off by more than 1)
	Do not agree; rate on opposite ends of the scale (e.g. disagree vs. agree)
	Agreement could not be achieved; one party reported neutrally

Each pair rated their level of satisfaction with the communication between them. Seven of the thirteen (53.8%) pairs agreed that they were satisfied to some extent (extremely, moderately, or slightly) with the level of communication between them. Two pairs (Pair 4 and Pair 10) did not meet the requirements for loose agreement, but both the SLP and parent rated

they were satisfied to some extent. Agreement was not achieved in three pairs (Pair 1, Pair 5, and Pair 8) because the SLP reported that they were “neither satisfied nor dissatisfied.” The parents in these pairs reported that they were “extremely satisfied” or “moderately satisfied” with the pair’s communication. The parent and SLP in Pair 7 responded on opposite ends of the scale. The parent reported that they were “slightly satisfied,” while the SLP reported being “slightly dissatisfied.”

The survey also solicited information about whether the SLP was using terminology the family was able to understand. The family rated their level of agreement with the statement, “I feel that the SLP explains my child’s speech-generating device, his/her goals, and ways in which I can support him/her in using the device using terminology that I am able to understand.” The SLP also rated their level of agreement with providing this information using family-friendly terminology. Eleven of the thirteen pairs agreed that they “strongly agreed”, “agreed”, or “somewhat agreed” with the statement. Two pairs did not agree. The SLP in Pair 3 reported to “agree” with the statement, while the parent reported to “disagree.” The parent in Pair 10 reported to “strongly agree” with the statement, while the SLP reported to “neither agree nor disagree.”

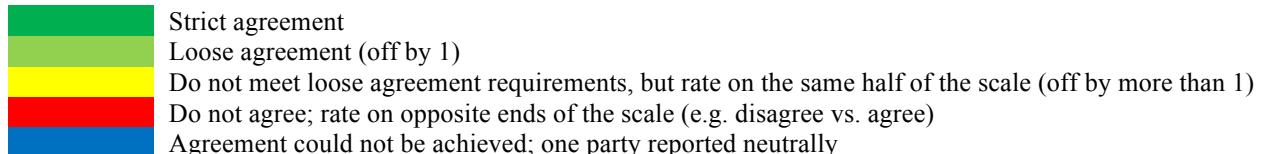
Participants answered questions about their rapport with the other party by rating their level of agreement with three statements. The three statements and the level of agreement within pairs for each statement are presented in Table 26.

Table 26

Agreement within Pairs Related to Rapport between the Family and SLP

Pair	Establishing rapport was easy.	The SLP spent an appropriate amount of time establishing rapport with the family.	Family and SLP have a good rapport.
1	Blue	Green	Green
2	Light Green	Dark Green	Dark Green
3	Yellow	Yellow	Yellow
4	Light Green	Dark Green	Light Green
5	Dark Green	Dark Green	Dark Green
6	Dark Green	Dark Green	Dark Green
7	Dark Green	Dark Green	Yellow
8	Light Green	Light Green	Light Green
9	Dark Green	Dark Green	Dark Green
10	Dark Green	Light Green	Light Green
11	Red	Red	Dark Green
12	Dark Green	Dark Green	Dark Green
13	Light Green	Yellow	Light Green
Total Pairs in Agreement ¹ (%)	10 (76.9%)	10 (76.9%)	11 (84.6%)

¹Strict agreement and loose agreement

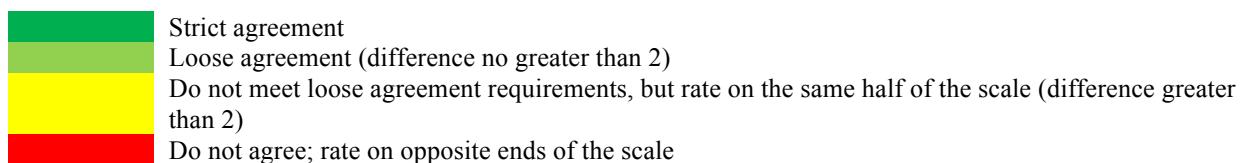


Parents and SLPs also rated their levels of enjoyment and frustration with working together on a scale of one to ten, with one indicating no enjoyment/frustration, five indicating moderate enjoyment/frustration, and ten indicated maximum enjoyment/frustration. The same requirements for strict agreement were applied to these questions, but loose agreement was considered to be met when the difference between parent's and SLP's ratings was no greater than two. Table 27 presents the level of enjoyment and frustration for each participant.

Table 27

Pairs' Level of Enjoyment and Frustration Working with Each Other

Pair	Level of Enjoyment		Level of Frustration	
	Parent	SLP	Parent	SLP
1	8	8	3	3
2	10	10	1	1
3	6	7	6	3
4	2	8	2	2
5	10	10	1	1
6	9	10	1	2
7	10	7	2	4
8	9	10	1	1
9	10	10	1	7
10	10	10	1	1
11	7	8	4	3
12	10	10	1	1
13	7	8	1	2



Reported Similarities and Differences. The final questions of the survey (Q70, Q71, Q74, Q145, Q146, and Q149) were open ended and solicited information about how the parent's and SLP's views differed. Questions asked participants to identify things about using an SGD that were important to them but considered unimportant or irrelevant by the other party; things the other party tried to emphasize that they felt were unimportant or irrelevant; and any ways they perceived their views to be different from the other party's, as well as any impact these differences had on the student's intervention and provided services.

Many participants commented that the pair agreed on all or most things, and that their overall views on AAC were very similar. This was the most common response to the questions described above. As for differences, the theme of communication preferences emerged from

several of the pairs' responses. This theme can be further divided into preferences for mode of communication (e.g. emphasis on verbal speech vs. SGD and preference for specific devices) and preferences for language intervention (e.g. how to teach language and increase mean length of utterance (MLU)).

Additional SLP Participants

An additional 31 SLPs completed the survey for students whose family did not participate, and thus were not paired. The students for whom they completed the survey were in grade levels ranging from pre-kindergarten through twelfth grade, as well as one student who was in a postsecondary transition program.

First, demographic information from the SLPs will be presented. Twenty-eight of the 31 (90.3%) SLPs reported that they were certified by ASHA. All participants reported that a master's degree was the highest level of education they had received, except for one participant, who indicated they were "two semesters away from" a master's degree. Participants had varying years of experience working as an SLP. Table 28 presents participant's years of experience in the school setting.

Table 28

SLPs' Years of Experience in the School Setting

Years of Experience	Number of Participants	Percentage of Participants
<1 year		
1-5 years	7	22.6
6-10 years	10	32.3
11-15 years	3	9.7
16-20 years	2	6.5
21-25 years	4	12.9
>25 years	5	16.1

Twenty-four (77.4%) of the SLPs reported that the school they worked at was located in a city or suburb. They also reported on the size of their school district. Eight SLPs reported working in a small school district having less than 10,000 students enrolled. Fifteen SLPs reported working in a medium school district where 10,000-50,000 students were enrolled. Eight SLPs reported working in a large school district that had more than 50,000 students enrolled.

SLPs provided information about their experience with AAC as well as caseload characteristics. Participants' years of experience working with students who use AAC is reported in Table 29.

Table 29

SLPs' Years of Experience Working with Students who Use AAC

Years of Experience	Number of Participants	Percentage of Participants
0 years		
<1 year	1	3.2
1-5 years	6	19.4
6-10 years	9	29.0
11-15 years	5	16.1
16-20 years	3	9.7
21-25 years	2	6.5
>25 years	5	16.1

Most participants indicated that they were competent in AAC (n=16), while eight indicated they were proficient, four indicated they were advanced beginners, two indicated they were experts, and one indicated they were a beginner. Information about the SLPs' caseload size and number of students on their caseload who used AAC are presented in Table 30 and Table 31 respectively.

Table 30

Number of Students on Participants' Caseloads

Caseload Size	Number of Participants	Percentage of Participants
<15 students	1	3.2
15-30 students	4	12.9
31-45 students	10	32.3
46-60 students	10	32.3
61-75 students	4	12.9
>76 students	2	6.5

Table 31

Number of Students on Participants' Caseloads Using AAC

Number of Students Using AAC	Number of Participants	Percentage of Participants
1-3	7	22.6
4-6	9	29.0
7-9	8	25.8
10-12	1	3.2
13-15	2	6.5
>16	4	12.9

Assessment. Seventeen participants (54.8%) indicated they were working with the student at the time of the assessment. Thirteen of those seventeen (76.5%) reported that they conducted the assessment for the SGD. When asked who initiated the assessment, 17 (54.8%) indicated they did; two indicated the student's family did; three indicated someone else did. In responses where someone else initiated the assessment, most SLPs reported that it was one of the student's previous SLPs.

The 13 SLPs who conducted the assessment reported how involved the family was during the process. Seven (53.8%) reported the family was involved a moderate amount; four (30.8%)

reported the family was involved a little; two (15.4%) reported the family was involved a great deal.

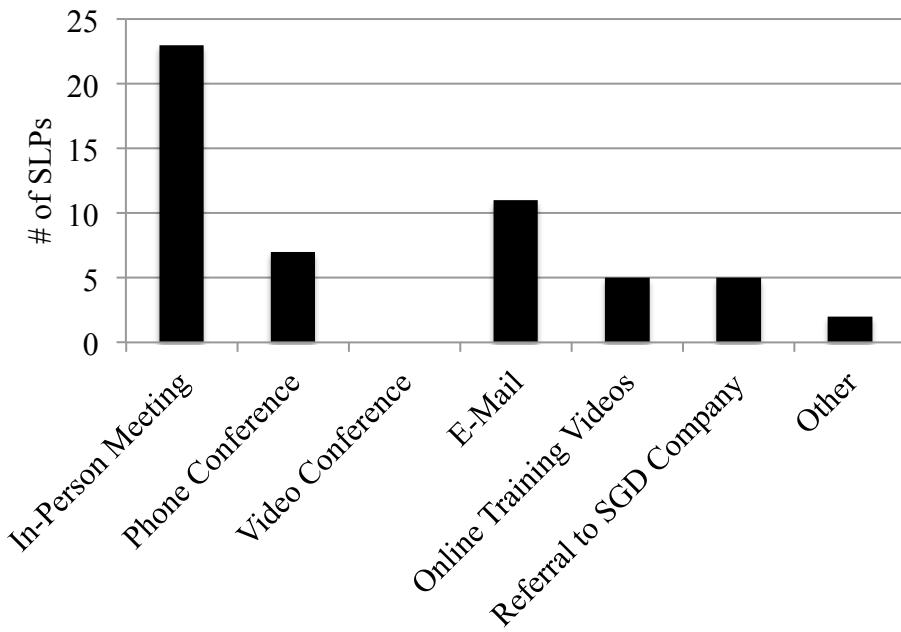
Ten of the 31 (32.3%) SLPs reported that student's SGDs were purchased/provided by their families, while 19 (61.3%) reported that the school provided the SGD. Two (6.5%) reported the SGD was provided by other sources, such as a grant or charitable organization.

SLPs were asked if they felt that the student's SGD was the best fit for him or her. Fourteen (45.2%) indicated the device was definitely the best fit; 12 (38.7%) indicated it was probably the best fit; three (9.7%) indicated it might or might not be the best fit; two (6.5%) indicated it was probably not the best fit for the student.

Support provided. Twenty-seven (87.1%) SLPs reported that they provided support for the SGD to the family. The four SLPs who had not provided support reported that the family had not requested support, but that they had offered support. Twenty-five of the 27 SLPs who provided support reported that they offered the support to the family, while two reported the family requested it. The method in which they provided this support is presented in Figure 11.

Figure 11

How SLPs Provided Support



Five (18.5%) SLPs reported they provided support weekly; four (14.8%) reported they provided support monthly; 11 (40.7%) reported they provided support when requested by the family; seven (25.9%) reported they provided support at some other frequency.

All SLPs reported how they would prefer to provide support to the family, as well as their preferences for the frequency of the provided support. These results are presented in Figure 12 and Figure 13.

Figure 12

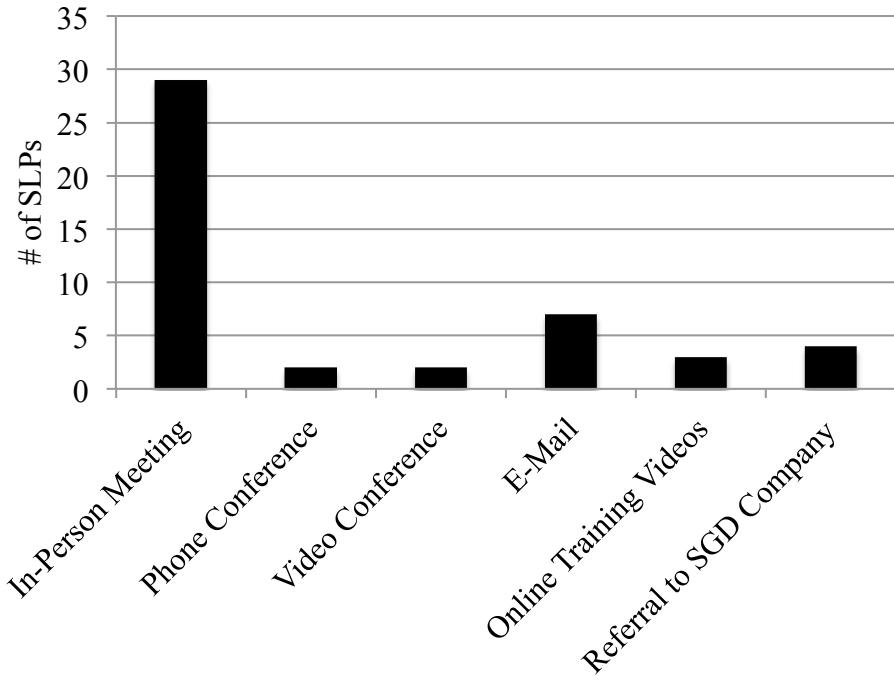
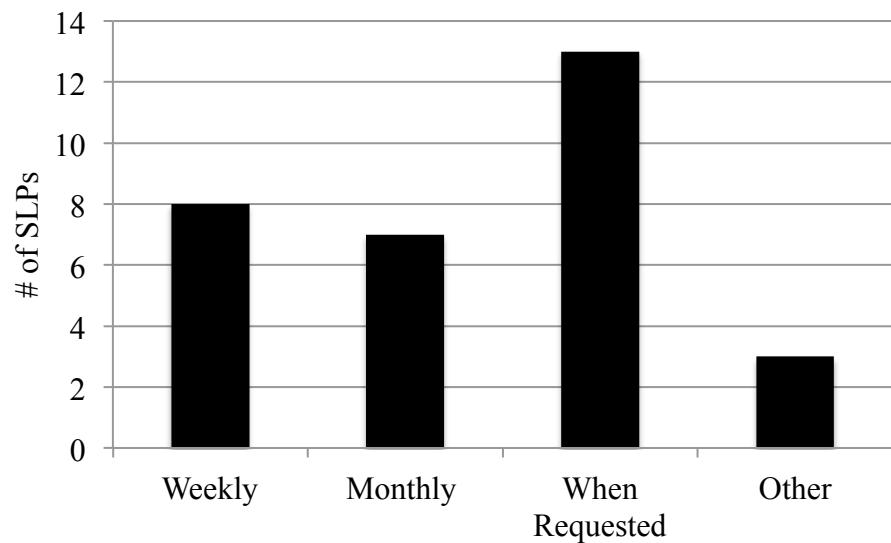
SLPs' Preferences for How Support is Provided

Figure 13

SLPs' Preferences on Frequency of Support

SLPs were also asked to rate their level of agreement with three statements related to the support they provided the family with. The first was, “I feel that I understand the family’s preferences in how I provide them with support.” Twenty-seven of 31 SLPs (87.1%) agreed with the statement to some degree; two SLPs (6.5%) disagreed with the statement to some degree; three SLPs (9.7%) neither agreed nor disagreed with the statement. The next statement read, “I feel that I understand the family’s preferences in the quantity of support I provide them with.” Twenty-five of 31 SLPs (80.6%) agreed with the statement to some degree; three (9.7%) disagreed with the statement to some degree; three (9.7%) neither agreed nor disagreed with the statement. The third statement they responded to was, “I feel I provide the family with an appropriate amount of support.” Twenty-three of 31 SLPs (74.2%) agreed with the statement to some degree; six (19.4%) disagreed with the statement to some degree; two (6.5%) neither agreed nor disagreed.

The final question related to support asked if the SLP had provided the family with tips and ideas of how to use the device at home that were useful and would work well for the family. Twenty-six (83.8%) SLPs agreed with the statement to some degree, indicating they had provided the family with this type of support. One (3.2%) SLP disagreed with the statement to some degree, indicating they had not provided the family with this type of support. Four (12.9%) SLPs reported neutrality.

Student goals. SLPs responded to an open-ended question to report the student’s communication goals. While this question was used to compare agreement in paired responses, unpaired responses will focus on the parent’s involvement in the creation of the goals, the SLP’s satisfaction with the goals, etc. The factors participants perceived to impact the student’s success in meeting his/her communication goals is also reported.

Twenty-six (83.9%) reported that the family was consulted when the student's communication goals were created. Three (9.7%) reported that the family was not consulted. Two (6.5%) SLPs were unsure if the family had been consulted, as they inherited the goals from a previous SLP or the student had transferred to their school. Participants also indicated the level to which the family was involved, which is presented in Table 32.

Table 32

SLPs' Reported Level of Family Involvement in Creation of Communication Goals

Level of Involvement	Number of Participants	Percentage of Participants
A great deal	8	25.8
A lot	6	19.4
A moderate amount	11	35.5
A little	3	9.7
None at all	3	9.7

SLPs were asked to report whether they were satisfied with the student's goals, if they felt the goals were meaningful and relevant to the student's current communication needs, and if they felt the goals accurately reflected the student's current communication needs. All SLPs reported they were satisfied with the student's goals and felt that they were meaningful/relevant to the student and reflected their communication needs.

SLPs were asked to indicate their level of agreement with the student's family regarding the student's communication skills and abilities in using his/her SGD. Responses are presented in Table 33.

Table 33

SLPs' Agreement with the Family Regarding Student's Communication Skills and Abilities in Using His/her SGD

	The student's family and I agree about the student's current communication skills.	The student's family and I agree about the student's abilities in using his/her SGD.
Strongly agree	11 (35.5%)	11 (35.5%)
Agree	12 (38.7%)	9 (29.0%)
Somewhat agree	6 (19.4%)	7 (22.6%)
Neither agree nor disagree	1 (3.2%)	
Somewhat disagree		3 (9.7%)
Disagree		1 (3.2%)
Strongly disagree	1 (3.2%)	

The final question related to the student's goals asked SLPs to indicate how likely a list of seven factors impacted the student's success in meeting his/her communication goals. SLPs' responses are summarized in

Table 34

Factors SLPs Perceive to Impact Student's Success in Meeting His/her Communication Goals

Factor	Number of SLPs		
	Likely	Neither likely nor unlikely	Unlikely
Peer Relationships	18	6	7
Teachers' and Paraprofessionals'/Aides' Knowledge of the SGD	27	1	3
Family's Knowledge of the SGD	26	3	2
SLP's Knowledge of the SGD	24	1	6
Availability of the Device Throughout Child's Day	26	3	2
Student's Knowledge of How to Use the SGD	24	2	5
Vocabulary Available on the SGD	23	3	5

Use of the SGD. The students for whom the SLPs completed the survey used a variety of SGDs. These are listed in Table 35.

Table 35

Types of SGDs Used by Students

Device	Number of Participants ¹
PRC Accent	4
Tobii I-Series Device	2
Tobii Dynavox Indi	1
Dynavox V or Vmax	1
Saltillo NOVA Chat	1
iPad with LAMP Words for Life	4
iPad with Proloquo2Go	8
iPad with TouchChat	6
iPad with Niki Talk	1
Talk to Me Technologies Nuevo	1

¹One SLP's response could not be determined, as they attempted to select multiple choices.

SLPs were asked to indicate if the SGD went home with the student. Twenty-four SLPs reported that the device went home; five reported it did not go home; two reported it sometimes went home.

SLPs reported how frequently they thought the child's SGD was used at school. Their responses are provided in Table 36.

Table 36

SLPs' Reported Use of SGD at School

Frequency	Number of SLPs
Across the school day, including times like recess and lunch	9
Across the school day, but only in the classroom	12
Sometimes, or only in some classrooms; not all the time or in every classroom	6
Only when he/she is in speech-language therapy	3
It is rarely used at school	1
It is never used at school	

SLPs also reported how frequently they thought the student's device was used at home and in the community. Table 37 presents the SLPs' reported frequency for use of the SGD in these settings.

Table 37

SLPs' Reported Use of SGD at Home and in the Community

Frequency	Number of SLPs
Never	7
Sometimes	10
About half the time	10
Most of the time	4
Always	

The survey also solicited information about the barriers and facilitators to the student's successful use of the SGD. First, SLPs identified barriers they felt the student faced. Participants selected multiple options from a provided list and also had the option to write in their own response. The barriers they selected are presented in Table 38.

Table 38

SLPs' Perceived Barriers to Student Successfully Using SGD

Barrier	Number of SLPs
Teachers' and Paraprofessionals'/Aides' Knowledge of the SGD	18
SLP's Knowledge of the SGD	2
Family's Knowledge of the SGD	17
Student's Knowledge of How to Use the Device	12
Negative Effects on Peer Relationships	1
Availability of the Device Throughout Child's Day	9
Time and Effort Needed for the Child to Learn to Use the Device	10
The Vocabulary Available on the SGD	4
Other	11
No Barriers	1

SLPs were provided with an area to describe factors that positively impacted the student in using his/her SGD. Common factors reported by SLPs included the student's motivation, supportive communication partners, the device being used across settings, and the SLP's collaboration with other professionals and family members.

Knowledge and perceptions of the SGD. The survey solicited information about the SLP's knowledge and perceptions of the student's SGD, as well as the knowledge and perceptions they perceived the family to have. Four areas were addressed in the survey questions related to knowledge of the device: editing/customizing the device, navigating the device, knowing how to support the student in using the device, and knowing how to handle technology breakdowns. SLPs' report of their own knowledge and skills are displayed in Table 39. Their report of the family's knowledge and skills are displayed in Table 40.

Table 39

SLP's Knowledge of the SGD

	The SLP knows how to...			
	Edit/ Customize SGD	Navigate SGD	Support student in using SGD	Handle technology breakdowns
Strongly agree	15 (48.4%)	19 (61.3%)	16 (51.6%)	10 (32.3%)
Agree	11 (35.5%)	9 (29.0%)	13 (41.9%)	9 (29.0%)
Somewhat agree	4 (12.9%)	2 (6.5%)	3 (6.5%)	9 (29.0%)
Neither agree nor disagree				1 (3.2%)
Somewhat disagree	1 (3.2%)	1 (3.2%)		
Disagree				1 (3.2%)
Strongly disagree				1 (3.2%)

Table 40

Family's Knowledge of the SGD as Reported by SLPs

	The family knows how to...			
	Edit/Customize SGD	Navigate SGD	Support student in using SGD	Handle technology breakdowns
Strongly agree	2 (6.5%)	4 (12.9%)	2 (6.5%)	1 (3.2%)
Agree	6 (19.4%)	13 (41.9%)	13 (41.9%)	7 (22.6%)
Somewhat agree	7 (22.6%)	4 (12.9%)	4 (12.9%)	6 (19.4%)
Neither agree nor disagree	6 (19.4%)	1 (3.2%)	1 (3.2%)	3 (9.7%)
Somewhat disagree	2 (6.5%)	3 (9.7%)	5 (16.1%)	3 (9.7%)
Disagree	5 (16.1%)	3 (9.7%)	4 (12.9%)	7 (22.6%)
Strongly disagree	3 (9.7%)	3 (9.7%)	2 (6.5%)	4 (12.9%)

SLPs were also asked to indicate their level of agreement with statements related to the SGD being a burden and the SGD having a stigma. They rated their own feelings of burden and stigma, as well as the feelings they perceived the family to have. Table 41 displays these results.

Table 41

Family's and SLP's Perceptions of the SGD as Reported by the SLP

	I feel the device is a burden.	The family feels the device is a burden.	I feel the device carries a stigma.	The family feels the device carries a stigma.
Strongly agree	1 (3.2%)			
Agree		3 (9.7%)	1 (3.2%)	3 (9.7%)
Somewhat agree	1 (3.2%)	4 (12.9%)	2 (6.5%)	5 (16.1%)
Neither agree nor disagree	2 (6.5%)	5 (16.1%)	2 (6.5%)	4 (12.9%)
Somewhat disagree	3 (9.7%)	3 (9.7%)	2 (6.5%)	3 (9.7%)
Disagree	13 (41.9%)	10 (32.3%)	13 (41.9%)	8 (25.8%)
Strongly disagree	11 (35.5%)	6 (19.4%)	11 (35.5%)	8 (25.8%)

The final survey question related to participant's perceptions of the device asked SLPs to rate their level of agreement with the statements, "I feel the device allows the student to communicate more effectively" and "The family thinks the device allows the student to

communicate more effectively.” Twenty-nine of 31 (93.5%) SLPs agreed to some extent that the device allowed the student to communicate more effectively. One (3.2%) SLP reported they neither agreed nor disagreed with the statement, and one (3.2%) SLP indicated that they disagreed that the device allowed for more effective communication. Twenty-four of 31 (77.4%) agreed to some extent that the student’s family thought the device allowed the student to communicate more effectively. Four (12.9%) SLPs reported they neither agreed nor disagreed with the statement, and three (9.6%) SLPs indicated they disagreed that the family felt the device allowed for more effective communication.

Family-centered services and the family-SLP relationship. SLPs were asked to report how well they understood the family’s background, challenges they faced, concerns they had about the SGD, preferences, and their child’s unique needs, which is shown in Table 42.

Table 42

SLPs' Understanding of the Family's Background, Challenges, Priorities, Concerns, Preferences, and the Student's Needs as Reported by Parents

The SLP understands the...						
	Family's background	Family's challenges with having a child who uses an SGD	Family's priorities for their child's communication	Family's concerns about the SGD	Family's preferences	Student's unique needs
Strongly agree	7 (22.6%)	8 (25.8%)	8 (25.8%)	7 (22.6%)	7 (22.6%)	9 (29.0%)
Agree	15 (48.4%)	8 (25.8%)	13 (41.9%)	16 (51.6%)	15 (48.4%)	15 (48.4%)
Somewhat agree	7 (22.6%)	11 (35.5%)	8 (25.8%)	4 (12.9%)	6 (19.4%)	6 (19.4%)
Neither agree nor disagree	1 (3.2%)	3 (9.7%)		3 (9.7%)	2 (6.5%)	
Somewhat disagree	1 (3.2%)	1 (3.2%)	2 (6.5%)	1 (3.2%)	1 (3.2%)	1 (3.2%)
Disagree						
Strongly disagree						

SLPs were also asked to indicate how satisfied they were with the level of communication between them and the student's family. Twenty-three of the 31 (74.2%) SLPs reported some level of satisfaction; seven (22.6%) reported some level of dissatisfaction; one (3.2%) SLP reported they were neither satisfied nor dissatisfied.

The survey asked SLPs if they used terminology that would be easily understood by families by asking them to indicate their level of agreement with the statement, "I feel that I explain information about the SGD, the student's needs, and ways to support the student in using the device using terminology that can easily be understood by the family." Twenty-six of the 31

(83.9%) SLPs indicated some level of agreement with the statement; two (6.5%) indicated they somewhat disagreed with the statement; three (9.7%) indicated they neither agreed nor disagreed.

SLPs also reported information about their rapport with the student's family by rating their level of agreement with three statements. The three statements and SLPs' responses are listed in Table 43.

Table 43

Rapport between the Family and SLP as Reported by SLPs

	Establishing rapport was easy.	I spent an appropriate amount of time establishing rapport with the family.	I have a good rapport with the family.
Strongly agree	10 (32.3%)	10 (32.3%)	12 (38.7%)
Agree	9 (29.0%)	13 (41.9%)	11 (35.5%)
Somewhat agree	7 (22.6%)	1 (3.2%)	4 (12.9%)
Neither agree nor disagree	1 (3.2%)	3 (9.7%)	1 (3.2%)
Somewhat disagree	1 (3.2%)	3 (9.7%)	1 (3.2%)
Disagree	3 (9.7%)	1 (3.2%)	1 (3.2%)
Strongly disagree			1 (3.2%)

Lastly, SLPs rated their levels of enjoyment and frustration working with the student's family on a scale of one to ten, one indicating no enjoyment/frustration, five indicating moderate enjoyment/frustration, and ten indicating maximum enjoyment/frustration. Reported levels of frustration ranged from one to ten ($M=3.0$). Reported levels of enjoyment ranged from two to ten ($M=7.5$).

Additional Family Participants

An additional nine family members completed the survey whose SLP did not participate, and thus were not paired. Eight of the participants were the student's mothers, and one participant was an adoptive parent. The children's grade levels ranged from pre-kindergarten to tenth grade and included a student in a private non-diploma program. Five children attended a public school, two attended a private school, and two attended an infant toddler or pre-kindergarten therapy center.

Assessment. Eight of the nine parents reported that they initiated the assessment process for their child to receive an SGD, while one mother reported that her child's private SLP initiated the assessment. All but one parent reported that their family purchased their child's SGD. Seven parents reported that they were involved "a great deal" in the assessment; one reported they were involved "a moderate amount;" one reported they were not involved at all. When asked if their current SLP was working with their child at the time of the assessment, three reported that the SLP was and six reported that the SLP was not. Of the three SLPs who were working with the children at the time of the assessment, none were reported to have conducted the assessment. Parents were also asked if the device their child uses was the best fit for him/her. Five of the nine participants felt the device was definitely or probably the best fit for the student, two indicated it might or might not be, and two indicated it was probably not the best fit.

Support provided. Parents were asked to report if the SLP had provided support for the SGD. Five of the nine participants reported that support had not been provided, nor offered. After participants indicated that support was neither provided nor offered, Qualtrics presented a question to ask if they had requested support from the SLP. Three of the five participants reported that they had requested support, while two reported they had not.

Of the four participants who reported support had been provided, two reported that the support was offered by the SLP and two reported they requested it from the SLP. These participants also indicated how support was provided and how frequently. All four indicated that support was provided during an in-person meeting. Two participants also indicated that the SLP had referred them to the SGD company's resources. In regard to frequency, three parents reported that support was provided when requested, and one indicated it was provided weekly.

All family participants indicated how they would prefer support for the SGD to be provided and how frequently. This information is presented in Figure 14 and Figure 15, respectively.

Figure 14

Parent Preferences for Type of Support

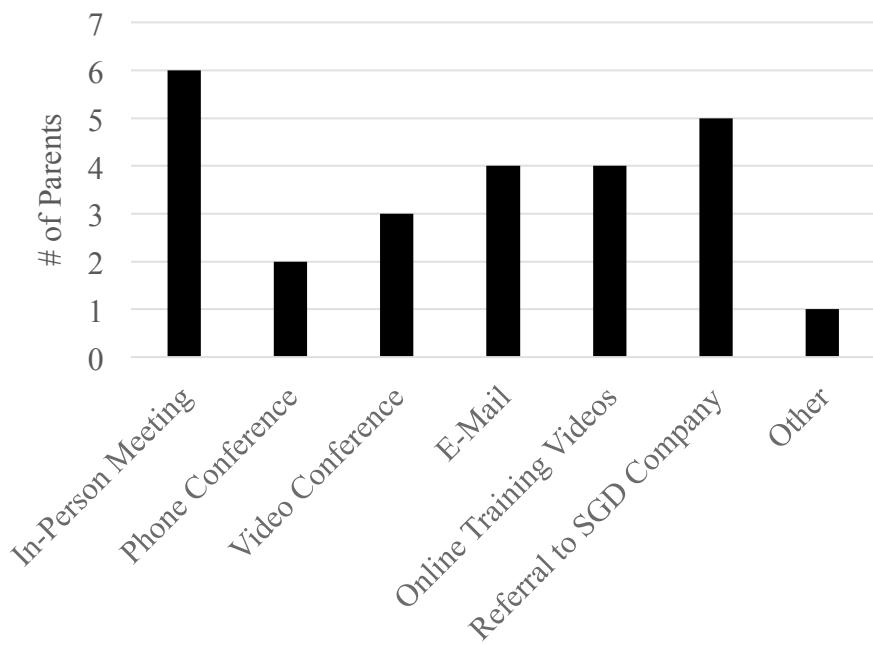
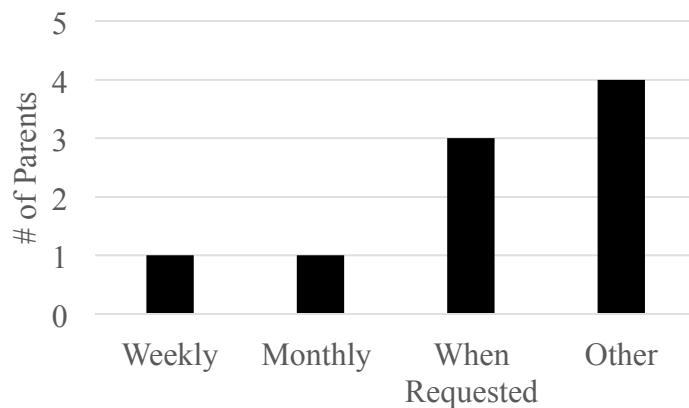


Figure 15

Parent Preferences for Frequency of Support

Parents were also asked to rate their level of agreement with the following three statements related to support. The first was, "I feel that my child's SLP understands my preferences in how he/she provides support to our family." Seven of nine parents (77.8%) indicated they disagreed or strongly disagreed with the statement; two parents (22.2%) indicated they strongly agreed or agreed with the statement. The next statement read "I feel that my child's SLP understands my preferences in the quantity of support provided to our family." Six of nine (66.7%) parents indicated they disagreed with the statement to some degree; two indicated they agreed with the statement to some degree (22.2%); one (11.1%) indicated that they neither agreed nor disagreed with the statement. The third statement they responded to was "I feel that my child's SLP provides an appropriate amount of support." Seven of nine (77.8%) parents indicated they disagreed or strongly disagreed with the statement; one parent (11.1%) strongly agreed with the statement; one (11.1%) parent neither agreed nor disagreed.

The final question related to support asked if the SLP had provided the family with tips and ideas of how to use the device at home that were useful and would work well for the family. All but one parent indicated some level of disagreement with the statement.

Student goals. Parents responded to an open-ended question to report their child's communication goals. While this question was used to compare agreement in paired responses, unpaired responses will focus on the parent's involvement in the creation of the goals, their satisfaction with the goals, etc. The factors they perceived to impact their child's success in meeting his/her communication goals will also be reported.

Six of the nine parents indicated they were consulted when their child's communication goals were created. One parent reported they were not consulted and one reported they were unsure if they were consulted. They also indicated the level to which they were involved, which is presented in Table 44.

Table 44

Parents' Reported Level of Involvement in Creation of Communication Goals

Level of Involvement	Number of Participants
A great deal	3
A lot	1
A moderate amount	
A little	3
None at all	2

Parents were asked to report whether they were satisfied with their child's goals, if they felt the goals were meaningful and relevant to their child, and if they felt the goals accurately reflected their child's current communication needs. Five of the nine (55.6%) parents indicated they were not satisfied with their child's goals; three (33.3%) indicated they were satisfied; one (11.1%) parent was neither satisfied nor dissatisfied. Five of the nine (55.6%) parents indicated the goals set for their child were not meaningful and relevant to their child's daily communication needs; four (44.4%) indicated they were. Finally, six of the nine (66.7%) parents

reported that they felt the communication goals for their child did not accurately reflect his/her current communication needs; three (33.3%) indicated they did.

Parents were asked to indicate their level of agreement with their child's SLP regarding their child's communication skills and abilities in using his/her SGD. Responses are presented in Table 45.

Table 45

Parents' Agreement with SLP Regarding Child's Communication Skills and Abilities in Using His/her SGD

	My child's SLP and I agree about my child's current communication skills.	My child's SLP and I agree about my child's abilities in using his/her SGD.
Strongly agree	2 (22.2%)	2 (22.2%)
Agree	1 (11.1%)	
Somewhat agree	1 (11.1%)	
Neither agree nor disagree	1 (11.1%)	1 (11.1%)
Somewhat disagree		
Disagree	1 (11.1%)	2 (22.2%)
Strongly disagree	3 (33.3%)	4 (44.4%)

The final question related to the student's goals asked parents to indicate how likely a list of seven factors impacted their child's success in meeting his/her communication goals. Parents' responses are summarized in Table 46.

Table 46

Factors Parents Perceive to Impact Child's Success in Meeting His/her Communication Goals

Factor	Number of Parents		
	Likely	Neither likely nor unlikely	Unlikely
Peer Relationships	6	1	2
Teachers' and Paraprofessionals'/Aides' Knowledge of the SGD	8		1
Family's Knowledge of the SGD	7	1	1
SLP's Knowledge of the SGD	8		1
Availability of the Device Throughout Child's Day	7		2
Child's Knowledge of How to Use the SGD	6	2	1
Vocabulary Available on the SGD	7	1	1

Use of the SGD. At the start of the survey parents were asked to identify the type of SGD their child used. Their responses are displayed in Table 47.

Table 47

Types of SGDs Used by Children

Device	Number of Participants
PRC Accent	3
Saltillo NOVA Chat	2
iPad with LAMP Words for Life	2
iPad with Proloquo2Go	1
iPad with TouchChat	1

All parents reported that their child's SGD came home with them from school, except for one parent who reported that the school district did not allow it.

Parents reported on how frequently their child's device was used at home and in the community. Table 48 presents the parent's reported frequency for use of the SGD at home and in the community.

Table 48

Parents' Reported Use of SGD at Home and in the Community

Frequency	Number of Parents
Never	1
Sometimes	1
About half the time	1
Most of the time	2
Always	4

Parents were also asked to indicate how frequently they thought the child's SGD was used at school. Table 49 presents their responses.

Table 49

Parents' Reported Use of SGD at School

Frequency	Number of Parents
Across the school day, including times like recess and lunch	3
Across the school day, but only in the classroom	
Sometimes, or only in some classrooms; not all the time or in every classroom	4
Only when he/she is in speech-language therapy	2
It is rarely used at school	
It is never used at school	

The survey also solicited information about the barriers and facilitators to the student's successful use of the SGD. First, parents identified barriers they felt their child faced. Parents selected multiple options from a provided list and also had the option to write in their own response. The barriers they selected are presented in Table 50.

Table 50

Parents' Perceived Barriers to Child Successfully Using SGD

Barrier	Number of Parents
Teachers' and Paraprofessionals'/Aides' Knowledge of the SGD	8
SLP's Knowledge of the SGD	8
Family's Knowledge of the SGD	4
Child's Knowledge of How to Use the Device	3
Negative Effects on Peer Relationships	1
Availability of the Device Throughout Child's Day	6
Time and Effort Needed for the Child to Learn to Use the Device	4
The Vocabulary Available on the SGD	3
Other	3

Parents were provided with an area to describe factors that positively impacted their child in using his/her SGD. Two parent's indicated their family involvement was a facilitator to successful use of the SGD. Two parents explained that having trained communication partners who provided their child with access to the device and opportunities to use it had positive impacts on the child's success. Another parent identified their child's private therapy team to have a positive factor related to successful use of the SGD.

Knowledge and perceptions of the SGD. The survey solicited information about parents' knowledge and perceptions of the student's SGD, as well as the knowledge and perceptions they perceived the SLP to have. Four areas were addressed in the survey questions related to knowledge of the device: editing/customizing the device, navigating the device, knowing how to support the student in using the device, and knowing how to handle technology breakdowns. Parent's report of their own knowledge and skills are displayed in Table 51. Their report of the SLP's knowledge and skills are displayed in Table 52.

Table 51

Parent's Knowledge of the SGD

	Parent knows how to...			
	Edit/Customize SGD	Navigate SGD	Support child in using SGD	Handle technology breakdowns
Strongly agree	4 (44.4%)	5 (55.6%)	3 (33.3%)	3 (33.3%)
Agree	3 (33.3%)	2 (22.2%)	4 (44.4%)	2 (22.2%)
Somewhat agree	2 (22.2%)	2 (22.2%)	1 (11.1%)	2 (22.2%)
Neither agree nor disagree				
Somewhat disagree				
Disagree			1 (11.1%)	2 (22.2%)
Strongly disagree				

Table 52

SLP's Knowledge of the SGD as Reported By Parents

	SLP knows how to...			
	Edit/Customize SGD	Navigate SGD	Support child in using SGD	Handle technology breakdowns
Strongly agree	1 (11.1%)	1 (11.1%)	1 (11.1%)	1 (11.1%)
Agree	1 (11.1%)	1 (11.1%)		
Somewhat agree				
Neither agree nor disagree	1 (11.1%)	1 (11.1%)	1 (11.1%)	2 (22.2%)
Somewhat disagree	1 (11.1%)	1 (11.1%)	2 (22.2%)	
Disagree	3 (33.3%)	3 (33.3%)	4 (44.4%)	3 (33.3%)
Strongly disagree	2 (22.2%)	2 (22.2%)	1 (11.1%)	3 (33.3%)

Parents were also asked to indicate their level of agreement with statements related to the SGD being a burden and the SGD having a stigma. They rated their own feelings of burden and stigma, as well as the feelings they perceived the SLP to have. Table 53 displays these results.

Table 53

Parent's and SLP's Perceptions of the SGD as Reported by Parents

	I feel the device is a burden.	The SLP feels the device is a burden.	I feel the device carries a stigma.	The SLP feels the device carries a stigma.
Strongly agree				
Agree		2 (22.2%)		
Somewhat agree	2 (22.2%)	2 (22.2%)	1 (11.1%)	1 (11.1%)
Neither agree nor disagree	1 (11.1%)	2 (22.2%)		3 (33.3%)
Somewhat disagree			1 (11.1%)	
Disagree	3 (33.3%)	1 (11.1%)	5 (55.6%)	2 (22.2%)
Strongly disagree	3 (33.3%)	2 (22.2%)	2 (22.2%)	3 (33.3%)

The final survey question related to participant's perceptions of the device asked parents to rate their level of agreement with the statements, "I feel the device allows my child to communicate more effectively" and "The SLP thinks the device allows my child to communicate more effectively." All parents strongly agreed or agreed that the device allowed their child to communicate more effectively, except one parent who indicated she somewhat disagreed with the statement. Five parents indicated some level of agreement to the SLP also thinking the device allowed for more effective communication; three parents indicated some level of disagreement; one parent reported neutrality.

Family-centered services and the family-SLP relationship. Parents were asked to report how well the SLP understood their family's background, challenges they faced, concerns they had about the SGD, preferences, and their child's unique needs. Their level of agreement with statements about the SLP's understanding of each of these factors is displayed in Table 54.

Table 54

SLPs' Understanding of the Family's Background, Challenges, Priorities, Concerns, Preferences, and the Student's Needs as Reported by Parents

		The SLP understands my...				
		Family's challenges with having a child who uses an SGD	Family's priorities for their child's communication	Family's concerns about the SGD	Family's preferences	Child's unique needs
Strongly agree	3 (33.3%)	2 (22.2%)	2 (22.2%)	1 (11.1%)	1 (11.1%)	1 (11.1%)
Agree	4 (44.4%)	1 (11.1%)		1 (11.1%)	2 (22.2%)	1 (11.1%)
Somewhat agree	1 (11.1%)					1 (11.1%)
Neither agree nor disagree					1 (11.1%)	
Somewhat disagree		2 (22.2%)	1 (11.1%)	1 (11.1%)	1 (11.1%)	1 (11.1%)
Disagree		3 (33.3%)	1 (11.1%)	4 (44.4%)	3 (33.3%)	2 (22.2%)
Strongly disagree	1 (11.1%)	1 (11.1%)	5 (55.6%)	2 (22.2%)	1 (11.1%)	3 (33.3%)

Parents were also asked to indicate how satisfied they were with the level of communication between them and their child's SLP. Six of the nine parents (66.7%) reported some level of dissatisfaction, four of whom indicated they were extremely dissatisfied. The remaining three (33.3%) parents each indicated a different level of overall satisfaction.

The survey also asked parents if the SLP used terminology the family was able to understand by asking them to indicate their level of agreement with the statement, "I feel that the SLP explains my child's speech-generating device, his/her goals, and ways in which I can support him/her in using the device using terminology that I am able to understand." Six of the nine parents (66.7%) reported some level of disagreement, four of whom indicated they strongly

disagreed with the statement. The remaining three (33.3%) parents reported some level of agreement with the statement, two of whom indicated they strongly agreed.

Parents also reported information about their rapport with their child's SLP by rating their level of agreement with three statements. The three statements and parents' responses are listed in Table 55.

Table 55

Rapport between the Family and SLP as Reported by Parents

Establishing rapport was easy.	The SLP spent an appropriate amount of time establishing rapport with the family.	I have a good rapport with the SLP.
Strongly agree	1 (11.1%)	1 (11.1%)
Agree	3 (33.3%)	4 (44.4%)
Somewhat agree		1 (11.1%)
Neither agree nor disagree		
Somewhat disagree	2 (22.2%)	
Disagree	1 (11.1%)	2 (22.2%)
Strongly disagree	2 (22.2%)	3 (33.3%)

Lastly, parents rated their levels of enjoyment and frustration working with their child's SLP on a scale of one to ten, one indicating no enjoyment/frustration, five indicating moderate enjoyment/frustration, and ten indicating maximum enjoyment/frustration. Reported levels of frustration ranged from one to ten ($M=6.9$). Reported levels of enjoyment ranged from one to nine ($M=3.4$).

Chapter IV

Discussion

The purpose of this study was to compare the perspectives of paired SLPs and family members of students who use SGDs. Data was collected through an online survey in which both family members and SLPs were asked the same questions. Responses were compared to determine a level of agreement between the family and SLP. Additional data collected from non-paired participants' responses provided additional information about families and SLPs' experiences with and perceptions of AAC. The discussion will focus on the six domains addressed by the online survey. Implications of the results and future research will also be discussed.

Recruitment efforts generated a high level of interest within the target audience resulting in more than 200 individuals responding to the survey. Despite this interest, the survey had a low completion rate (29%). This could be attributed to the number of survey items and the amount of time it took to complete the survey. However, most participants who did not complete the survey exited within the first few questions, specifically when the survey defined what would be considered an SGD, mentioned a code that would be used to match family and SLP responses, or indicated that the remaining questions were to be answered based on a specific student (or for parents, their child's school-based SLP), which also happened to stress that responses would be confidential and not shared with the other party. Ninety-nine participants exited the survey at one of these points. The 22 participants who left the survey at question two where a definition of an SGD was provided, may have thought any they were eligible to participate if their student used any form of AAC, not realizing the study was focused specifically on SGDs. Participants who left the survey at the mention of codes or matching family and SLP responses may have

withdrawn for a variety of reasons. First, the mention of a code and needing to share that code with the other party may have been confusing to participants, especially since it is not a common requirement for online surveys. Despite efforts to make clear that responses would be confidential, they may have been worried about the other party gaining access to their responses. It is possible that some of these participants had views that were different than those of their student's SLP or family or had negative experiences which made them apprehensive in completing the survey. A total of 41 potential participants passed the mentioned points in the survey and had completed 62-92% of the survey, but did not finish.

Following up with participants who had completed the survey and provided contact information, but were not yet part of a pair proved to be helpful in obtaining more responses, and thus more pairs. Some individuals that the researcher followed up with indicated that they didn't believe the other party would participate in the study. This was particularly true in cases where the family and SLP had incongruent views on the AAC experience. For example, when the researcher sent a reminder e-mail about asking the SLP to also complete the survey, one mother responded, "It will be a miracle if the SLP would participate. This is part of the issue!" Several SLPs also responded to the researcher's follow-up request. A few indicated that the family would not be participating, some citing reasons such as "the family has very poor follow through" or "speaks very minimal English." Another SLP reported she would not be asking the family to complete the survey. These responses highlight the potential selection bias that will be discussed later in this chapter. From the complete responses, a total of 13 pairs participated.

Overall Agreement

Paired families and SLPs had similar perspectives about the AAC experience. Although strict agreement was low among pairs, ($M=44.4\%$), a higher level of agreement was achieved

when loose agreement was calculated within pairs, averaging 76.4% (range 65.1%-93.4%). Responses from paired participants suggest parents and SLPs have had a positive experience in implementing and supporting their student in using his/her SGD. This contrasts with the research presented in Chapter 1 in which there tended to be differences in how families and SLPs viewed AAC. Thus, the present study highlights the importance of paring families and SLPs when comparing their perspectives. The only study to compare agreement between pair-matched professionals and families was conducted by Crais et al. (2006), which found an average agreement between families and professionals regarding family-centered practices that occurred during early intervention assessments to be 69.31% (range 37.5%-92.59%). The average agreements from the two studies are similar, but it should be noted that agreement in Crais' study was calculated from 42 yes/no questions, whereas this study primarily utilized 5-point and 7-point questions, as well as open-ended questions. The different format of questions may impact the level of agreement that is present within pairs.

Although there was agreement within pairs, responses that were unpaired support previous research findings that show disconnect between families and SLPs. Eight of the nine parents who responded to the survey and whose SLP did not participate in the study appeared to be dissatisfied with the services they received for their child. They repeatedly indicated that the SLP working with their child was not knowledgeable of AAC or how to support their child in using it. Parent's shared comments such as, "She has no idea how to implement AAC" and "She does not seem to have any interest in SGD support or implementation." Their comments closely align with those from parents in other studies where barriers and satisfaction were discussed (e.g. Goldbart and Marshall, 2004; McNaughton et al., 2008). Furthermore, it supports findings from studies that show SLPs enter the field receiving little to no experience working with individuals

who use AAC. Even though 55% of SLPs report serving students who use AAC (ASHA, 2016), there are clearly needs for more education in this area of the field.

Single SLP responses also aligned with previous research. Some SLPs reported that families did not use the device at home or integrate it into the student's life in the community. Their comments were similar to the quote documented by Bailey, Stoner, et al. (2006) in which an SLP felt that "Parents are willing to get them. Parents are willing to buy them, but parents aren't willing to use them at home" (p. 148). Parents in these situations may feel that they are able to understand and communicate with their child without the SGD, or they may have other priorities that detract from the time and effort they need to support their child in learning and using the SGD. SLPs have to be understanding of the many demands placed on all families, especially those with a disability (Goldbart & Marshall, 2004). This is part of being family-centered.

The Assessment Experience

There was a high level of agreement among pairs related to the assessment process, with loose agreement averaging 90%. Although only two pairs disagreed on who conducted the assessment, this is evidence that one of the parties was not accurately informed or did not receive communication regarding the assessment for the SGD. Consequently, the same two pairs did not agree on the family's level of involvement during the assessment. Previous research has made it clear that family involvement and consistent communication between professionals and the family during the assessment process is necessary for positive outcomes with the SGD and building trusting partnerships between families and professionals (Bailey, Parette, et al., 2006; Parette et al., 2000). These studies suggest that when the family is not valued in the decision making process, it can result in selection of the wrong device, and ultimately device

abandonment. The pairs in the present study were in agreement that the students' devices were a good fit for the student, although the survey did not solicit additional information about the assessment, such as whether or not a full assessment was completed, the number and types of devices that were trialed with the student, etc. Thus, participants may not have been able to accurately answer this question if they were unaware of other systems the student could be using and how these systems could compliment the student's strengths and support the student's areas of need. Beukelman and Mirenda (2013) note that AAC assessments should match an individual's capabilities in the areas of motor, cognition, language, and literacy with the operational features of AAC systems. The parent in Pair 11 shared the helpfulness of the assessment process, especially trialing systems. She noted, "We even brought the borrowed device home to test it out across settings which was very important to the success of our choice. I would highly recommend this procedure to other parents. We trialed a number of different programs, PECS, etc."

Future research could focus on comparing the perspectives of families and SLPs on the assessment process. Many of the pairs in this study indicated that the SLP was not the individual who completed the assessment. Future researchers would need to identify the SLP who conducted the assessment to accurately compare perspectives. More in depth questions that were not addressed in the present survey could be asked to better capture how they viewed the assessment experience. Understanding any potential differences between the family and SLP during the assessment process is crucial, as research has indicated that the ways in which an SGD is implemented into a family can impact long-term outcomes. Family dynamics change with the implementation of AAC (Angelo et al., 1996; Mandak et al., 2017; Parete & Hourcade, 1997). Angelo et al. (1996) recommends that families be included throughout the process of

implementing AAC and that they be provided with enough information to be included in the decision making process. Otherwise, families may feel disconnected and as though there is a lack of communication between professionals and families, which will affect family involvement in intervention over time.

As mentioned, more than half of the pairs indicated that someone outside of the school district completed the student's assessment. Some school districts do not complete assessments, despite IDEA mandating the provision of assistive technology devices. The parent in Pair 12 shared that she "had to push our district to assess, then push them to agree to a SGD, then push them to use one that was at his level (not a two-button!), and then push teacher (not current) to use it. It took years." A parent that was not from a pair also shared that she felt her child's "district failed her years ago by not acknowledging my AAC request." Some schools may not conduct AAC assessments because their SLP lacks the knowledge and skills to do so, especially those who consider themselves a beginner with AAC, or because it is a time consuming process. The shortage of professionals competent in conducting AAC assessments creates a high demand for SLPs who do provide AAC services. Sometimes this results in long waiting lists. The mother from Pair 1 discussed the amount of time it took to receive an assessment for her child's SGD:

It was very disheartening that it took exactly 1 year from the time I requested the evaluation until it was complete. My son missed out on that year and we'll never know how much more advanced his communication could be if he hadn't. The process needs to become more streamlined so this doesn't happen to other kids.

Another parent (from Pair 7), whose child's evaluation had been completed at an earlier age also commented, "At the time, the wait time in order to be seen by professional to complete an AAC

evaluation was quite long.” These types of comments are consistent with the experiences from parents in research conducted by Crisp et al. (2014) and McNaughton et al. (2008).

The SGD, Use of the SGD, and Barriers and Facilitators

Pairs answered questions related to the student’s use of the device with an average of 78% agreement (range 40-100%). It was surprising that two pairs did not agree on the type of SGD the student used. It could indicate that the parent or SLP is not aware of what system the student is using. Arrangements such as the one reported in Pair 12 where the SLP reported the student used Speak for Yourself, while the parent reported Speak for Yourself was used at school and Speak for Yourself *and* SonoFlex were used at home may have also caused confusion. Although parents/SLPs may not have been able to accurately indicate the specific type of SGD or iPad application the student specifically uses, it cannot be assumed that they are not familiar with the SGD.

More than half of the total participants indicated students were using iPads or mobile devices with a communication application. Students were frequently using iPads when the school was the purchaser of the device, although some families had also purchased iPads. Mobile technology has become more popular as a form of AAC, as it is easily attainable and a relatively low-cost option (Meder & Wegner, 2015). This was the case for the family in Pair 5. After a dedicated device was recommended, difficulty with the family’s insurance ultimately led to the school providing an iPad. Replacing the recommendation for a dedicated SGD with an iPad and communication application should be done so with caution, particularly for students who may have more complex access needs (e.g. needing a key guard or switch access), which are needs that may not be met with an iPad. One parent identified a positive outcome from the frequent use of iPads in the school setting. She commented that people around her son using

iPads helped with “the elimination of the stigma surrounding these devices” and thus, was something that positively impacted his success with the SGD.

Many paired participants commented on how the device itself could be viewed as a barrier or facilitator to communication. The mother from Pair 5 highlighted positive aspects of using the SGD:

The ability to actually be able to communicate her needs has also been a very positive impact for my daughter. Prior to the device we struggled understanding what she needed/wanted. Now she is able to either tell us or use her device to tell us. This device has been able to increase her self-esteem because she feels like she is being heard... She used to say "you not listen to me" multiple times a day. I have not heard my daughter say this in almost 6 months. I feel she is becoming closer to us, extended family, and her peers. She talks all the time and now plays with peers.

Both parents and SLPs also discussed device durability as a barrier noting, “the device is not able to be used in every environment” such as “active play or play with water, etc. that could damage the device”. An unpaired parent explained “the physical difficulties in always carrying a device around without loss or damage, having immediate access to it, keeping it charged, keeping it updated and/or customized” were barriers for her child. Following similar comments from the SLP in the study by Bailey, Stoner, et al. (2006) as well as families in Lund and Light (2007), device portability and durability continue to be an issue. Other participants mentioned aspects of the specific devices they were working with, such as the SLP in Pair 2 who wrote, “I don’t love the device’s set-up in ability to form phrases/sentences to communicate, so student uses mostly 1-word utterances.” Others commented that the device “takes much more time than verbal communication.”

Participant's perceptions on the device being a burden or carrying a stigma varied. All of the pairs agreed that the SLP did not see the device as a burden. Seven pairs agreed that the parent did not see the device as a burden (53.8%), which is consistent with the findings from (Angelo, 2000) that found 67.3% of parents did not feel it was a burden. Despite the majority agreeing that the device was not a burden, some participants did feel there was a burden associated with the SGD. Feeling as though the device is a burden might impact how frequently it is used across settings.

Parents and SLPs were generally in agreement about how frequently the student used the device. A majority of parents indicated that their student's SGD was used at home "most of the time" or "always". Five parents indicated that the student's SGD was used "about half of the time" or less. Two parents indicated that it was "never" used at home, one of which had earlier indicated that the SGD did not go home with the student. One SLP (from Pair 9) also commented, "The family feels that the device is important, but they require encouragement to encourage their child to use the device. The student has been observed in the past to be without his device in the community." Although families were not asked to share what factors impacted the level of usage at home, possible reasons include their understanding of their child's other forms of communication and not knowing how to use the device or integrate it into their day. Another SLP (unpaired) shared their perspective:

The parent's rely on the device less than we do at school. They are happy about his progress using the device at school but don't feel a need to use it as extensively at home so they have not felt the need to seek out any additional help at home with his device but are supportive of the interventions occurring at school and do ensure that the device is fully charged everyday.

A majority of SLPs indicated that the SGD was used “across the school day.” Frequent use across the school day is favorable, as ASHA identifies “inconsistent implementation of AAC across school and home settings” to be a possible challenge of AAC intervention in the schools (ASHA, n.d.). In the two pairs in which SLPs and parents did not agree on how frequently the device was used at home and in the community, the SLPs indicated that the SGD was used much less frequently than what parents reported. In the pair that did not agree about how frequently the device was used at school, the parent indicated that they thought the device was being used much more frequently than the SLP indicated. When the parent and SLP agree on how frequently the device is used, it suggests that it is likely the actual amount the device is used. On the other hand, it is difficult to determine how frequently the device is actually used. It’s likely difficult for the respondent to know how much the SGD is used each day as neither participant spends their entire day with the student. Nevertheless, consistent use across settings is important for carryover. Furthermore, pairs that did not agree may not be well informed about how the device is used in various settings, and thus suggests that communication between parent and SLP was not adequate. Many unpaired SLPs reported that they tried to emphasize the importance of the device being used consistently across settings, which some families they worked for seemed to find unimportant or irrelevant. Several SLPs mentioned the family having a “lack of dedication” to the SGD. One SLP shared that the SGD was a low priority for one family they worked with due to housing and food issues. Conversely, the unpaired parents tried to emphasize to their child’s SLP that having the device be available and used consistently across the day was important to them.

Participants also indicated what barriers the student faced in using the SGD. Less than half of the pairs agreed on what barriers the student faced. The most cited barrier by both

families and SLPs was teachers' and paraprofessionals'/aides' knowledge of the SGD. The mother in Pair 3 described a "lack of education in SPED staff about the ability of AAC/SGD to scaffold/improve existing speech abilities. Some believe this device will hold back her [child's] speech development, even though research shows the opposite effect." Another mother (Pair 7) specifically identified "access to adapted curriculum to align with device and background knowledge to support communication" as a barrier for her child. The mother in Pair 11 stated, "The teachers need to plan and give more vocabulary for the upcoming lessons. I wish they would provide this the week ahead of time. I have asked for it repeatedly but I don't get what I think my child needs." These experiences align with comments from teachers who participated in research conducted by Kent-Walsh and Light (2003). They reported lacking knowledge about AAC and lack of training on how to support students using AAC. When SLPs don't provide the training and education about the SGD that teachers need, it impacts the quality of education that students receive. The SLP in Pair 5 shared her experience with general education teachers, explaining that they "can be hit or miss, I have had teachers say they will not use the device with the student because it takes instructional time away from other children and I have had teachers take extra devices home to practice on them at night and be excited to talk to those kids." It may be helpful for future research to explore how training can be provided for teachers and paraprofessionals, and what format and training content is most beneficial in helping these professionals support students who use SGDs.

Similarly, family knowledge of the SGD was the second most cited barrier by pairs. In reporting their own knowledge of their child's SGD, seven paired parents indicated neutrality or indicated that they did not know how to edit the device, navigate the device, support the child in using the device, and/or handle technology breakdowns with the device. Families for which this

barrier was indicated, may need additional support from the SLP to better facilitate use of the SGD. Increasing their knowledge of assistive devices was a priority for both mothers and fathers in studies conducted by Angelo et al. (1995) and Angelo et al. (1996).

Seven of the paired participants indicated that the SLP's knowledge of the device was also a barrier. SLPs' self-assessment of their knowledge in editing the device, navigating the device, supporting the student in using the device, and handling technology breakdowns was not reflective of this, particularly for the two SLPs who indicated their knowledge of the device was a barrier (Pair 3 and Pair 11). All SLPs indicated that they were competent in these four areas related to the device, with the exception of one unpaired SLP and five total SLPs (paired and unpaired) who indicated they did not know how to handle technology breakdowns with the device.

The parent from Pair 3 discussed the knowledge and skills of her child's SLP:

She is just not well educated on the topic. SLP's in the school setting are very busy delivering services to students. The services they deliver are the ones they were trained in. I have seen a large gap in the training of older SLP vs new SLP with regard to newer methods, AAC specifically, and current research. This is very unfortunate but at the same time, SLPs work hard every day to deliver direct services to the best of their abilities with very little time or situations for AAC training.

In unpaired parent responses, the SLPs', teachers', and paraprofessionals' knowledge were cited as barriers by eight of the nine participants. One parent reported:

Public school district is a barrier in itself. They do not know the data or evidence that supports AAC users. They don't practice evidence-based inclusion or methods... District

is ill equipped... lacks knowledge and competence when it comes to assistive technology, so much so that we had to obtain an attorney... I've had to force feed them everything.

Another parent shared, "I have friends in other districts whose children's SGD usage and support has been entirely initiated, implemented, and provided by the school. I wish we had SGD support at our school district." Many parents reported school professionals who did not presume competence. One parent shared, "The SLP (and other staff) presume INCOMPETENCE and assume my son has a cognitive disability. Even if he does, it should not prevent his access to express himself." Many of the comments left by parents were related specifically to the SLP's knowledge of the SGD as well as AAC in general. Some parents seemed to acknowledge that this is a widespread problem, explaining, "So many SLPs have no idea how to approach this." More than 80% of SLPs have reported receiving limited or poor education on AAC systems (Marvin et al., 2003). Costigan and Light (2010) attribute this to limited education and training opportunities during graduate education.

Four parents and one SLP from the pairs indicated that negative effects on peer relationships were barriers to success. Social exclusion has been observed of students who use AAC (Kent-Walsh & Light, 2003). Aside from this having a negative impact on overall student use of the SGD, attitudes of others can positively or negatively impact communication and social relationships, and ultimately interfere with the learning environment (Beck et al., 2010; Parette & Scherer, 2004). SLPs and other professionals who value students who use AAC and see the effects of positive peer interactions for these students can help facilitate and grow social relationships for students who use SGDs. Also, educating professionals and students about acceptance of individuals using SGDs can create positive long-term outcomes for all individuals who use AAC within the school and greater community.

Most comments related to factors that positively impacted the student using his/her SGD were related to team collaboration and buy-in from families and professionals. The SLP from Pair 1 explained, “The student has a great group of teachers (regular education, special education, learning assistants, OT and PT) that are all very supportive of his communication using his device.” The mother in Pair 3 agreed that success was a result of her student’s “team's willingness to learn and work as a team. Very good group of people.” Many parents and SLPs specifically stressed the importance of frequent modeling on the device.

Student Abilities, Goals, and Factors Influencing Achievement of Goals

Agreement within pairs related to the student's goals ranged from 46.7% to 100% ($M=81\%$). Eight pairs agreed on what the student's goals were. Although it is important for both the SLP and parent to know what the student's communication goals are, it is possible that they were not able to recall them while taking the survey. Regardless of agreement on student's goals in the survey, goals for communication are listed in students' IEPs by the SLP, and generally discussed at IEP meetings, which parents are required to attend. However, not all parents have an equal level of involvement in developing the goals for their student. In the present study, there was a discrepancy between the level of parental involvement reported by parents and SLPs in four pairs. In each of these pairs, the SLP rated the parent's involvement to be less than what the parent's reported their involvement to be. A majority of parents indicated they were involved “a great deal” or “a lot”, while a majority of SLPs indicated families were involved “a moderate amount” or “a little” in the creation of communication goals. One explanation for the difference in perception could be that the SLP collaborated more with other professionals than they did with parents, thus feeling like the parents were not as involved. It is also important to note that other family demands, financial burdens, and availability may impact

a parent's level of involvement at any given time and how they prioritize their involvement in academic planning for their child.

Although all families within pairs indicated that they were involved to some extent in the creation of goals, several SLPs indicated that parents agreed to the goals that had been written prior to the IEP meeting. Some SLPs added that parent's had the opportunity to comment or request changes, however, previous research has indicated that parents may be hesitant to speak up during IEP meetings (Dunst, 2002; Family Empowerment Disability Council, 2012). Thus, families may not have been included to the extent that would be desirable.

In some cases there was a difference in parent and SLP responses about the goals for the student, particularly in regards to primary support focusing on the SGD or verbal speech. At least one party in five of the thirteen pairs (38.5%) reported that the student had at least one goal related to speech/sound production. The SLP of the student in Pair 8 (who did not have a speech-related goal) explained

Parents want student to talk, they are aware that there are steps to that goal that need to be mastered first. They have been signing to their child since she was in EI, which has continued since even though it is not a functional way for her to communicate at school – peers don't sign, her signs are protosigns of her own – they see these things and trust our judgment that we are using the device to make student more verbal.

When families are concerned about AAC's impact on speech, professionals should thoroughly discuss the concerns and priorities that they have. Professionals should also consult the research base to provide accurate information. Millar, Light, and Schlosser (2006) determined that AAC does not decrease speech production and may improve speech and language abilities. Families and professionals can collaborate to create an intervention plan that targets important aspects of

the student's communication. AAC is encompassing of many forms of communication-gestures, facial expressions, SGDs- which can support verbal speech as well. Conflicting priorities between SGDs and verbal speech was a common theme for the differences between parent's and SLP's views in both paired and unpaired responses. The SLP in Pair 1 shared, "As he has started using his voice to communicate more, they have been wanting him to communicate in that way and I feel his device continues to be the most appropriate, with support on verbalization." The parent in Pair 8 explained, "School wants device first. I want verbal speech at same time." One form of communication does not have to replace any others. Ultimately, family goals and priorities are the key to family-centered services, and professionals may need to shift their own priorities for the student in response to those of the family (Cress, 2004).

Participants' perceptions about the student's current communication skills and abilities in using their SGD may impact what types of goals each party feels is appropriate for the student. Furthermore, Cress (2004) noted, "A considerable source of conflict may arise when professionals attempt to convince parents that a child is or is not producing a particular communicative behavior contrary to parent observations" (p. 51). Nearly all pairs agreed or almost agreed on the student's current communication skills and abilities in using his/her SGD. Overall, many of the paired participants were satisfied with the student's goals and felt that they were meaningful/relevant to the student and reflected the student's current communication needs. Several pairs reported that goals were developed for the student through discussion with the IEP team. Some SLPs also mentioned data and information from classroom observations influencing the goals that were chosen.

Some participants, particularly those who were unpaired, also reported differences in overall teaching approaches. For example, one SLP wanted the family to understand that the student needed to master requesting items that were motivating to them in order for him/her understand the significance of the device, before additional vocabulary could be added to the device. This view is reflective of a dated model in which demonstration of prerequisite skills were required prior to being provided with access to a robust AAC system, which research has shown is not valid and no longer best practice (Calculator, 2009; Hourcade et al., 2004).

Another SLP reported that they emphasized introducing core vocabulary before fringe vocabulary, which the family did not see as a priority. A few SLPs mentioned that the family didn't need to use the SGD to understand their child, but that they have still tried to emphasize to family members the importance of not assuming they know what the child is saying. Another SLP wanted the family to honor messages that were incomplete or had incorrect grammar. One unpaired parent reported that the SLP has emphasized using yes/no questions, which she found to be unimportant. Other unpaired parents reported that SLPs tried to emphasize the student needing to demonstrate mastery of a certain task before moving onto other targets or allowing for access to more vocabulary. One parent shared that their family's and SLP's views on the SGD were so different that legal representation was needed.

Commenting on the creation of one student's goals, the mother in Pair 5 shared, "I have been very lucky to have an amazing speech therapist that has the best intentions for my daughter... I feel that her speech therapist knows what she needs and where she should be." Another mother (Pair 2) expressed the importance of meeting her child's needs through his/her communication goals sharing, "As someone who has a neurological disorder, it is imperative that he has the means to communicate so he continues to grow and doesn't feel frustrated." The

mother in Pair 7 commented, “I think that setting goals are great but then it comes down to implementation. When you are talking about daily communication – I’m looking for his ability to utilize his device and support his educational needs.”

Parents who responded to the survey but were not in a pair also shared comments specifically about goals. Most reported being dissatisfied with the goals set for their child and feeling as though the goals were not meaningful or relevant to their child, nor accurately reflected the child’s current communication needs. Some of the parents reported that they were not included in the creation of the goals and that the SLP “did not want/need/ask for our input.” Sometimes parents agreed to the goals the school set, explaining “they don’t know anything about AAC anyway,” while others advocated to include goals that were more relevant to their child. One parent shared “The SGD goals were included in the IEP at my insistence” and another parent reporting that she had to “work hard to make sure they implement it.”

Parents and SLPs were also asked to indicate how likely seven factors affected the student’s success in meeting his/her communication goals: peer relationships, teachers’/paraprofessionals’ knowledge of the SGD, family’s knowledge of the SGD, SLP’s knowledge of the SGD, availability of the SGD across the student’s day, the student’s knowledge of the SGD, and vocabulary available on the SGD. Most pairs identified each of these factors to likely have an impact. ‘Peer relationships’ was the least agreed upon factor and ‘teachers’/paraprofessionals’ knowledge of the SGD’ was the most agreed upon factor. The survey did not ask whether participants thought these factors had a positive or negative effect. Therefore, agreement within pairs may not be accurate, as a parent may have intended to communicate a factor as likely having a negative impact, while an SLP may have intended to communicate the same factor as likely having a positive impact. As such, the responses to these

seven factors may not fully capture participants' perspectives. Future research could explore what factors families and SLPs perceive to influence success. Responses may better reflect participant's ideas if each participant generated a list of factors, rather than using a pre-determined set, and then identified the extent to which each factor positively or negatively impacts the student's success in meeting his/her communication goals.

Family-Centeredness: SLPs Supporting Families

Some of the key aspects of family-centered practices cited by Dunst (2002) include:

Individualized, flexible, and responsive practices; information sharing so that families can make informed decisions; family choice regarding any aspects of program practices and intervention options; parent-professional collaborations and partnerships as a context for family-program relations; and the provision and mobilization of resources and supports necessary for families to care for and rear their children in ways that produce optimal child, parent, and family outcomes. (p. 141)

Although families are considered the expert on their child, their involvement in any aspect of the assessment, decision-making and intervention process may vary greatly (Marshall & Goldbart, 2008). Thus, the SLP is responsible for communicating with the family to determine their preferences for involvement. The SLP in Pair 10 noted, "I believe many parents feel the staff working with their child are more of an expert than themselves, so [they] rely on the staff's recommendations." The mother in the same pair indicated that she did in fact rely on the SLPs knowledge and experiences with her child noting, "I leaned into her expertise." The support SLPs provide to families should also be individualized and dependent on their preferences.

Pairs had the lowest agreement on questions related to the support provided by the SLP. The average loose agreement among pairs was 62%. Four of the thirteen pairs had loose

agreement of 50% or less. A majority of the pairs agreed that the SLP had provided support and agreed on how that support was provided. However, only three pairs agreed on how frequently support was provided. Parents and SLPs also had different preferences for support, and some pairs did not agree on whether or not the SLP understood family preferences for support or if adequate support was provided.

When asked if support had been offered by the SLP or if the family requested support, more than half of the pairs agreed that the support was offered. Five pairs did not agree on whether it was offered or requested. Families have frequently indicated that they want to know how to integrate SGDs at home and in the community, and increase their knowledge of their child's SGD (Angelo et al., 1995; Angelo et al., 1996; Parette et al., 2000). The professional should ideally offer support before a parent has to request it. This would suggest their understanding that family involvement and use of the SGD across environments assists with generalization of newly learned communication skills while also supporting long-term positive outcomes.

The eleven pairs that agreed support had been provided indicated how that support was provided. The most cited method of support indicated by both parents and SLPs was in-person meetings. This is somewhat surprising given that SLPs are often faced with busy schedules and limited time for planning and collaboration, but promising that nine SLPs reported providing support in this manner. Perhaps the feasibility of in-person meetings is due to the frequency at which they occur. Most parents reported that support was provided only when requested by the family, although four SLPs indicated they provided support weekly. Frequency was not indicated for each type of support provided, so it is unknown if in-person meetings were provided weekly by these SLPs, or if the other types of support they provided supplemented

meetings. Nonetheless, in-person meetings being the most frequent type of support was consistent with both SLPs' and parents' support preferences. All participants who provided information on their preferences for support indicated in-person meetings as a preferred method of support.

The second most reported method of support was a referral to the SGD company, which may include referral to a sales representative, the company's website or tech support. The frequent use of support materials from SGD companies highlights the importance of companies having reliable, helpful, and research-based resources available for families. More parents preferred this method of support than SLPs did. In some pairs this mode of support was used, but not preferred. For example, the SLPs in Pair 5 and Pair 8 reported providing support in the form of a referral to the SGD company, but did not indicate that it was a preferred method of support. Alternatively, the SLP in Pair 12 did not report providing support in this way, but indicated that it was a preferred method of support. It is possible the SLP understood the family's preferences and did not refer them to the SGD company, as the family did not indicate a preference for this type of support. In another case, the SLP in Pair 6 reported that referral to the SGD company was one of their preferred methods of support and that they had provided this support to the family. The parent in this pair agreed that they received support in the form of a referral, but it was not a preferred method of support for their family.

Families who participated in research conducted by McNaughton et al. (2008) also sought support from a variety of sources, including online groups. With the ever-growing prevalence of the Internet and social networking avenues, it is likely that online support methods will continue to grow in popularity. Additional research focused on types of support is warranted to determine the content covered in support meetings, which supports from SGD

companies are most frequently used, how SLPs determine what resources to share with parents, and the effectiveness of each of these supports.

In general, parents and SLPs in five pairs had similar preferences for how support was provided. The other eight pairs represent how family and SLP preferences may differ. Family preference in the frequency of support is another consideration to make. A majority of parents indicated that they preferred support be provided when requested. Providing weekly support was the most frequently reported preference for paired SLPs and the second most reported preference for unpaired SLPs, while no paired parents and only one unpaired parent indicated a preference for support this often. Clearly SLPs and families have different preferences on how frequently support is provided. Although it is commendable that SLPs are inclined to provide weekly support, this level of frequency may be overwhelming for some parents. Again, it is important for SLPs to be family-centered and determine how frequently families prefer to receive support so that they feel adequately supported, but not overwhelmed with resources or feel pressured to expend an excessive amount of time and energy on the SGD. Research has indicated that parents experience increased roles and responsibilities with the introduction of an SGD (Angelo, 2000), which may result in greater levels of stress or add to other existing emotions connected with having a child who has complex communication needs and, likely, other disabilities. Although it appears that families would prefer to receive support when they request it, it is important for SLPs to make sure that families know they are willing to provide support and give them an idea of what that support might look like.

Understanding family preferences for support may increase the likelihood that families will use the resources provided and integrate the SGD into their child's life in a meaningful way.

All paired parents indicated that their SLP understood their support preferences to some extent.

SLPs also reported understanding family preferences, with the exception of the SLP in Pair 5.

Although many aspects of the survey addressed family-centeredness, selected questions were used to determine the level of family-centered practices. Loose agreement within pairs related to these questions averaged 78.1%. For example, family-centeredness was captured in survey questions related to the SLP's understanding of the family's background challenges, priorities, concerns, preferences, and the student's needs. These questions yielded an overall high level of agreement, with nine to twelve pairs agreeing about the SLP's understanding of these aspects. There was less agreement in regard to pairs' satisfaction with the level of communication between the SLP and family. Only seven of the thirteen pairs agreed that they were satisfied to some extent. A majority of unpaired parents (66.7%) indicated they were dissatisfied with their level of communication with the SLP. Level of communication likely represents the amount of information sharing occurring between parties. Families have reported a desire to receive clear, accurate, and easily understood information from professionals (Parette et al., 2000). Information empowers families to be involved in the decision-making process and can influence their level of comfort in collaborating with professionals. Furthermore, when SLPs communicate with families, they should limit the use of jargon, and explain concepts in ways that families are able to understand (Anderson et al., 2015; McCord & Soto, 2004; Parette et al., 2000). Most pairs agreed that SLPs used family-friendly language, but the two pairs who did not agree, as well as the majority of unpaired parents who did not agree, suggest that this may still be a barrier for some families.

Cress (2004) nicely stated, "Best intentions for family-centered AAC services may break down when practitioners encounter significant differences between parent and professional

viewpoints” (p. 53). In reporting how their views were different from the other party’s, most differences were related to SLP’s and parent’s preferences for communication modality and language intervention strategies. One example is the emphasis on verbal speech versus the SGD, which was discussed earlier. Differing viewpoints sometimes had significant impacts for the student. One SLP (unpaired) explained

I believe that using the SGD will provide the student with expressive language opportunities he otherwise would not have as he has no functional words and cannot imitate sounds/words at this point. The family's differences of opinion and lack of dedication to using the device or other methods of communication at home (pictures, communication folder) have resulted in the device not being sent home and the student getting less opportunities to use their device.

Sometimes the overall view on language and treatment approaches was a difference. Another SLP (unpaired) explained that the family they worked with “feels that the AAC device will only be useful when the student can use it to construct full sentences and complete thoughts.”

Similarly, the SLP in Pair 2 reported emphasis on combining buttons to make phrases and reports that the family finds this to be unimportant or irrelevant and is happy with one-button utterances. The parent in Pair 7 first shared that she did not feel the student was supporting her child’s writing needs, which were a family priority. In addition to mentioning visual supports, she also shared that the SLP “is not a fan of using activity-specific boards and wants to use set core boards. However, my son shows the capability of using a variety of symbols and in different formats to support his communication needs.” Another mother also reported that she felt the things her SLP emphasized were unimportant/irrelevant, such as, “limiting access to vocabulary; limiting access to spelling to communicate,” as well as, “going through ridiculous steps or levels

where my son has to practice selecting one button and ignoring another one before you can move on to three buttons.” Professionals with these views may have lacked satisfactory preservice education on AAC, as these types of views have been identified as a common myth of AAC (ASHA, n.d.). A final example of differing viewpoints was shared by the parent in Pair 11:

She wants to use the core page for most interactions because of how much time it takes to make a message, but we didn't start out with a core page, we added it this year per her request. We don't use the core page as much at home because we learned where everything was before, so I think it is a little confusing to my daughter since we don't use the core page as much at home.

This parent’s quote captures an important point-- different strategies and expectations used in different settings may be confusing to students. Hence, it is important for the family and SLP to be on the same page about communicative priorities and strategies.

Although participants were not explicitly asked if they were satisfied with the AAC experience and the support they had either provided or received, questions related to frustration and enjoyment may inform discussion. Participants in nine of the thirteen pairs had similar levels of enjoyment and frustration in working with each other. Parents reported their average level of enjoyment to be eight on a scale of 1-10, representing moderate-maximum enjoyment. SLPs reported a slightly higher level of enjoyment of nine. The average level of frustration for both parents and SLPs was two on a scale of 1-10, representing minimal frustration. Greater frustration and less enjoyment was present in the results from unpaired participants. Parents reported their average level of enjoyment to be three, representing minimal-moderate enjoyment, and their average level of frustration to be seven, representing moderate-maximum frustration. Unpaired SLPs reported their average level of enjoyment to be seven and their average level of

frustration to be three. Reported levels of enjoyment and frustration were likely impacted by the rapport between families and SLPs. Ten pairs agreed that establishing rapport was easy and that the SLP spent an appropriate amount of time establishing rapport. Eleven pairs agreed that the family and SLP had a good rapport. On the other hand, unpaired SLPs had more variable responses about the rapport they had with the family and about half of unpaired parents responded negatively to questions about rapport with the SLP.

In exploring parent's and SLP's experiences with the provision of family-centered services, Mandak and Light (2017) found that parents perceived family-centered services to occur less frequently than SLPs. Although their sample size was much larger, participants were not pair-matched. The present study reveals relatively high agreement within pairs, especially for survey questions related to family-centeredness. Families commented on their positive experiences: "As I have said throughout this survey, our family is very blessed. I know that this may change in the future, but currently we have the BEST speech therapist" (Pair 5); "Overall we are very happy with the device and SLP- He is great!" (Pair 8); "She has been nothing but supportive and knowledgeable; a true partner in this journey" (Pair 10).

Parents who were not paired with their SLP reported a much different experience, as indicated in the comments presented in this chapter. Although they appeared to have negative experiences in working with their SLP, many showed their resiliency in their responses. For example, one parent commented:

I don't think the school-based SLP has much value in working with my son and I don't worry about her impact on him. We know what he is capable of and we (me and my husband) work with him at home on grade-level homework and material. Until she presumes competence, there is nothing we can say that will matter.

Other parents shared that they continued to advocate for the SGD to be incorporated into the child's school day and IEP goals. Some parents were able to seek additional services in a private setting to better support their child's needs.

Conclusion

Responses from paired participants revealed that parents and SLPs had similar views on the AAC experience. Their responses were in agreement at least 60% of the time in all six domains: assessment, support, student goals, use of the SGD, knowledge and perceptions, and family-centered services. Responses from unpaired participants suggest that these results may have been different had their corresponding family/SLP also completed the survey to be included as a pair. In particular, parents who responded whose SLP did not, reported having very different views from their child's SLP and indicated overall dissatisfaction with the services their child received from the SLP.

Limitations

There are several limitations that should be considered that may have impacted the study's results. First, there may have been a selection bias. Although the survey was distributed equally across the United States, SLPs with an interest in or more experience with AAC may have been more inclined to participate in the study. Despite the efforts to target both families and professionals in recruitment, more professionals than families likely received information about the survey. This is evident in that twice as many SLPs participated. The researcher relied on SLPs to distribute information to families they worked with and/or choose what family to participate in the study with as a pair. Of the SLPs who initiated the survey, there may have a bias in which family they chose to complete the survey for and forward the survey to, whether that was because they felt certain families were more satisfied with the services they were

provided with, they assumed which family would be most likely to complete the survey, or any other reason. Additionally, parents and SLPs who were satisfied with the services provided/received and had a positive experience in working with one another may have been more inclined to complete the survey. Furthermore, it was likely easier to create a paired response when both parties were satisfied and willing to participate, hence the high agreement within pairs. On the other hand, some participants may have been more likely to participate in the study if they were dissatisfied with the experience working together. This is most evident in the single responses from families that did not create pairs. It was likely difficult for these parents to get their SLP who may have had negative views on AAC, had limited knowledge of AAC, and had possibly known they weren't providing the best possible services to participate in the study. Likewise, it may have been difficult for unpaired SLPs who reported that AAC was not a priority for some families to get that family to complete a survey on AAC. Lastly, as with any survey, the self-reported responses from participants may not reflect the services that are actually delivered, and thus this must be considered when evaluating results.

Finally, results cannot be generalized to all professionals or families. Nearly all recruitment efforts were digital. Those with e-mail addresses and those who were members of Facebook groups related to AAC were most likely to see information about the study. The survey was also only available online and thus required participants to have access to the necessary technology and Internet connection to participate. Families who did not participate because they are not active online may have had different perspectives to share. The demographics of participants are also a limitation. A majority of participants were White. Research has indicated that families with culturally and linguistically diverse backgrounds may have different perspectives on AAC (McCord & Soto, 2004; Parette et al., 2003), and thus it

should not be assumed that agreement within the pairs in the present study would indicate agreement among individuals from diverse backgrounds. Similarly, most family participants were mothers, and fathers or other family members may have also had different perspectives on their experience.

Implications for SLPs

In exploring the perspectives of paired SLPs and families, this study was completed to provide SLPs with information about potential differences and similarities between their perspectives of AAC and the perspectives of families, which may influence the services they provide to students who use AAC and the ways in which they collaborate with families. SLPs need to continue to be family-centered, establishing and refining these skills as needed.

A large number of school-based SLPs provide services to students who use AAC (ASHA, 2016). As discussed in the first chapter, availability of technology has increased the use of AAC, and as technology becomes more easily attainable, the field of AAC will continue to grow. SLPs should seek continuing education opportunities to expand their knowledge and skills related to SGDs and how to support students who use them. Consulting professionals who are skilled in the area of AAC is one way to do this. One pair described the benefits of using their local University as a partner on their AAC journey. The mother in Pair 3 explained:

I arranged for graduate student/grad student PhD supervisor from University of South Dakota to do the assessment and training for the SGD. The school district SLP works with my daughter and with the university student/supervisor to teach my daughter to use the device. Grad student comes to the public school to work with my child and school's SLP. This is a beneficial arrangement as it provides free training for school SLP and free

experiential learning for university student. This is at my request, not a formal arrangement between district and university.

The SLP in the pair agreed that the arrangement “has had an extremely beneficial impact” on the student in successfully using her SGD and meeting her communication goals.

Furthermore, SLPs should share their knowledge and skills related to AAC with other educators and school professionals. Paired and unpaired participants indicated that teachers’ and paraprofessionals’ knowledge of the SGD was a barrier for their child. SLPs are responsible for training professionals to support the student’s use of the SGD (ASHA, n.d.). This includes but is not limited to training on how to model language on the device, provide opportunities for the student to use the device, presuming competence, honoring communication attempts, and modifying curriculum to support the inclusion of students who use AAC (Calculator, 2009). It is important for professionals to take a collaborative approach, especially for students who have complex communication needs and use AAC. Soto, Müller, et al. (2001) made recommendations for implementing collaborative teaming to support students with AAC needs. Just as Calculator and Black (2009) noted, it is important for professionals to advocate for time to collaborate with team members, including families.

Future Research

Specific ideas for future research have been mentioned throughout this chapter. Continued research investigating paired and non-paired participants should further identify factors that cause the difference in responses, and what SLPs can do to address these differences. In general, this research should be expanded to a larger and more diverse sample of participants. To combat the selection biased discussed earlier, it may be beneficial for researchers to provide

incentives that would make it worthwhile for any family and SLP to participate, regardless of their views and experiences with AAC.

Furthermore, many participants left rich comments on open-ended questions. Other research formats such as focus groups or semi-structured interviews may have allowed these ideas to be further expanded on and would have allowed the researcher to ask additional follow-up questions. These formats should be considered in future research.

References

- American Speech-Language-Hearing Association. (2016). *2016 Schools Survey report: SLP caseload characteristics*. Retrieved from
www.asha.org/research/memberdata/schoolssurvey/
- American Speech-Language-Hearing Association. (n.d.). Augmentative and Alternative Communication. Retrieved from
<http://www.asha.org/PRPSpecificTopic.aspx?folderid=8589942773§ion=Overview>
- Anderson, K. L., Balandin, S., & Stancliffe, R. J. (2015). Alternative service delivery models for families with a new speech generating device: Perspectives of parents and therapists. *International Journal of Speech-Language Pathology, 17*(2), 185-195.
doi:<http://dx.doi.org/10.3109/17549507.2014.979876>
- Angelo, D. (2000). Impact of augmentative and alternative communication devices on families. *Augmentative and Alternative Communication, 16*(1), 37-47.
- Angelo, D., Jones, S. D., & Kokoska, S. M. (1995). Family perspective on augmentative and alternative communication: Families of young children. *Augmentative and Alternative Communication, 11*(3), 193-201. doi:<http://dx.doi.org/10.1080/07434619512331277319>
- Angelo, D., Kokoska, S. M., & Jones, S. D. (1996). Family perspective on augmentative and alternative communication: Families of adolescents and young adults. *Augmentative and Alternative Communication, 12*(1), 13-20.
doi:<http://dx.doi.org/10.1080/07434619612331277438>
- Bailey Jr, D. B., Buysse, V., Edmondson, R., & Smith, T. M. (1992). Creating family-centered services in early intervention: Perceptions of professionals in four states. *Exceptional Children, 58*(4), 298-309.

- Bailey, R. L., Parette, H. P., Stoner, J. B., Angell, M. E., & Carroll, K. (2006). Family members' perceptions of augmentative and alternative communication device use. *Language, Speech & Hearing Services in Schools*, 37(1), 50-60.
- Bailey, R. L., Stoner, J. B., Parette, H. P., & Angell, M. E. (2006). AAC team perceptions: Augmentative and alternative communication device use. *Education and Training in Developmental Disabilities*, 139-154.
- Bazyk, S. (1989). Changes in attitudes and beliefs regarding parent participation and home programs: An update. *American Journal of Occupational Therapy*, 43(11), 723-728.
- Beatson, J. E. (2006). Preparing speech-language pathologists as family-centered practitioners in assessment and program planning for children with autism spectrum disorder. *Seminars in Speech and Language*, 27(01), 001-009.
- Beck, A. R., Thompson, J. R., Kosuwan, K., & Prochnow, J. M. (2010). The development and utilization of a scale to measure adolescents' attitudes toward peers who use augmentative and alternative communication (AAC) devices. *Journal of Speech, Language, and Hearing Research*, 53(3), 572-587.
- Beukelman, D. R., & Mirenda, P. (2013). *Augmentative & Alternative Communication: Supporting Children and Adults with Complex Communication Needs* (4th ed.). Baltimore, MD: Paul H. Brookes Publishing Co.
- Blake Huer, M. (2000). Examining perceptions of graphic symbols across cultures: Preliminary study of the impact of culture/ethnicity. *Augmentative and Alternative Communication*, 16(3), 180-185.

- Calculator, S. N. (2009). Augmentative and alternative communication (AAC) and inclusive education for students with the most severe disabilities. *International Journal of Inclusive Education, 13*(1), 93-113.
- Calculator, S. N. (2013). Use and acceptance of AAC systems by children with Angelman syndrome. *Journal of Applied Research in Intellectual Disabilities, 26*(6), 557-567.
- Calculator, S. N., & Black, T. (2009). Validation of an inventory of best practices in the provision of augmentative and alternative communication services to students with severe disabilities in general education classrooms. *American Journal of Speech-Language Pathology, 18*(4), 329-342.
- Calculator, S. N., & Black, T. (2010). Parents' priorities for AAC and related instruction for their children with Angelman syndrome. *Augmentative and Alternative Communication, 26*(1), 30-40.
- Chmiliar, L. (2007). Perspectives on Assistive Technology: What Teachers, Health Professionals, and Speech and Language Pathologists Have to Say. *Developmental Disabilities Bulletin, 35*, 1-17.
- Costigan, F. A., & Light, J. (2010). A review of preservice training in augmentative and alternative communication for speech-language pathologists, special education teachers, and occupational therapists. *Assistive Technology, 22*(4), 200-212.
- Crais, E. R., Roy, V. P., & Free, K. (2006). Parents' and professionals' perceptions of the implementation of family-centered practices in child assessments. *American Journal of Speech-Language Pathology, 15*(4), 365-377.
- Cress, C. J. (2004). Augmentative and alternative communication and language: Understanding and responding to parents' perspectives. *Topics in Language Disorders, 24*(1), 51-61.

- Crisp, C., Draucker, C. B., & Ellett, M. L. C. (2014). Barriers and facilitators to children's use of speech - generating devices: a descriptive qualitative study of mothers' perspectives. *Journal for Specialists in Pediatric Nursing, 19*(3), 229-237.
- Drager, K., Light, J., & McNaughton, D. (2010). Effects of AAC interventions on communication and language for young children with complex communication needs. *Journal of Pediatric Rehabilitation Medicine, 3*(4), 303-310.
- Dukhovny, E., & Kelly, E. B. (2015). Practical Resources for Provision of Services to Culturally and Linguistically Diverse Users of AAC. *SIG 14 Perspectives on Communication Disorders and Sciences in Culturally and Linguistically Diverse (CLD) Populations, 22*(1), 25-39.
- Dunst, C. J. (1995). *Key Characteristics and Features of Community-Based Family Support Programs. Family Resource Coalition Best Practices Project Commissioned Paper II*. ERIC.
- Dunst, C. J. (2002). Family-centered practices: Birth through high school. *The Journal of Special Education, 36*(3), 141-149.
- Education for All Handicapped Children Act of 1975, P. L. 94-142, United States Congress (1975).
- Family Empowerment Disability Council. (2012). The Individuals with Disabilities Education Act and Parent Participation. *FEDC Issue Brief, 1*-10.
- Goldbart, J., & Marshall, J. (2004). "Pushes and Pulls" on the Parents of Children who use AAC. *Augmentative and Alternative Communication, 20*(4), 194-208.
doi:10.1080/07434610400010960

- Hourcade, J., Everhart Pilotte, T., West, E., & Parette, P. (2004). A history of augmentative and alternative communication for individuals with severe and profound disabilities. *Focus on Autism and Other Developmental Disabilities*, 19(4), 235-244.
- Hustad, K. C., & Miles, L. K. (2010). Alignment between augmentative and alternative communication needs and school-based speech-language services provided to young children with cerebral palsy. *Early Childhood Services*, 4(3), 129.
- Johnson, J. M., Inglebret, E., Jones, C., & Ray, J. (2006). Perspectives of speech language pathologists regarding success versus abandonment of AAC. *Augmentative and Alternative Communication*, 22(2), 85-99. doi:10.1080/07434610500483588
- Jones, S. D., Angelo, D. H., & Kokoska, S. M. (1999). Stressors and family supports: Families with children using augmentative & alternative communication technology. *Journal of Children's Communication Development*, 20(2), 37-44.
- Kent-Walsh, J., & Light, J. (2003). General education teachers' experiences with inclusion of students who use augmentative and alternative communication. *Augmentative and Alternative Communication*, 19(2), 104-124.
- Kent-Walsh, J., Stark, C., & Binger, C. (2008). Tales from school trenches: AAC service-delivery and professional expertise. *Seminars in Speech and Language*, 29(02), 146-154.
- Light, J., & McNaughton, D. (2012). Supporting the communication, language, and literacy development of children with complex communication needs: State of the science and future research priorities. *Assistive Technology*, 24(1), 34-44.
- Lund, S. K., & Light, J. (2007). Long-term outcomes for individuals who use augmentative and alternative communication: Part III—Contributing factors. *Augmentative and Alternative Communication*, 23(4), 323-335.

- Mandak, K., & Light, J. (2017). Family-centered Services for Children with ASD and Limited Speech: The Experiences of Parents and Speech-language Pathologists. *Journal of Autism and Developmental Disorders*, 1-14.
- Mandak, K., O'Neill, T., Light, J., & Fosco, G. M. (2017). Bridging the gap from values to actions: a family systems framework for family-centered AAC services. *Augmentative and Alternative Communication*, 33(1), 32-41.
- Marshall, J., & Goldbart, J. (2008). 'Communication is everything I think.' Parenting a child who needs Augmentative and Alternative Communication (AAC). *International Journal of Language and Communication Disorders*, 43(1), 77-98.
doi:10.1080/13682820701267444
- Marvin, L. A., Montano, J. J., Fusco, L. M., & Gould, E. P. (2003). Speech-language pathologists' perceptions of their training and experience in using alternative and augmentative communication. *Contemporary Issues in Communication Science and Disorders*, 30, 76-83.
- McCord, M. S., & Soto, G. (2004). Perceptions of AAC: An ethnographic investigation of Mexican-American families. *Augmentative and Alternative Communication*, 20(4), 209-227.
- McDougall, J., DeWit, D. J., King, G., Miller, L. T., & Killip, S. (2004). High School - Aged Youths' Attitudes Toward their Peers with Disabilities: the role of school and student interpersonal Factors. *International Journal of Disability, Development and Education*, 51(3), 287-313.
- McNaughton, D., Rackensperger, T., Benedek-Wood, E., Krezman, C., Williams, M. B., & Light, J. (2008). "A child needs to be given a chance to succeed": parents of individuals

who use AAC describe the benefits and challenges of learning AAC technologies.

Augmentative and Alternative Communication, 24(1), 43-55.

doi:10.1080/07434610701421007

Meder, A. M., & Wegner, J. R. (2015). iPads, mobile technologies, and communication applications: A survey of family wants, needs, and preferences. *Augmentative and Alternative Communication, 31(1), 27-36.*

Millar, D. C., Light, J. C., & Schlosser, R. W. (2006). The impact of augmentative and alternative communication intervention on the speech production of individuals with developmental disabilities: A research review. *Journal of Speech, Language, and Hearing Research, 49(2), 248-264.*

Mitchell, P. R. (2015). Facilitating Family and Client Involvement in the SGD Evaluation and Decision Process. *Perspectives on Augmentative and Alternative Communication, 24, 6.*

Osgood, R. L. (2005). *The History of Inclusion in the United States.* Washington, D.C.: Gallaudet University Press.

Pappas, N. W., & McLeod, S. (2008). *Working with families in speech-language pathology.* San Diego, CA: Plural Publishing.

Parette, H. P. (1995). Augmentative and alternative communication (AAC) assessment and prescriptive practices for young children with disabilities: Preliminary examination of state practices. *Technology and Disability, 4(3-4), 215-231.*

Parette, H. P. (2000). Culture, families, and augmentative and alternative communication impact. *Communication Disorders and Sciences in Culturally and Linguistically Diverse Populations, 19(1), 23-34.*

- Parette, H. P., Brotherson, M. J., & Huer, M. B. (2000). Giving families a voice in augmentative and alternative communication decision-making. *Education and Training in Mental Retardation and Developmental Disabilities*, 177-190.
- Parette, H. P., & Hourcade, J. J. (1997). Family issues and assistive technology needs: A sampling of state practices. *Journal of Special Education Technology*, 13(3), 27-43.
- Parette, H. P., Huer, M. B., & Hourcade, J. J. (2003). Using assistive technology focus groups with families across cultures. *Education and Training in Developmental Disabilities*, 429-440.
- Parette, H. P., & Scherer, M. (2004). Assistive technology use and stigma. *Education and Training in Developmental Disabilities*, 217-226.
- Rackensperger, T. (2012). Family influences and academic success: The perceptions of individuals using AAC. *Augmentative and Alternative Communication*, 28(2), 106-116.
- Ratcliff, A., Koul, R., & Lloyd, L. L. (2008). Preparation in augmentative and alternative communication: An update for speech-language pathology training. *American Journal of Speech-Language Pathology*, 17(1), 48-59.
- Sellwood, D., Wood, D., & Raghavendra, P. (2012). Perspectives on the telecommunications access methods of people with complex communication needs. *Telecommunication Journal of Australia*, 62(2), 1-11.
- Shelton, T. L., & Stepanek, J. S. (1994). *Family-centered care for children needing specialized health and developmental services*: ERIC.
- Smith, A. L., Barton-Hulsey, A., & Nwosu, N. (2016). AAC and Families: Dispelling Myths and Empowering Parents. *Perspectives of the ASHA Special Interest Groups*, 1(12), 10-20.

- Soto, G., Müller, E., Hunt, P., & Goetz, L. (2001). Critical issues in the inclusion of students who use augmentative and alternative communication: An educational team perspective. *Augmentative and Alternative Communication, 17*(2), 62-72.
- Soto, G., Müller, E., Hunt, P., & Goetz, L. (2001). Professional skills for serving students who use AAC in general education classrooms: A team perspective. *Language, Speech, and Hearing Services in Schools, 32*(1), 51-56.
- Soto, G., & Yu, B. (2014). Considerations for the provision of services to bilingual children who use augmentative and alternative communication. *Augmentative and Alternative Communication, 30*(1), 83-92.
- U.S. Department of Education. (n.d.). National Center for Education Statistics. Retrieved from <https://nces.ed.gov>
- Whitmire, K. (2000). Action: School services. *Language, Speech & Hearing Services in Schools, 31*(2), 194.
- Wilcox, M. J., Guimond, A., Campbell, P. H., & Weintraub Moore, H. (2006). Provider perspectives on the use of assistive technology for infants and toddlers with disabilities. *Topics in Early Childhood Special Education, 26*(1), 33-49.
- Zangari, C., Lloyd, L., & Vicker, B. (1994). Augmentative and alternative communication: An historic perspective. *Augmentative and Alternative Communication, 10*(1), 27-59.

Appendix A

Consent

Q1.

PERSPECTIVES OF PARENTS AND SCHOOL-BASED SPEECH-LANGUAGE PATHOLOGISTS ON THE AUGMENTATIVE ALTERNATIVE COMMUNICATION (AAC) EXPERIENCE: A NATIONAL SURVEY EXPLORING SIMILARITIES, DIFFERENCES, AND IMPLICATIONS FOR THE PROVISION OF SERVICES

INTRODUCTION- The Department of Speech-Language-Hearing: Sciences & Disorders at the University of Kansas supports the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time.

PURPOSE OF THE STUDY- The purpose of this study is to compare the perspectives of school-based speech-language pathologists and parents/guardians of students who use speech-generating devices. Specifically, the relationship between the two parties; perceived knowledge of the SGD; goals for the student; perceived factors that impact successful use and outcomes with the SGD; preferences in the quantity of support provided by the SLP and preferences in the way in which that support is provided will be explored.

PROCEDURES- If you choose to participate in this study, you will be asked to complete a 56-61-item survey about your experiences and perspectives as a parent/guardian or SLP of a child who uses an SGD. The online survey is expected to take 15-25 minutes to complete. You will have the opportunity to consent to be contacted by the researcher if needed, for clarification of your responses or to gather additional information. Consent for this follow-up is optional and not required to participate in this study.

RISKS AND BENEFITS- The content of the survey should cause no more discomfort than you would experience in your everyday life. Your participation is solicited, although strictly voluntary. Your name will not be associated in any way with the research findings. It is possible however, with internet communications, that through intent or accident someone other than the intended recipient may see your response. Although participation may not benefit you directly, we believe that the information obtained from this study will help us gain a better understanding of the perspectives of parents/guardians and speech-language pathologists of children who use SGDs. This information will help speech-language pathologists better understand the impact perspectives can have on the services they provide.

CONSENT- Completion of this survey indicates your willingness to take part in this study and that you are at least 18 years old. If you have any additional questions about your rights as a research participant, you may call (785) 864-7429 or write the Human Research Protection Program (HRPP), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7563, email irb@ku.edu.

If you would like additional information concerning this study before or after it is completed, please feel free to contact us by phone or mail.

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- I am at least 18 years old, and I understand the risks and benefits of this survey. I am willing to take part in this study.
- I am not 18 years old.
- I am not willing to take part in this study.

Parent or SLP

Q2. Are you the family member/guardian or speech-language pathologist of a child who uses a speech-generating device to communicate?

Note: For this survey, "speech-generating device" refers to a communication application on a tablet/iPad, or an augmentative alternative communication (AAC) device, which produces an audible voice that the child uses in order to communicate to others. In some sections of this survey, "speech-generating device" will be abbreviated to "SGD".

- Yes, I am the family member/guardian of a child who uses a speech-generating device.
- Yes, I am the speech-language pathologist of a child who uses a speech-generating device.
- No, I am not the family member/guardian or speech-language pathologist of a child who uses a speech generating device.

Parent- Code

Q3. Did your child's speech-language pathologist (SLP) provide you with a code to enter when taking this survey?

Note: Codes are used to match family and SLP responses. Whomever takes this survey first (you or the SLP) will receive a code to share with the other party. If the SLP has not yet taken the survey to generate a code, you will receive a code at the end of this survey to share with them.

- Yes, the code is:
- No, I do not have a code. I will forward the code that I receive at the end of this survey to my child's SLP.

Parent and Child Demographic Information

Q4. How did you hear about this survey? (Select all that apply.)

- Social Media
 - My Child's Speech-Language Pathologist
 - A Friend or Colleague
-

- E-Mail
 A Sales Representative From a SGD Company (TobiiDynavox, PRC, Saltillo)
 Other:

Q5. What is your relationship to the child for whom you are taking this survey?

- Mother
 Stepmother
 Father
 Stepfather
 Grandparent
 Foster Parent
 Adoptive Parent
 Other:

Q6. Which of the following best describes you? (You may choose more than one.)

- American Indian or Alaska Native
 Asian
 Black or African American
 Native Hawaiian or Other Pacific Islander
 Hispanic, Latino, or Spanish
 Middle Eastern or North African
 White
 Other:
 Prefer Not to Answer

Q7. In what state does your child attend school?

Q8. What grade is your child currently in?

- Pre-K
 Kindergarten
 1st
 2nd
 3rd

- 4th
- 5th
- 6th
- 7th
- 8th
- 9th
- 10th
- 11th
- 12th
- Other; Please Describe:

Q9. What is your child's diagnosis?

- Angelman Syndrome
- Autism
- Cerebral Palsy
- Down Syndrome
- Intellectual Disability
- Traumatic Brain Injury
- Other:

Q10. What type of speech-generating device does your child use to communicate?

- PRC Accent Device
- PRC PRIO
- Tobii I-Series Device
- Dynavox T-Series Device
- Tobii Dynavox Indi
- Dynavox V or Vmax
- Saltillo NOVA Chat
- Saltillo Chat Fusion
- GoTalk
- iPad with LAMP Words for Life
- iPad with Proloquo2Go
- iPad with Proloquo4Text
- iPad with TouchChat
- iPad with Compass
- iPad with Snap + Core First

- iPad with Sono Flex
- iPad with Go Talk NOW
- iPad with My First AAC
- iPad with Speak for Yourself
- iPad with Other Communication App; Please Specify:
- Other; Please Specify:
- Unsure

Q11. In what grade did you child receive their SGD?

- Pre-K
- Kindergarten
- 1st
- 2nd
- 3rd
- 4th
- 5th
- 6th
- 7th
- 8th
- 9th
- 10th
- 11th
- 12th
- Other; Please Specify:

Q12. Who purchased/provided your child's speech-generating device?

- My Family
- The School
- Other; Please Specify:
- Unknown

Q13. Does your child's device come home from school with them?

- Yes
- No; Please Explain:

Sometimes; Please Explain:

Q14. What type of school does your child attend?

- Public
- Private
- Charter
- Homeschool

Other; Please Specify:

Q15. Does your child currently receive speech or language services outside of school?

- Yes
- No

Q16. The remainder of this survey is designed to solicit information about your experiences with your child's **school** speech-language pathologist (SLP). Please keep this in mind as you answer the survey questions. **Your responses are confidential and will not be shared with your child's SLP in any way.**

Parent- Assessment

Q17. Who initiated the assessment for your child to get a speech-generating device?

- Me, the family member/guardian
- The School SLP
- Someone Else:

Q18. How involved were you during the assessment process?

- A great deal
- A lot
- A moderate amount
- A little
- None at all

Q19.

Was your child's current SLP working with your child at the time of his/her assessment for a speech-generating device?

- Yes
- No
-

Unsure

Q20. Was your child's current SLP the person who conducted the assessment for a speech-generating device?

- Yes
 No
 Unsure

Q21. Would you like to share any additional information about your experiences regarding your child's assessment for a speech-generating device?

Parent- Support Branch

Q22. Has support for the speech-generating device been provided by your child's speech-language pathologist?

- Yes
 No

Parent- Support No

Q23. Has support for the SGD been offered by your child's speech-language pathologist?

- Yes
 No

Parent- Support Not Provided, Offered- No

Q24. Have you requested support from your child's SLP for the speech-generating device?

- Yes
 No; Please provide any additional comments you'd like to share about receiving support from for the SGD from your child's SLP.

Parent- Support Not Provided, Not Offered, Requested- Check

Q25. Has support for the speech-generating device been provided by your child's SLP?

- Yes
 No

Parent- Support No, Offered No, Requested Yes, Provided No

Q26. How would you prefer support be provided by the SLP? (Select all that apply.)

- In-Person Meeting
- Phone Conference
- Online Video Conference (e.g. Skype)
- E-Mail
- Online Training Videos
- Referral to Device Company (e.g. sales representative, device website, tech support)
- Other:

Q27. How frequently would you prefer that support is provided?

- Weekly
- Monthly
- When Requested
- Other:

Parent- Support No, Offered No, Requested Yes, Provided Yes

Q28. How was the support provided? (Select all that apply.)

- In-Person Meeting
- Phone Conference
- Online Video Conference (e.g. Skype)
- E-Mail
- Online Training Videos
- Referral to Device Company (e.g. sales representative, device website, tech support)
- Other:

Q29. How do/would you prefer support to be provided?

- In-Person Meeting
- Phone Conference
- Online Video Conference (e.g. Skype)
- E-Mail
- Online Training Videos
- Referral to Device Company (e.g. sales representative, device website, tech support)
-

Other:

Q30. How frequently is support provided?

- Weekly
- Monthly
- When Requested
- Other:

Q31. How frequently would you prefer that support is provided?

- Weekly
- Monthly
- When Requested
- Other:

Parent- Support Not Provided, But Offered- Yes

Q32. Did you request support from the SLP for the speech-generating device?

- Yes, I requested support.
- No, the SLP offered support.

Q33. How did the SLP offer to provide support? (Select all that apply.)

- In-Person Meeting
- Phone Conference
- Online Video Conference (e.g. Skype)
- E-Mail
- Online Training Videos
- Referral to Device Company (e.g. sales representative, device website, tech support)
- Unknown
- Other:

Q34. How would you prefer support be provided? (Select all that apply.)

- In-Person Meeting
- Phone Conference
- Online Video Conference (e.g. Skype)
- E-Mail

- Online Training Videos
- Referral to Device Company (e.g. sales representative, device website, tech support)
- Other:

Q35. How frequently did the SLP offer to provide support?

- Weekly
- Monthly
- When Requested
- Unknown/They did not specify how frequently they would provide support.
- Other:

Q36. How frequently would you prefer support is provided?

- Weekly
- Monthly
- When Requested
- Other:

Parent- Support Yes

Q37. Did you request support for the speech generating device from your child's speech-language pathologist, or was it offered?

- I requested support.
- The SLP offered support.

Q38. How was the support provided? (Select all that apply.)

- In-Person Meeting
- Phone Conference
- Online Video Conference (e.g. Skype)
- E-Mail
- Online Training Videos
- Referral to Device Company (e.g. sales representative, device website, tech support)
- Other:

Q39. How do/would you prefer support to be provided?

- In-Person Meeting

- Phone Conference
- Online Video Conference (e.g. Skype)
- E-Mail
- Online Training Videos
- Referral to Device Company (e.g. sales representative, device website, tech support)
- Other: _____

Q40. How frequently is support provided?

- Weekly
- Monthly
- When Requested
- Other: _____

Q41. How frequently would you prefer that support is provided?

- Weekly
- Monthly
- When Requested
- Other: _____

Parent- Support- Final

Q42. Please rate your level of agreement with the following statements.

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
I feel that my child's SLP understands my preferences in how he/she provides support to our family.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that my child's SLP understands my preferences in the quantity of support provided to our family.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that my child's SLP provides an appropriate amount of support.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q43. I feel that the SLP explains my child's speech-generating device, his/her goals, and ways in which I can support him/her in using the device using terminology that I am able to understand.

- Strongly agree
- Agree

- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Q44. Please rate your level of agreement with the following statements.

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
I feel that the SLP understands my family's background.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the SLP understands the challenges my family faces with having a child who uses an SGD.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the SLP understands my family's priorities for my child's communication.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the SLP understands my concerns about my child's SGD.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the SLP understands my family's preferences.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the SLP fully understands my child's unique needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q45. Please rate your level of agreement with the following statements.

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
I feel that the SLP has addressed the challenges my family faces with having a child who uses an SGD.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the SLP has addressed my family's priorities for my child's communication.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the SLP has addressed my concerns about my child's SGD.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the SLP provides services that meet my family's preferences.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the SLP provides services that met my child's unique needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q46. The SLP provides me with tips and ideas of how to use the device at home that are useful and that would work well for my family.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Q47. How satisfied are you with the level of communication between you and your child's speech-language pathologist?

- Extremely satisfied
- Moderately satisfied
- Slightly satisfied
- Neither satisfied nor dissatisfied
- Slightly dissatisfied
- Moderately dissatisfied
- Extremely dissatisfied

Parent- Goals

Q48. Please briefly describe your child's current communication goals to the best of your knowledge.

Q49. Please briefly describe how these goals were chosen for your child.

Q50. Were you consulted when his/her communication goals were created?

- Yes
- No
- Unsure; Please Explain:

Q51. How involved were you in the creation of your child's communication goals?

- A great deal
- A lot
- A moderate amount
- A little
- None at all

Q52. What factors influenced your level of involvement in the creation of your child's communication goals?

Q53. Please rate your level of agreement with the following statements.

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
I am satisfied with the communication goals set for my child.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the communication goals set for my child are meaningful and relevant to his/her daily communication needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the communication goals set for my child accurately reflect his/her current communication needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q54. Additional comments regarding your child's communication goals:

Q55. Please rate your agreement with the following statements.

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
I feel that my child's SLP and I agree about my child's current communication skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that my child's SLP and I							

agree about my child's abilities in using his/her speech-generating device.

○ ○ ○ ○ ○ ○ ○

Parent- Knowledge of Device

Q56. I consider myself _____ with my child's speech-generating device.

- a beginner
- an advanced beginner
- competent
- proficient
- an expert

Q57. Please rate your level of agreement with the following statements based on **your** knowledge of your child's SGD.

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
I know how to edit or customize my child's device.	○	○	○	○	○	○	○
I know how to navigate my child's device.	○	○	○	○	○	○	○
I know how to support my child in using his/her device.	○	○	○	○	○	○	○
I know how to handle technology breakdowns with my child's device.	○	○	○	○	○	○	○

Q58. Please rate your level of agreement with the following statements based on **your perception of your child's speech-language pathologists' knowledge** of your child's SGD.

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
My child's SLP knows how to edit or customize my child's device.	○	○	○	○	○	○	○
My child's SLP knows how to navigate my child's device.	○	○	○	○	○	○	○
My child's SLP knows how to support my child in using his/her device.	○	○	○	○	○	○	○
My child's SLP knows how to handle technology breakdowns with the device.	○	○	○	○	○	○	○

Q59. How often is your child's device used at home and in the community?

- Never
- Sometimes

- About half the time
- Most of the time
- Always

Q60. How often do you think your child's SGD is used at school?

- Across the school day, including times like recess and lunch
- Across the school day, but only in the classroom
- Sometimes, or only in some classrooms; not all the time or in every classroom
- Only when he/she is in speech-language therapy
- It is rarely used at school.
- It is never used at school.

Q61. Do you feel that the device your child uses is the best fit for him/her?

- Definitely yes
- Probably yes
- Might be or might not be
- Probably not
- Definitely not

Parent- Barriers

Q62. Please rate your level of agreement with the following statements.

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
I feel the device is a burden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The SLP feels the device is a burden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel the device carries a stigma.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The SLP feels the device carries a stigma.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel the device allows my child to communicate more effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel the SLP thinks the device allows my child to communicate more effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q63. What barriers do you think your child faces in successfully using his/her SGD? (Select all that apply.)

- Teachers' and Paraprofessionals'/Aides' Knowledge of the SGD
- Speech-Language Pathologist's Knowledge of the SGD

- Your (Family/Guardian's) Knowledge of the SGD
 Your Child's Knowledge of How to Use the Device
 Negative Effects on Peer Relationships
 Availability of the Device Throughout Your Child's Day
 Time and Effort Needed for the Student to Learn to Use the Device
 The Vocabulary Available on the SGD
 Other: _____
 None

Q64. How likely do you think each of the following impacts your child's success in meeting his/her communication goals?

	Extremely likely	Moderately likely	Slightly likely	Neither likely nor unlikely	Slightly unlikely	Moderately unlikely	Extremely unlikely
Peer Relationships	○	○	○	○	○	○	○
Teachers' and Paraprofessionals'/Aides' Knowledge of the SGD	○	○	○	○	○	○	○
Your (family/guardian) Knowledge of the SGD	○	○	○	○	○	○	○
SLP's Knowledge of the SGD	○	○	○	○	○	○	○
Availability of the Device Throughout Your Child's Day	○	○	○	○	○	○	○
Your Child's Knowledge of How to Use the Device	○	○	○	○	○	○	○
The Vocabulary Available on the SGD	○	○	○	○	○	○	○

Q65. Please provide any additional information about the barriers that you believe your child faces in successfully using his/her SGD and their impact on successfully meeting his/her communication goals.

Q66. How aware do you think your child's speech-language pathologist is of these barriers?

- Not at all aware
 Slightly aware
 Somewhat aware
 Moderately aware
 Extremely aware

Q67. Please describe any factors that you think positively impact your child in successfully using his/her SGD and their impact on successfully meeting his/her communication goals.

--

Q68. How aware do you think your child's speech-language pathologist is of these factors and their positive impact?

- Not at all aware
- Slightly aware
- Somewhat aware
- Moderately aware
- Extremely aware

Parent & SLP Relationship

Q69. Please rate your level of agreement with the following statements.

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
Establishing rapport with my child's SLP was easy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the SLP spent an appropriate amount of time establishing rapport with me/my family.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I have good rapport with my child's speech-language pathologist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q70. What things about your child using a speech-generating device are important to you that have not been considered by your child's speech-language pathologist?

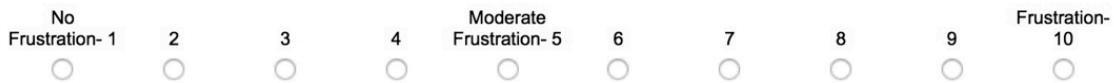
--

Q71. What things about your child using a speech-generating device has your child's SLP tried to emphasize that you feel are unimportant or irrelevant to your child?

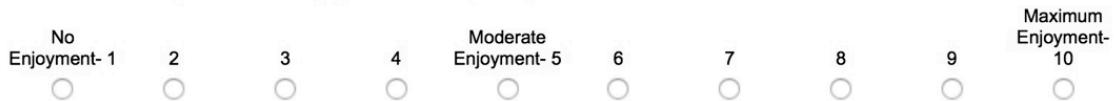
--

Q72. Please rate your level of frustration working with your child's SLP.

Maximum



Q73. Please rate your level of enjoyment working with your child's SLP.



Q74. How, if at all, are your child's speech-language pathologist's views on AAC/SGDs different from yours? How have these differences impacted the decisions made about your child's intervention with the speech-generating device and the services the SLP has provided your family?

SLP- Code

Q75. Did the student's family/guardian provide you with a code to enter when taking this survey?

Note: Codes are used to match family and SLP responses. Whomever takes this survey first (you or the family) will receive a code to share with the other party. If the family has not yet taken the survey to generate a code, you will receive a code at the end of this survey to share with them.

- Yes, the code is:
- No, I do not have a code. I will forward the code I receive at the end of this survey to the parent of the student for which I am filling out this survey for.

SLP and Student Demographic Information

Q76. How did you hear about this survey? (Select all that apply.)

- Social Media
- A Student's Parent/Guardian
- My State's Speech-Language Hearing Association
- My Supervisor
- E-Mail
- ASHA Convention
- A Friend or Colleague
- A Sales Representative From a SGD Company (TobiiDynavox, PRC, Saltillo)

Q77. In what state is the school that you work in located?

Q78. How many years have you worked as an SLP?

- Less than 1 year
- 1-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- 21-25 years
- More than 25 years

Q79. Are you an ASHA-certified SLP?

- Yes
- No

Q80. Which of the following best describes you? (You may choose more than one.)

- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- Hispanic, Latino, or Spanish
- Middle Eastern or North African
- White
- Other:
- Prefer Not to Answer

Q81. What is the highest level of education you have received?

- Bachelor's Degree
- Master's Degree
- Doctor of Philosophy
- Clinical Doctorate in Speech-Language Pathology
- Other:

Q82. In what settings do you *currently* practice as an SLP? (Select all that apply.)

- School
- Private Clinic
- Hospital
- Skilled Nursing Facility
- Other: _____

Q83. How long have you worked as an SLP in the school setting?

- Less than 1 year
- 1-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- 21-25 years
- More than 25 years

Q84. How many years of experience do you have working with students who use AAC?

- 0
- Less than 1 year
- 1-5 years
- 6-10 years
- 10-15 years
- 16-20 years
- 20-25 years
- More than 25 years

Q85. Which best describes the location of the school you work in?

- City
- Suburb
- Town
- Rural

Q86. What is the relative size of your school district?

- Small (less than 9,999 students enrolled)
- Medium (10,000-49,999 students enrolled)
- Large (50,000 or more students enrolled)

Q87. Approximately how many students are on your caseload?

- Less than 15 students
- 15-30 students
- 31-45 students
- 46-60 students
- 61-75 students
- 76 or more students

Q88. How many students on your caseload use AAC?

- 1-3
- 4-6
- 7-9
- 10-12
- 13-15
- 16 or more students

Q89. I consider myself to be _____ in AAC.

- a beginner
- an advanced beginner
- competent
- proficient
- an expert

Q90. The remainder of this survey is designed to solicit information about your experiences with **one** specific student on your caseload. At the start of the survey, you entered a code that a parent/guardian provided you with. Please answer the survey questions as they pertain to their child. **Your responses are confidential and will not be shared with the student's family/guardian in any way.**

Q91. The remainder of this survey is designed to solicit information about your experiences with **one** specific student on your caseload who uses an SGD. Please keep that student in mind as you answer the survey questions. At the end of the survey, you will be provided with a code to send to that student's family/guardian, which they will use when completing the survey. **Your responses are confidential and will not be shared with the student's family/guardian in any way.**

Q92. What grade is the student currently in?

- Pre-K
- Kindergarten
-

- ~ 1st
- 2nd
- 3rd
- 4th
- 5th
- 6th
- 7th
- 8th
- 9th
- 10th
- 11th
- 12th
- Other; Please Describe:

Q93. What type of speech-generating device does the student use to communicate?

- PRC Accent Device
- PRC PRiO
- Tobii I-Series Device
- Dynavox T-Series Device
- Tobii Dynavox Indi
- Dynavox V or Vmax
- Saltillo NOVA Chat
- Saltillo Chat Fusion
- GoTalk
- iPad with LAMP Words for Life
- iPad with Proloquo2Go
- iPad with Proloquo4Text
- iPad with TouchChat
- iPad with Compass
- iPad with Snap + Core First
- iPad with Sono Flex
- iPad with Go Talk NOW
- iPad with My First AAC
- iPad with Speak for Yourself
- iPad with Other Communication App; Please Specify:
- Other; Please Specify:

Unsure

Q94. In what grade did the student receive their SGD?

- Pre-K
- Kindergarten
- 1st
- 2nd
- 3rd
- 4th
- 5th
- 6th
- 7th
- 8th
- 9th
- 10th
- 11th
- 12th
- Unknown
- Other; Please Specify

Q95. Who purchased/provided the student's speech-generating device?

- The Student's Family
- The School
- Other; Please Specify:

- Unknown

Q96. Does the student's device go home from school with them?

- Yes
- No; Please Explain:

- Sometimes; Please Explain:

SLP- Assessment

Q97. Were you working the student when he/she had an assessment for the speech-generating or received the speech-generating device?

- Yes
- No
- Unsure

Q98. Did you conduct the AAC/SGD assessment?

- Yes
- No, Someone Else Did; Please Specify:

Q99. Who initiated the assessment for an AAC device?

- Me, the SLP
- The Student's Family/Guardian
- Someone Else:

Q100. How involved was the family/guardian during the assessment process?

- A great deal
- A lot
- A moderate amount
- A little
- None at all

Q101. Would you like to share any other information about the AAC assessment process for this student?

SLP- Support Branch

Q102. Have you provided support for the SGD to the family/guardian?

- Yes
- No

SLP- Support Provided- No

Q103. Has the family/guardian requested support from you?

- Yes

No

Q104. Have you offered support to the family/guardian?

Yes

No

SLP- Support Provided No, Offered No

Q105. If you were to provide support, how would you prefer to provide it? (Select all that apply.)

In-Person Meeting

Phone Conference

Online Video Conference (e.g. Skype)

E-Mail

Online Training Videos

Referral to Device Company (e.g. sales representative, device website, tech support)

Other:

Q106. If you were to provide support, how frequently would you prefer to provide it?

Weekly

Monthly

When Requested

Other:

Q107. Please provide any additional comments you'd like to share about providing support to family/caregivers.

SLP- Support Provided No, Offered Yes

Q108. How did you offer to provide support?

In-Person Meeting

Phone Conference

Online Video Conference (e.g. Skype)

E-Mail

- Online Training Videos
- Referral to Device Company (e.g. sales representative, device website, tech support)
- Other:

Q109. How would you prefer to provide support?

- In-Person Meeting
- Phone Conference
- Online Video Conference (e.g. Skype)
- E-Mail
- Online Training Videos
- Referral to Device Company (e.g. sales representative, device website, tech support)
- Other:

Q110. How frequently did you offer to provide support?

- Weekly
- Monthly
- When Requested
- Did Not Specify Frequency When Offering
- Other:

Q111. How frequently would you like to provide support?

- Weekly
- Monthly
- When Requested
- Other:

SLP- Support Provided- Yes

Q112. Did the family/guardian request support from you for the SGD or did you offer support?

- I offered support.
- The family/guardian requested support.

Q113. How was the support provided? (Select all that apply.)

- In-Person Meeting
-

- Phone Conference
- Online Video Conference (e.g. Skype)
- E-Mail
- Online Training Videos
- Referral to Device Company (e.g. sales representative, device website, tech support)
- Other:

Q114. How do/would you prefer to provide support?

- In-Person Meeting
 - Phone Conference
 - Online Video Conference (e.g. Skype)
 - E-Mail
 - Online Training Videos
 - Referral to Device Company (e.g. sales representative, device website, tech support)

Q115. How frequently is support provided?

- Not Provided
 - Weekly
 - Monthly
 - When Requested
 - Other:

Q116. How frequently would you prefer to provide support?

- Not Provided
 - Weekly
 - Monthly
 - When Requested
 - Other:

SLP- Support Final

Q117. Please rate your level of agreement with the following statements.

provide them with support.	<input type="radio"/>						
I feel that I understand the family's preferences in the quantity of support that I provide them with.	<input type="radio"/>						
I feel that I provide the family with an appropriate amount of support.	<input type="radio"/>						

Q118. I feel that I explain information about the SGD, the child's needs, and ways to support the child in using the device using terminology that can easily be understood by the family/guardian.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Q119. Please rate your level of agreement with the following statements.

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
I feel that I understand the family's background.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I understand the challenges the family faces with having a child who uses an SGD.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I understand the family's priorities for the student's communication.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I understand the family's concerns about the child's SGD.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I understand the family's preferences.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I fully understand the student's unique needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q120. I feel that I provide the family/guardian with tips and ideas of how to use the device at home that are useful and that would work well for their family.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree

- Disagree
- Strongly disagree

Q121. How satisfied are you with the level of communication between you and the student's family/guardian?

- Extremely satisfied
- Moderately satisfied
- Slightly satisfied
- Neither satisfied nor dissatisfied
- Slightly dissatisfied
- Moderately dissatisfied
- Extremely dissatisfied

Q122. How satisfied do you perceive the family/guardian to be with the level of communication between them and yourself?

- Extremely satisfied
- Moderately satisfied
- Slightly satisfied
- Neither satisfied nor dissatisfied
- Slightly dissatisfied
- Moderately dissatisfied
- Extremely dissatisfied

SLP- Goals

Q123. Please briefly describe the student's communication goals.

Q124. Please briefly describe how these goals were chosen for the student.

Q125. Was the family/guardian consulted when creating the communication goals?

- Yes
- No
- Unsure; Please Explain:

Q126. How involved was the family/guardian in the creation of the student's communication goals?

- A great deal
- A lot
- A moderate amount
- A little
- None at all

Q127. What factors do you think influenced the family/guardian's level of involvement in the creation of the student's goals?

Q128. Please rate your level of agreement with the following statements.

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
I am satisfied with the communication goals currently set for the student.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the communication goals set for the student are meaningful and relevant to his/her daily communication needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the communication goals set for the student accurately reflect his/her current communication needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q129. Additional comments regarding the student's goals:

Q130. Please rate your level of agreement with the following statements.

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
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SLP- Knowledge

Q131. I consider myself _____ with the student's SGD.

- a beginner
 - an advanced beginner
 - competent
 - proficient
 - an expert

Q132. Please rate your level of agreement with the following statements based on *your* knowledge of the student's SGD.

Q133. Please rate your level of agreement with the following statements based on **your perception of the child's family/guardian's knowledge** of the student's SGD.

Q134. How often do you think the student's SGD is used at home and in the community?

- Always
 - Most of the time
 - About half the time
 - Sometimes
 - Never

Q135. How often do you think the student's SGD is used at school?

- Across the school day, including times like recess and lunch
 - Across the school day, but only in the classroom
 - Sometimes, or only in some classrooms; not all the time or in every classroom
 - Only when he/she is in speech-language therapy
 - It is rarely used at school.
 - It is never used at school.

Q136. Do you feel that the device the student uses is the best fit for him/her?

- Definitely yes
 - Probably yes
 - Might be or might not be
 - Probably not
 - Definitely not

SLP- Barriers

Q137. Please rate your level of agreement with the following statements.

Q138. What barriers to do you think the student faces in successfully using his/her SGD? (Select all that apply.)

- Teachers' and Paraprofessionals'/Aides' Knowledge of the SGD
- Your (SLP's) Knowledge of the SGD
- Family/Guardian's Knowledge of the SGD
- The Student's Knowledge of How to Use the Device
- Negative Effects on Peer Relationships
- Availability of the Device Throughout the Student's Day
- Time and Effort Needed for the Student to Learn to Use the Device
- The Vocabulary Available on the SGD
- Other: _____
- None

Q139. How likely do you think each of the following impacts the student's success in meeting his/her communication goals?

	Extremely likely	Somewhat likely	Neither likely nor unlikely	Somewhat unlikely	Extremely unlikely
Peer Relationships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teachers' and Paraprofessionals'/Aides' Knowledge of the SGD	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your (SLP's) Knowledge of the SGD	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family/Guardian's Knowledge of the SGD	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of the Device Throughout the Student's Day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Student's Knowledge of How to Use the Device	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Vocabulary Available on the SGD	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q140. Please provide any additional information about the barriers that you believe the student faces in successfully using his/her SGD and their impact on successfully meeting his/her communication goals.

Q141. How aware do you think the student's family/guardian is of these barriers?

- Not at all aware
- Slightly aware
- Somewhat aware

- Moderately aware
- Extremely aware

Q142. Please describe any factors that you think positively impact the student in successfully using his/her SGD and their impact on successfully meeting his/her communication goals.

Q143. How aware do you think the student's family/guardian is of these factors and their positive impact?

- Not at all aware
- Slightly aware
- Somewhat aware
- Moderately aware
- Extremely aware

SLP & Parent Relationship

Q144. Please rate your level of agreement with the following statements.

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
Establishing rapport with the student's family/guardian was easy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I spent an appropriate amount of time establishing rapport with the family.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I have good rapport with the student's family/guardian.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q145. What things about the student using a speech-generating device have you tried to emphasize that the family feels are unimportant or irrelevant to their child?

Q146. What things about the student using a speech-generating device has the family/guardian tried to emphasize that you consider to be unimportant or irrelevant?

--

Q147. Please rate your level of frustration working with the student's family/guardian.



Q148. Please rate your level of enjoyment working with the student's family/guardian.



Q149. How, if at all, are the student's family/guardian's views on AAC/SGDs different from yours? How have these differences impacted the decisions made about the student's intervention with the speech-generating device and the services the family has been provided with?

--

Closing

Q150. Would you be willing to be contacted for clarification of your survey responses or for the researcher to obtain additional information?

- Yes
- No

Q151. What is your preferred mode of communication for follow up? Please provide relevant contact information.

- Phone:
- E-Mail:

Q152. What is your preferred time of day to be contacted for follow-up (if needed)?

- | | |
|--|--|
| <input type="checkbox"/> Morning, Weekdays | <input type="checkbox"/> Morning, Weekends |
| <input type="checkbox"/> Afternoon, Weekdays | <input type="checkbox"/> Afternoon, Weekends |

Evening, Weekdays

Evening, Weekends

Q153. Please list any additional information you would like to provide. (Optional)
Please go to the next page to complete the survey!

Parent- Generated Code to Send to SLP

Q154. Please write down the following code and provide it to your child's SLP: **\${e://Field/Code}**
 They will be asked to enter this code when they take the survey. Codes are used to match family/guardian and SLP responses and are imperative to the success of this study. Your response cannot be used if the SLP does not provide this code when completing the survey.

SLP- Generated Code to Send to Parent

Q155. Please write down the following code and provide it to the student's family/guardian: **\${e://Field/Code}**
 They will be asked to enter this code when they take the survey. Codes are used to match family/guardian and SLP responses and are imperative to the success of this study. Your response cannot be used if the family/guardian does not provide this code when completing the survey.

Parent- End of Survey Message

Thank you for completing this survey.

We kindly ask that you request the child's school speech-language pathologist to also complete this survey. Please share the following code with them to ensure that your responses can be paired for the purposes of this study:

\${e://Field/Code}

Please be sure to also provide them with the link to access the survey:

https://kusurvey.ca1.qualtrics.com/jfe/form/SV_bHlcEpkWFMfh3k9

We also appreciate your assistance in sharing this survey with other parents/guardians of children who use speech generating devices! If you have additional questions about this study, or would like to request a copy of the results, please feel free to e-mail us.

Thank you again for your time!

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SLP- End of Survey Message

Thank you for completing this survey.

We kindly ask that you request the child's family/guardian to also complete this survey. Please share the following code with them to ensure that your responses can be paired for the purposes of this study:

`${e://Field/Code}`

Please be sure to also provide them with the link to access the survey:
https://kusurvey.ca1.qualtrics.com/jfe/form/SV_bHlcEpkWFMfh3k9

We also appreciate your assistance in sharing this survey with your colleagues who work with students who use speech-generating devices. If you have additional questions about this study, or would like to request a copy of the results, please feel free to e-mail us.

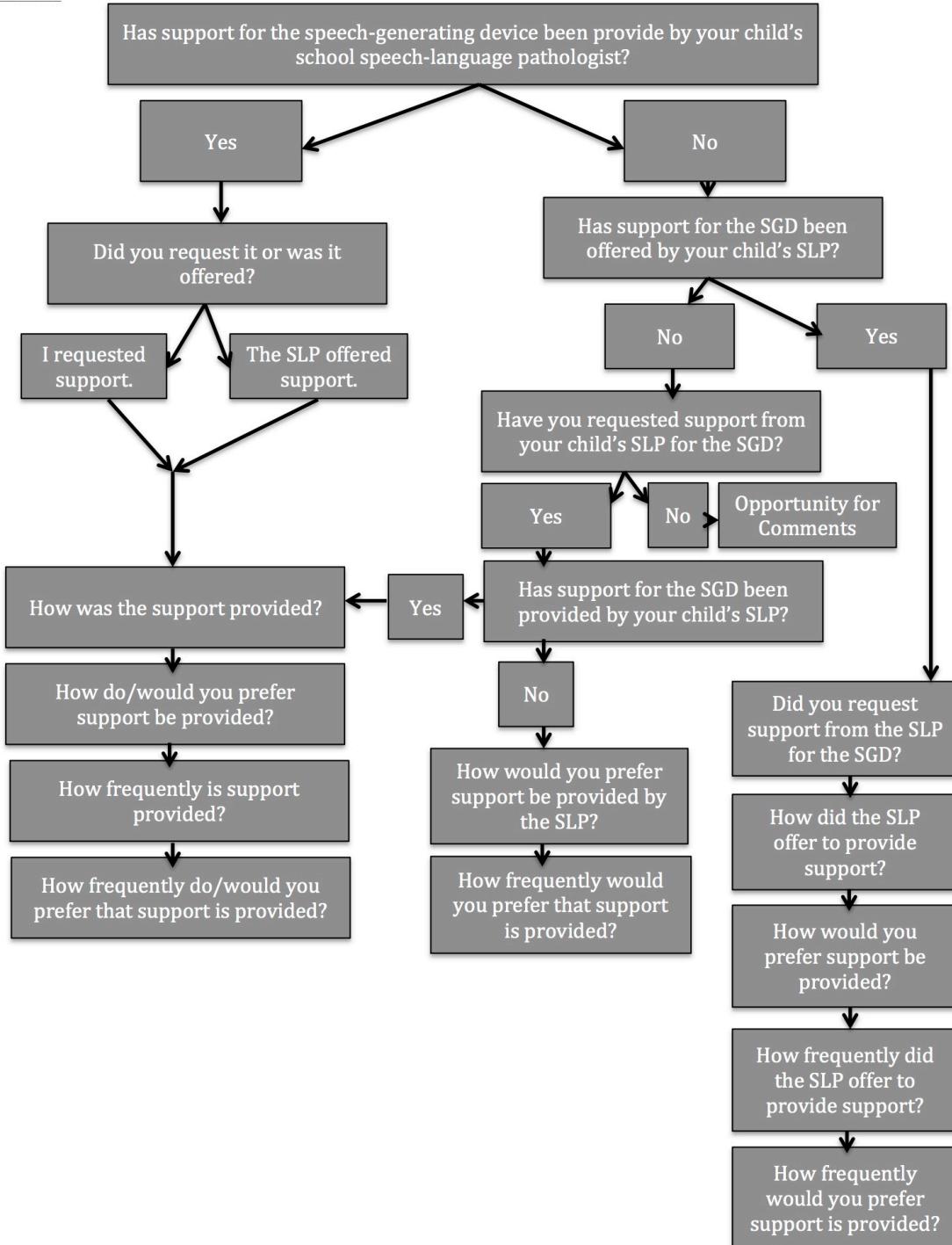
Thank you again for your time!

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Appendix B

PARENT



SLP