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Strategies Utilized by Speech-Language Pathologists when Treating Speech-Language Disorders in Children who are Bilingual

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Thesis Abstract

In the state of Minnesota, more children who use a language other than English were reported to speak English less than "very well" (U.S. Census Bureau, 2020). There was neither a "gold standard" (Verdon, McLeod, & Wong, 2013), nor Preferred Practices (ASHA, 2020) for the treatment of speech-language disorders for children who were bilingual. The current study investigated the practices for treating speech-language disorders in this population by SLPs employed in schools in a region of west-central MN and eastern ND. Using an interpreter, and explicit instruction on targeted language skills were the most common clinical approaches utilized. The child's relative proficiency in his/her languages was by far the most impactful factor in selecting the treatment language, yet most SLPs only used their L1 during interventions. Using the same treatment strategies as for monolingual children was the most commonly shared strategy, yet using interpreters and collaborating with the ELL teacher were the most commonly shared facilitators for treating this population. The most common barrier was a general lack of reliable access to bilingual support personnel. Overall, participants felt their training did not prepare them well for treating speech-language disorders in this population. Clinical implications related to the importance of educating SLPs and developing a base of research in intervention strategies for speech-language disorders for children who were bilingual.

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Chapter One

Introduction

ASHA has recognized the importance of providing appropriate services for all individuals, including those who are bilingual. ASHA published Preferred Practices for the assessment of individuals who are bilingual and who have speech-language disorders (ASHA, n.d.a). However, there is no Preferred Practices publication available at this time for treatment of speech-language disorders in this population.

According to the 2018 American Community Survey, 88.8% of Minnesotans spoke only English (US Census, 2020). Of the other 12.2%, 37.7% (241,882) claimed to speak English less than "very well" (US Census, 2020). Compared to the overall population, fewer children between the ages of 5 and 17 years who spoke another language than English were reported to speak English "very well." Of the children within this age range and who spoke a language other than English, 35.9% of those who spoke an Asian or Pacific Island language, 21.5% of those who spoke other languages, 19.6% of those who spoke Spanish, and 14.5% of those who spoke other Indo-European languages were categorized as being able to use the English less than "very well" (US Census, 2020).

Currently, researchers have not established a "gold standard" for treating communication disorders in individuals who are multilingual (Verdon et al., 2013). Researchers are studying the trends and effectiveness of existing strategies used during intervention with this population. Marinova-Todd et al. (2016) reported children who are bilingual more often received services in the majority language rather than in a bilingual context even though professionals reported disagreeing with these practices. The location's population impacted how often children who are bilingual received services in the majority language (Marinova-Todd et al., 2016). Lim et al.

(2018) found that providing instruction in a child's primary language (L1) had a marginal benefit over the majority language. Six Principles of Culturally Competent Practice (PCCP) identified in 2015 by Verdon, McLeod, and Wong. These principles included writing culturally sensitive and motivating therapy goals, having knowledge of languages and culture, using culturally sensitive resources, considering cultural, social and political contexts, consulting families and communities, and practicing interprofessional collaboration. Verdon et al. (2015) claimed that these principles should be incorporated into interventions to individualize treatments for this population.

Each child is unique. A child who speaks another language than English has additional linguistic and cultural elements which impact his/her social communicative contexts. Given the lack of a "gold standard" for the provision of speech-language intervention for this population, this research will answer the question: What strategies do Speech Language Pathologists (SLPs) utilize to treat speech-language disorders in children who are bilingual?

Chapter Two

Literature Review

Role of Speech Language Pathologist

Speech Language Pathologists serve individuals from birth to death. These professionals assess and treat difficulties in speech sound disorders, language, fluency, voice/resonance, social aspects of language, cognition, feeding/swallowing, hearing (i.e., screen), and provide interventions for Augmentative and Alternative Communication (AAC). In schools, educational relevance guides the SLPs' involvement. In its professional issues statement, ASHA's Ad Hoc Committee for the Roles and Responsibilities of SLPs in schools (2021) stated SLPs provide services to those children whose disorders impact their education. They explained that due to SLPs' training and expertise in language, these professionals contributed to the linguistic and metalinguistic bases required for learning school curriculum. The Committee (2021) also described the importance of SLPs in literacy for children with communication disorders, children who have disabilities, "as well as other learners who are at risk for school failure, or those who struggle in school settings" (Critical Roles section, para. 5).

Cultural Competency in the field of Speech-Language Pathology

According to ASHA (2017), culture can incorporate such factors as, "age, disability, ethnicity, gender identity (encompasses gender expression), national origin (encompasses related aspects such as ancestry, culture, language, dialect, citizenship, and immigration status), race, religion, sex, sexual orientation, and veteran status. Linguistic diversity can accompany cultural diversity" (Introduction section, para. 1). SLPs need to notice the similarities of all people regardless of cultural and linguistic background. Acceptance of and respect for the individuality of the people they encounter professionally is important for appropriate service provision

(ASHA, 2017). Cultural and linguistic competence is an ability to understand the combination of behaviors, attitudes, and rules unique to an individual during cross-cultural communication (ASHA, 2017; Huang, & Kan, 2021). It is also an ongoing learning process (Huang, & Kan, 2021). ASHA (2017) summarized that cultural and linguistic competence is equally important as the knowledge of evidence, and clinical skills. This view is reflected in the Code of Ethics (ASHA, 2017). ASHA provides access to self-assessments (ASHA, n.d.e), and an online application entitled, That's Unheard Of (ASHA, n.d.g) to develop one's cultural and linguistic competence. Clinicians are expected to continually advance their competence (ASHA, n.d.c, 2017) in order to effectively serve all individuals on their caseload.

Demographics of Regional Diversity

Bilingualism is a reality for many individuals including children in Minnesota and North Dakota. According to the U.S. Census Bureau (n.d.), 87.7% of all Minnesotans spoke only English at home in 2019, down marginally from 89.5% in 2010. In contrast, 94.9% of all North Dakotans spoke only English at home in both 2019 and 2010. To put that into perspective, 649,366 Minnesotans spoke a language other than English in the home in 2019, up from 520,218 in 2010 (U.S. Census Bureau, n.d.). Similarly, 36,260 North Dakotans spoke a language other than English in the home in 2019, up from 32,132 in 2010 (U.S. Census Bureau, n.d.). The frequency of Spanish-speaking children who spoke English "less than very well," reduced 6.2% from 2010 to 2019 in Minnesota and increased 4.4% in North Dakota. This trend repeated for children who spoke an Asian and Pacific Island language as noted by a 6.9% decrease in the frequency of children who spoke English "less than very well," in Minnesota and a remarkable 14.7% increase in North Dakota. Comparatively, the rate of children who spoke other Indo-European languages, and spoke English "less than very well" remained approximately the same

in Minnesota while this population increased 6.1% in North Dakota in 2019. Again, of the children who reported speaking "other languages," and spoke English "less than very well," the rate only marginally reduced in Minnesota while it increased significantly by 20.6% in North Dakota in 2019 (U.S. Census Bureau, n.d.).

Preferred SLP Practices

Assessment. ASHA published Preferred Practices for assessment of speech-language skills in individuals who are bilingual. Published literature made recommendations, as well. The assessment of speech-language skills in this population is in the SLP scope of practice, and is the responsibility of the SLP (ASHA, 2020). A language profile should be created and include the child's language exposure (e.g., child's age, amount, settings, communication partners), preferred language for communicating about varied topics, and language dominance depending on the communication function, partner, and context (McLeod, Verdon, & The International Expert Panel on Multilingual Children's Speech [IEPMCS], 2017). Assessment should plan for dynamic assessment of the individual's capacity to learn language in either or both the L1 and second language (L2) (ASHA, 2020). The clinician should recognize cultural and linguistic characteristics of the individual, and follow the World Health Organization (WHO) framework. The WHO emphasizes the impact of context and daily activities on an individual's health, and prognosis (Augustine, Veale, & Holland, 2021). ASHA also recommended using a trained interpreter, if necessary, during the case history, and administration of the assessment tools (ASHA, 2020). In their published tutorial, McLeod et al. (2017) recommended the SLP train another person, such as a parent or interpreter, whose L1 is the same as the child's L1. In addition, the researchers explained the importance of carefully selecting assessment tools which are sensitive to the individual's language and culture. It is the SLP's responsibility to describe

the impact of linguistic strengths and needs of both the L1 and the L2 on social involvement, and activities, as well as determine the relative proficiency of all of the individual's languages (ASHA, 2020; McLeod et al., 2017). Assessment tools should be relevant to the individual's language proficiency, social and cultural norms, and the SLP should keep the school's educational curriculum in mind (ASHA, 2020).

Researchers described recommendations for specific communication disorders and needs. When a speech sound evaluation must be conducted in a child's L1, McLeod et al. (2017) suggested using formal assessments developed for that language. They also recommended comparing the child's speech sound test results to results of another person with the same dialect (e.g., parent, peer). Regarding settings and AAC devices, ASHA (2020) recommended assessing an individual in environments which elicit naturalistic communication in both L1 and L2. ASHA (2020) posited assessment must include data from across communication contexts and settings to identify the factors impacting the functionality of the child's communication. Subsequently, ASHA (2020) stated the most pertinent language should be used when programming AAC devices. In keeping with any assessment in individuals who are bilingual, the selected assessment tools for settings and AAC devices should be sensitive to the individual's culture and language (ASHA, 2020).

Treatment. ASHA does not have a Preferred Practices document for interventions for individuals who are bilingual. Researchers do not currently support determination of a "gold standard" for treating communication needs in this population (Verdon et al., 2013). There is very little published research on the efficacy of treatment methods used with students who are bilingual and SLPs therefore must infer from knowledge about typically developing children who are bilingual, or monolingual peers (Thordardottir, 2010). Literature is expanding in the area

of interventions for speech-language disorders in the target population. For example, Pham, Ebert, and Kohnert (2015) published the first study of the long-term effects of treatment on children who had primary language impairment and who were bilingual. Results three months post discontinuation of intensive interventions indicated continued improvement in all tested areas of English for the English only, and bilingual treatment conditions. Results also indicated maintenance in Spanish language skills, and modest improvements in nonlinguistic cognitive processing (Pham et al., 2015).

Resources available to SLPs on the topics of interventions for speech-language disorders in children who were bilingual included the ASHA Wire, an online newsletter of the print version entitled, ASHA Leader. For example, Thordardottir (2006) described the historical and changing views of serving children who were bilingual. He challenged online readers to consider the frequent code-switching of natural bilingual communication patterns as an emerging skill in children who are bilingual. Consequently, intervention strategies should reflect this type of communication (Thordardottir, 2006). Another resource for SLPs interested in serving children who are bilingual is the ASHA Special Interest Group (SIG) 14, Cultural and Linguistic Diversity (n.d.). The SIG 14 (n.d.) has a goal to promote SLP education in cultural and linguistic diversity related to the field. It also aims to serve SLPs and their bilingual clients through support of development and use of best practices (ASHA, SIG 14, n.d.).

Treatment Strategies

Treatment language. In 2010, Thordardottir summarized the position statements from ASHA, the Canadian Association of Speech-Language Pathologists and Audiologists (CASLPA), and the International Association of Logopedics and Phoniatry (IALP):

> Each of these statements mentions specific competencies that SLPs working with bilingual children should possess, including: (a) native or near-native proficiency in both languages spoken by the child, (b) an understanding of cultural variability and how such variability can affect clinical services, and (c) the ability to conduct assessment and intervention in the minority language. (Currently recommended best practice, para. 1)

In their systematic review, Lim, O'Reilly, Sigafoos, Ledbetter-Cho, and Lancioni (2018) studied the treatment of neurodevelopmental disorders in children who were bilingual. The authors included studies with participants with communication disorders including language disorder, speech sound disorder, fluency disorder (childhood onset), and social communication disorder. Specifically, the participants had intellectual disability (ID), global developmental delay (GDD), and/or autism spectrum disorder (ASD) diagnoses. The effects of providing instruction in a child's heritage language had a marginal benefit over instruction in the majority language. Of the 18 studies in this systematic review, four received "Strong Evidence" classifications (Lim et al., 2018). One study supported providing intervention instructions in the majority language, and four studies supported providing intervention instructions in the heritage language to improve therapy results (Lim et al., 2018). These outcomes resembled those of a previous systematic review by Thordardottir (2010) who reviewed studies about the impact of providing therapy in a child's L1 on his/her L2. While individual studies varied, overall, in children who had language impairment, inclusion of the child's L1 in treatment supported acquisition of his/her L2. The author clarified that the bilingual treatment condition resulted in more gains in the child's L2 than treating only in the L2 (Thordardottir, 2010).

Principles. Verdon et al. (2015) studied treatment approaches used by SLPs specializing in multilingual and multicultural services for individuals who were linguistically and culturally diverse. Data was collected across 14 sites including schools and a variety of other settings found in five countries on four continents (Verdon et al., 2015). Six Principles of Culturally Competent Practice (PCCP) developed from the study corresponded with the position statements generated by the International Expert Panel on Multilingual Children's Speech (IEPMCS, 2012; Verdon et al., 2015). The authors described the PCCP as "(1) identification of culturally appropriate and mutually motivating therapy goals, (2) knowledge of languages and culture, (3) use of culturally appropriate resources, (4) consideration of the cultural, social and political context, (5) consultation with families and communities, and (6) collaboration between professionals (p. 74)." SLPs following the PCCP will have individualized treatments and incorporate the children's languages, cultural context, and families' preferences (Verdon et al., 2015). Each member of a child's care team should actively participate in inter-professional communication, understanding, and collaboration (Verdon et al., 2015). Goals should be written to increase participation in multicultural, educational and socially communicative contexts (Verdon et al., 2015).

Speech sound disorders. Verdon et al. (2013) found therapists took more time with this population when treating speech sound disorders. Culturally sensitive practice involved consulting the individual's family, and community (McLeod, Verdon, Bowen, & The International Expert Panel on Multilingual Children's Speech [IEMPCS], 2013; Verdon et al., 2013). Collaboration and consultation with international resources, and taking more time are recommended to provide optimal intervention services with this population (Verdon et al., 2013). In its position statement, the IEMPCS recommended improving children's intelligibility as

determined by communication partners in typical environments. In addition services should be sensitive to the child's current abilities, culture, and correspond with published literature (McLeod et al., 2013). Clinicians should continue to develop cultural competence, and protect the child's culture (McLeod et al., 2013). These authors urged SLPs to build strong interprofessional relationships and to participate in building bodies of knowledge, resources, and evidence to increase competency of diversity.

In addition, policy makers, and employers should support SLPs in developing cultural competency as well as provide SLPs with the necessary time, finances, and resources for quality services (McLeod et al., 2013). During an international meeting, members of the IEMPCS, discussed reconceptualizing the way in which speech sound disorders are treated in children who are bilingual (Verdon et al., 2015). Of note, the 14 panelists had worked in 18 countries and spoke nine languages. Together, they identified three areas needing change. First, they recommended increased training for collaborating with interpreters, and the families of children who are bilingual. More training is needed for serving children who are bilingual. Next, the panelists suggested increased training in the transcription of speech in multiple languages. Finally, the panel recommended the use of the International Classification of Functioning, Disability and Health (ICF-CY) (Verdon et al., 2015). The need for reconceptualization is partly due to the impossibility of creating a single 'gold standard' for treating speech sound disorders in children who are bilingual. However, they claimed it would be possible to work toward a reliable treatment framework. Optimistically, Verdon et al. (2015) suggested "by making even one small change in [the SLP's] approach to practice, [he/she has] the potential to challenge the existing constraints of practice and advance the profession's efficacy in working with multilingual children" (p. 49).

Language. Researchers studied treatment strategies for language disorders utilized with individuals who are bilingual. In a systematic literature review of 27 sources, Guiberson and Ferris (2019) described early language interventions for children 9 months old to 3 years and 11 months old who were learning two languages included children with early language deficits. The 70 language treatment strategies identified were synthesized into five approach categories including traditional, caregiver-led, social interaction, language, and emergent literacy. The researchers aimed to create a preliminary evidence map of strong sources and recommendations for each strategy (Guiberson & Ferris, 2019).

Language-promoting interventions generally improved language and/or literacy skills in children who were multilingual. Improvements in English language and/or literacy skills were noted in 79% of studies, and 78% of studies reported gains in the child's other language (Larson et al., 2020). Similarly, vocabulary in children's L1 improved equally in bilingual and L1 treatment conditions in a randomized control trial by Thordardottir, Cloutier, Ménard, Pelland-Blais, and Rvachew (2015). All studies of language interventions that claimed to be simultaneously linguistically responsive and culturally responsive were effective whether measured in English or the child's L1 (Larson et al., 2020). Comparatively, of the studies which focused on either linguistically responsive or culturally responsive interventions, 67% reported positive effects on English skills, and 64% reported positive effects in another language. Those interventions reported to be neither linguistically- nor culturally responsive had positive effects in English skills in 70% of studies, and positive effects in skills in other languages than English in 25% of studies.

Currently four categories of interventions are available for treating language impairments in children who are multilingual (Larson et al., 2020). "Explicit instruction on targeted skills"

resulted in significant improvement in English skills in all studies, and improvements in the children's other language in 78% of studies (Larson et al., 2020). Interventions primarily targeted teaching vocabulary in individualized or small groups. "Classroom curriculum interventions" and "Interactive book reading and/or book making interventions" resulted in positive outcomes in language development in languages other than English. The children's home language was used in these linguistically-responsive, early language interventions (Larson et al., 2020). No data was collected for the child population in the final category, "Naturalistic, routines-based interventions." Larson et al. (2020) posited that children and their families are more likely to actively participate in strategies if an intervention corresponds with their culture, values, and practices and social validity can be assessed at all stages of intervention (Larson et al., 2020).

AAC. Provision of AAC for individuals who were bilingual was studied by Tonsing et al. (2018). These authors found South African clinicians viewed programming AAC devices in multiple languages positively. Primary communication partners translated, interpreted, and programmed the user's AAC device. AAC devices programmed in English were beneficial because individuals were exposed to English in a variety of contexts on a daily basis in South Africa (Tonsing et al., 2018). Clinicians respected the client's and caregivers' preferences and choice of languages. Access to multiple languages using their AAC device increased the breadth of communication partners and contexts (Tonsing et al., 2018). Interestingly, programming multilingual South African users' AAC devices with their languages did not result in multilingual AAC use. The authors discussed the need for research to increase effectiveness of multilingual AAC interventions. Clinician language and cultural competency impacted AAC device selection, and meaningful service delivery choices. Clinicians' overestimating the cognitive demands required to learn and use bilingual AAC systems impacted AAC device

selection and service delivery choices. Some clinicians had concerns that using AAC in multiple languages may require a higher level of cognitive skills. Direct translation of English interface into Zulu, a symbol-based system, would allow access to content, however, the vocabulary, syntactic structures, and culturally appropriate ways to express oneself differed greatly between English and Zulu (Tonsing et al., 2018). Providing a means to a language which communication partners do not understand undermined successful communication. The lack of access to applications, voice output, content, and graphic symbols designed for other South African languages than English greatly reduced AAC practice. Recorded voices for languages other than English limited a user to the amount of language stored in the device. Research evidence, clinical guidelines, AAC systems, techniques for using multiple languages, linguistic and cultural skills of the clinician, and additional time required by the clinician to design an individualized AAC system affected provision of AAC to multilingual individuals (Tonsing et al., 2018).

As of 2010, there was no research of the strongest evidential levels (e.g., meta-analyses, randomized control trials) on speech-language disorders treated in children who are bilingual (Thordardottir, 2010). Review of recent literature revealed higher-level research was disorder-specific, or strategy-specific. In addition, no single survey of SLPs' use of intervention strategies was found for a broad array of speech-language disorders in the target population. Specifically, no surveys of SLPs who treated this population in rural communities of the targeted region were found to date. For example, the IALP's Multilingual Affairs Committee surveyed SLPs from IALP-affiliated associations in 10 countries. Data on the clinical practices of serving children who are bilingual revealed monolingual SLPs served 74% of 157 bilingual children. In addition, 87% of the SLPs provided interventions using only one language, which was rarely the student's L1.

Surveys. Few related surveys were found in review of the literature. Marinova-Todd et al. (2016) studied provision of bilingual services in six cities across four countries. A wide variety of respondents including speech-language pathologists, reported in a survey that children who had mild and severe disabilities and used a heritage language at home had fewer opportunities for bilingual services (e.g., exposure, assessment, treatment) in school than other peers who were bilingual (Marinova-Todd et al., 2016). Children of all capabilities who used a heritage language at home were commonly provided services in the majority language, despite the therapist's strong belief the children would be served best in the bilingual condition (Marinova-Todd et al., 2016). The researchers suggested service providers required increased knowledge, skills, and resources to appropriately serve children who are multilingual and culturally diverse. Compared to the other cities represented in the international study, Halifax (Canada), had the smallest overall population of individuals who were bilingual and culturally diverse, likely explaining the exposure, assessment, and treatment only in English, the majority language (Marinova-Todd et al., 2016). The authors also suggested access to bilingual services depended on the size of the bilingual population of an area. While professionals supported providing services in the bilingual condition in the schools, the respondents admitted there was a significant gap with current practices. Marinova-Todd et al.'s international survey analyzed data from clinicians who worked in large cities.

Research by Kohnert, Kennedy, Glaze, Kan, and Carney (2003) studied SLPs whose caseloads included individuals with backgrounds of varying diversity. SLPs listed in the Minnesota Speech, Language, and Hearing Association (MSHA) registry, regardless of employment setting or location within the state were sent an electronic invitation to participate in the survey. Of the 500 invitations sent, an estimated 288 were received by the SLPs, and 104

were returned (36% of 288) (Kohnert et al., 2003). Just more than half (58%) of participants worked in schools. The most common work location was suburban areas (42%), followed by small communities/rural areas (32%), and metropolitan areas (27%). At the time of Kohnert et al.'s (2003) survey, only 47% of respondents reported receiving training at some point in their career for providing services to individuals who were diverse (e.g., race/ethnicity, bilingual, socioeconomic status [SES]), and 27% had received training in graduate school. Of note, 82% of SLPs earned graduate degrees in the region including in the states of Minnesota, Wisconsin, Iowa, North Dakota, or Michigan, and half received their degree in Minnesota. The researchers discussed the importance of receiving cultural competency training to effectively serve an increasingly diverse caseload. Differing from Kohnert et al.'s (2003) study, the current survey controlled for rural and small cities in a particular region of Minnesota and included the area of Fargo, ND. The current survey also differed in that it collected strategies and barriers for treating disorders in children in K-12 school.

There is some literature on the topic of serving bilingual individuals, and there were no recent surveys that focused on treatment strategies across speech-language disorders for K-12 children who were bilingual. In addition, no studies were found centralizing on areas in the Midwest that were not densely populated. Based on this literature review, it appeared there was a need for future research related to serving children in this delineated region. The goal of this survey was to identify the strategies SLPs utilized for speech-language disorders in children who are bilingual.

Chapter Three

Method

Research Design

A non-experimental research design was used to survey the participants on the strategies they used to provide speech-language services in schools to children who were bilingual. This study was approved by the university Institutional Review Board on 9/15/20.

Participants

Speech-Language Pathologists (SLPs) who were members of ASHA who had a Certificate of Clinical Competence and were employed in a school setting (Kindergarten – 12th Grade) were recruited. Home addresses were purchased through ASHA for ZIP codes in the target areas of Minnesota and North Dakota. Internal grant funds from the Speech-Language Pathology program at Minnesota State University Moorhead (MSUM) were used to purchase these addresses. On November 4, 2020, 161 surveys were sent to SLPs 40 miles on either side of I94 from West Fargo, ND to St. Cloud, MN. To gather more responses, an additional 87 surveys were sent December 21, 2020 to SLPs living in an area expanding 20 miles north and south of the original I94 region, and extending from St. Cloud to the western suburbs of Minneapolis. Of the 35 surveys returned, 24 participants reported having students of the target population, nine did not have students of the target population, and two SLPs completed only the demographic portion. Consequently, 11 were excluded from analysis because responses to survey questions was necessary, and experience serving children who were bilingual was needed to respond to the questions. Usable returned surveys consisted of 16 paper surveys returned by mail, and 8 electronic surveys completed online using the Qualtrics platform for a total of 24. As a result,

9.7% of the total surveys sent were usable for analysis. Rate of return mirrors the prevalence of bilingual speakers in this region.

Procedure

A survey was self-constructed using Qualtrics. A link to the survey was sent by mail to the potential participants, and a paper version with self-addressed stamped envelope was also included to provide a choice in the most convenient way to respond. Once received, all paper surveys were input into the electronic format. The survey contained multiple choice, Likert, and open-ended questions. Due to the research being conducted during the Covid-19 pandemic, an open-ended question was included to gather information on the potential effects of the pandemic when serving the target population. See appendix A for a copy of the survey. Responses to the survey were compiled using Qualtrics.

Demographics

See Table 1 below for table of participant demographics. SLP participants worked in K-12 schools and included 23 females and one male. The most common populations of the communities in which the SLPs worked were 10,000-19,999 (5 out of 24, 20.8%) and 20,000-49,999 (5 out of 24, 20.8%). There was another equal response frequency (4 out of 24, 16.7%) from the population ranges of Up to 999, and 1,000-4,999. The least common populations were 100,000 or More (3 out of 24, 12.5%), 50,000-74,999 (2 out of 24, 8.3%), and one person worked in a community with a population of 5,000-9,999. Regarding facilities, SLP participants were invited to indicate all the settings in which they worked. Elementary school was the most common work setting (21 out of 24, 87.5%). Less common work settings were high school (8 out of 24, 33.3%), and middle school (7 out of 24, 29.2%). SLPs also indicated working in public school (12 out of 24, 50.0%), “other” types of facilities (8 out of 24, 33.3%), while only 16.7%

of SLPs (4 out of 24) served in private schools. The participants had most commonly (10 out of 24, 41.7%) been employed in K-12 schools for 10-19 years. Another five (20.8%) SLPs had worked between 5-9 years or 0-4 years. Finally, four participants (16.7%) each had been employed 20-29 years. The two most common age ranges of the respondents were 36-45 (11 out of 24, 45.8%), and 26-35 (10 out of 24, 41.7%). An additional two respondents reported being between 56-65 years of age, and one SLP was 46-55 years old.

In the most recent school year, many SLPs had 40-49 students (11 out of 24, 45.8%) on their caseload followed closely by 50 or more students (8 out of 24, 33.3%). Less common caseload sizes were 20-29 students (4 out of 24, 16.7%), and 30-39 students (1 out of 24, 4.2%). No respondents had a caseload of 19 or fewer students. The SLP participants largely responded they served one to four students who were bilingual (17 out of 24, 70.8%) during the most recent school year. Additionally, 20.8% (5 out of 24) had five to nine students who were bilingual. One SLP reported having 10-19, and another SLP had 20-29 students who were bilingual on their caseload. No respondents had 30 or more students of the target population.

Table 1

Demographic Information

SLP code	Age	Gender	Years in K-12 schools	Total Caseload	Bilingual children	Facilities	Population
A	36-45	Female	10-19	40-49	5-9	E, Pb	10,000-19,999
B	56-65	Female	20-29	50 or more	4 or under	E	10,000-19,999
C	36-45	Female	10-19	40-49	5-9	E, Pb	10,000-19,999
D	36-45	Female	10-19	40-49	4 or under	E	20,000-49,999
E	26-35	Female	5-9	50 or more	4 or under	E	10,000-19,999
F	46-55	Female	20-29	40-49	20-29	E, Pv, Pb	20,000-49,999
G	26-35	Female	0-4	50 or more	5-9	E, M, H, Pb	50,000-74,999
H	36-45	Female	10-19	40-49	4 or under	E	5,000-9,999
I	26-35	Female	5-9	40-49	4 or under	H	100,000
J	36-45	Female	20-29	50 or more	5-9	E, M, H, Pv, Pb	Up to 999
K	26-35	Female	10-19	40-49	4 or under	E, M, H, Pb	Up to 999
L	26-35	Female	0-4	50 or more	5-9	M	20,000-49,999
M	26-35	Female	5-9	40-49	4 or under	E, M, H, Pv, Pb	1,000-4,999
N	36-45	Female	10-19	40-49	4 or under	E	10,000-19,999
O	36-45	Female	10-19	50 or more	10-19	H	50,000-74,999
P	26-35	Female	0-4	40-49	4 or under	E, M, H	Up to 999
Q	56-65	Male	20-29	20-29	4 or under	E	20,000-49,999
R	36-45	Female	10-19	50 or more	4 or under	E, Pb	1,000-4,999
S	36-45	Female	0-4	20-29	4 or under	E	100,000 or more
T	26-35	Female	5-9	20-29	4 or under	E, Pb	1,000-4,999
U	36-45	Female	10-19	30-39	5-9	E	Up to 999
V	26-35	Female	5-9	40-49	4 or under	E, M, H, Pb	1,000-4,999
W	26-35	Female	0-4	20-29	4 or under	E, Pb	20,000-49,999
X	36-45	Female	10-19	40-49	4 or under	E, Pb	100,000 or more

Note. **E** = Elementary school; **M** = Middle school; **H** = High school; **Pb** = Public school; **Pv** = Private school

Sampling Methods

Systematic sampling procedures were used to select participants. The participants chosen to receive a survey were SLPs currently working in K-12 schools within the delineated region. An informed consent form was provided in the letter containing the Qualtrics survey link and paper copy of the survey. Implied consent was achieved when the participant chose to participate in the survey.

Data Collection

The data received by paper or electronically were compiled in Qualtrics. No identifying information was included in the survey, thereby protecting the confidentiality of the participants.

Data Analysis

Descriptive analysis was completed to analyze the demographic and survey responses. The Likert and multiple-choice responses were displayed in charts. Content analysis was used to tabulate the open-ended responses in figures containing the compiled topics and frequency of the participants' comments. Data collection was completed in February 2021. Data analysis was completed in April 2021.

Chapter Four

Results

The purpose of this survey was to determine and describe the current practices of SLPs who treated speech-language disorders in K-12 children who were bilingual. Data from responses to close-ended, and open-ended questions was compiled. The results are presented below in a descriptive format.

Close-Ended Responses

Main survey items were created using multiple choice, indicate all that apply, and six-point Likert scales.

Likert scale items. The Likert scale included one of the following ratings: 1="Not at all likely" to 5="Very likely," 1="Significantly less time" to 5="Significantly more time," or 1="Poorly" to 5="Very well." Including "N/A because I have never had a student who is bilingual on my caseload" on all Likert scale questions helped to eliminate persons whose ratings would not have been based on experience. The "N/A" option controlled for participants who served students who were bilingual.

Table 2

Means and Standard Deviations of Likert Scale Responses

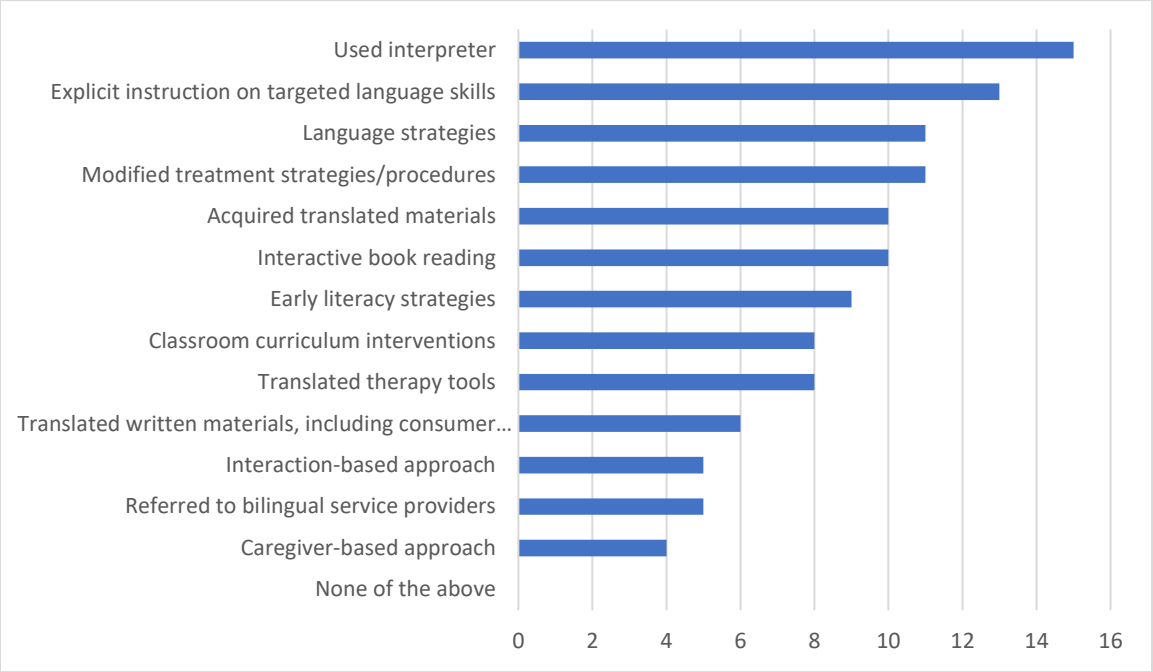
Survey Item		*M*	*SD*
Compared to providing speech-language treatments to students who speak your L1, **how much time** are you likely to spend providing speech-language interventions to children who are bilingual?	*n=24*	3.04	0.89
How likely are you to use **translated materials** in a student's L1 if it is different than Standard American English?	*n=23*	3.00	1.38
How likely are you to select treatment tools which are sensitive to the student's **culture**?	*n=24*	4.13	1.01
How well do you feel your **training** prepared you to treat speech-language disorders in students who are bilingual?	*n=23*	2.17	1.17

Refer to another SLP. Participants reported the rate with which they referred a student who was bilingual to another SLP because the SLP was not proficient in the student's L1. Of all the children from this population, 91.3% of SLPs (21 out of 23) did not refer, and 8.7% of SLPs (2 out of 23) referred 1-24% to another SLP.

Clinical approaches.

Figure 1

Clinical Approaches Utilized by SLPs When Serving Bilingual Students



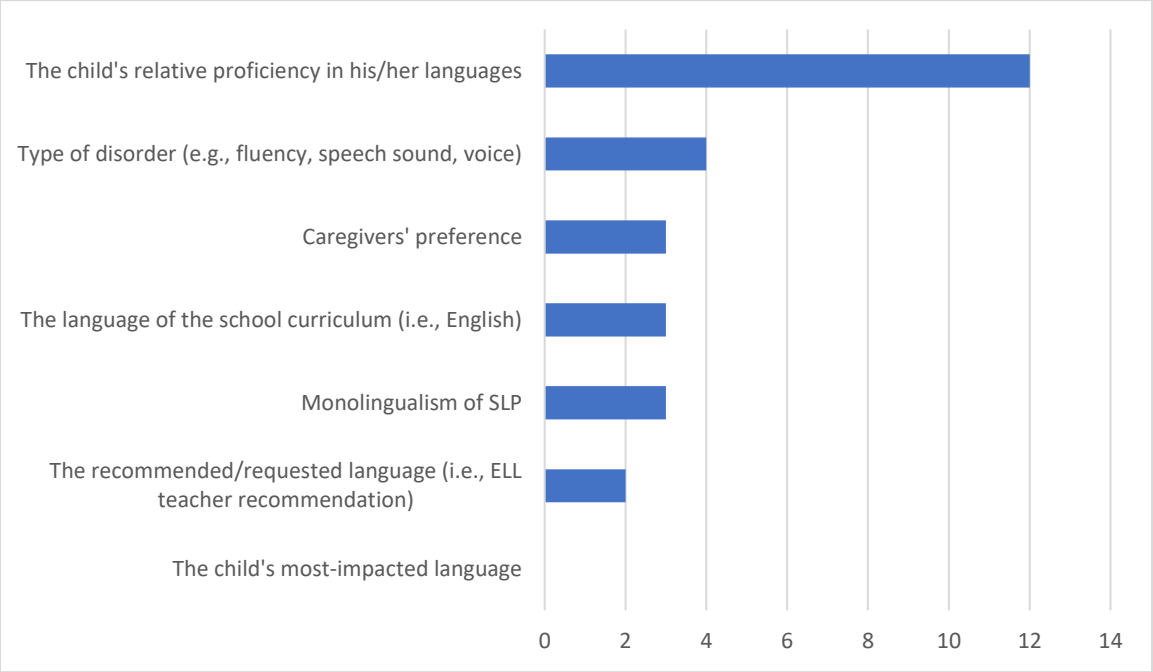
SLPs who had students who were bilingual on their caseload selected all clinical approaches they used when providing speech-language treatments to this population. There was a total of 115 selections among the 23 surveys. Responses averaged 5.0 approaches per participant. The most frequent responses were "used an interpreter" selected by 65% (15 out of 23) of participants, and "explicit instructions on targeted language skills" selected by 56% (13 out of 23) of participants. "Language strategies" was selected by 47.8% (11 out of 23) of participants. "Acquired translated materials," "modified treatment strategies/procedures," and

"interactive book reading" were selected with equal frequency by participants (10 out of 23, 43.5%). The least commonly utilized approaches were "interaction-based approach", "referred to bilingual service providers" by 21.7% (five out of 23), and "caregiver-based approach" 17.4% (four out of 23) of participants.

Factors in selecting the treatment language.

Figure 2

Most Impactful Factors in Selecting the Treatment Language



SLPs who had students who were bilingual on their caseload shared the aspects which had the greatest impact on selecting the language in which to provide speech-language treatments. Compiling the data revealed two broad themes. The student-based factors included "The child's relative proficiency in his/her languages," "Type of disorder," "Caregiver's preference," and "The child's most-impacted language." Institutional-based factors included "The language of the school curriculum," "Monolingualism of the SLP," and "Recommended/requested language." Of the 23 SLP respondents, 16 chose a single response.

There was a total of 12 entries on seven hand-written responses which averaged more than 1.7 entries per participant who added information. Clearly, the most impactful variable in selecting a language in which to treat this population was "Child's relative proficiency in his/her languages" (12 out of 23, 52.2%). Less than half of the participants chose the child's "Type of disorder" (5 out of 23, 21.7%) as being the most impactful variable in choosing the language in which to provide treatments. "School curriculum", "Monolingualism of SLP", and "Caregivers' preference" were infrequently indicated (3 out of 23, 13.0%). The least commonly chosen variable, "Recommended/requested language" had the fewest responses, (2 out of 23, 8.7%) aside from "Child's most-impacted language", which was not selected by any SLPs in this study.

Language utilized in treatment. SLPs indicated the language they typically used to serve the target population. Respondents more commonly selected "my L1 only" (15 out of 23, 65.2%). Approximately one quarter of participants utilized "Both the SLP's L1 and the child's L1 if different from the SLP's L1 (6 out of 23, 26.1%). The least common selection was "I use an interpreter" (2 out of 23, 8.7%). "The child's L1 if different from my L1" was not selected by any SLP in this survey.

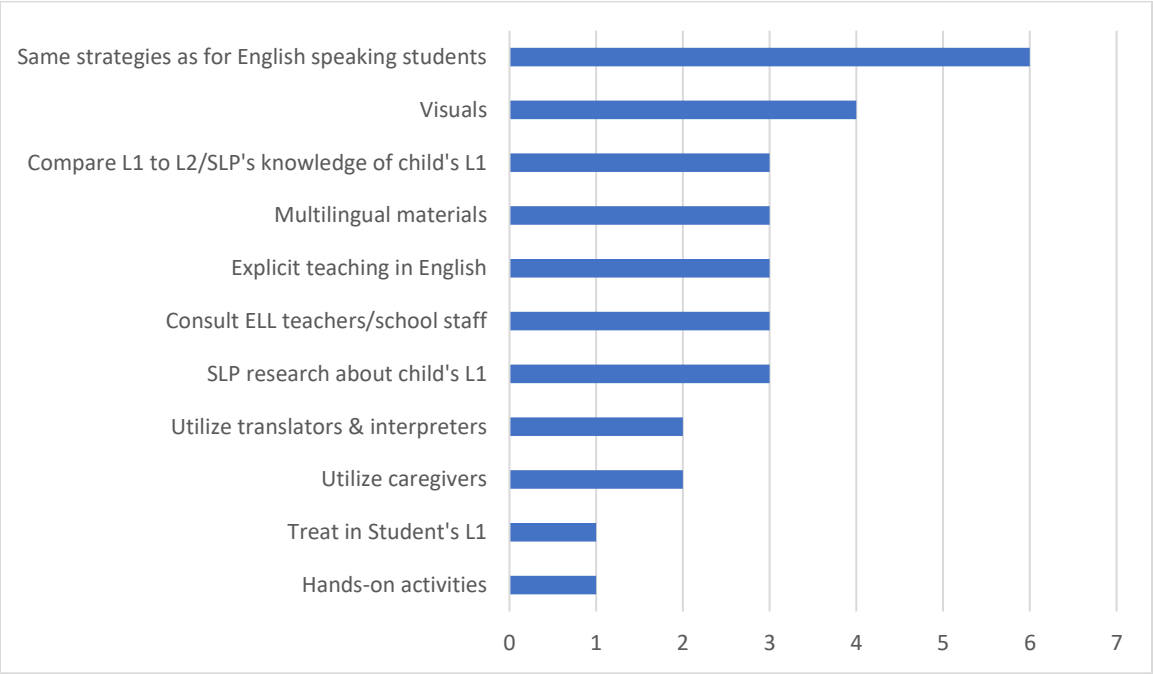
Programming an AAC system. SLPs who had students who were bilingual on their caseload indicated how they were most likely to program an AAC system (e.g., low tech, high tech) for a student who was bilingual. The most common response was "Programed an AAC system in both English and the student's L1 if different from English" (7 out of 19, 36.8%). Comparatively, 31.6% (6 out of 19) programmed the student's AAC system in the school's L1 only (i.e., English) while 26.3% (5 out of 19) referred to an AAC specialist. Only one SLP indicated programming in the student's L1 if different from English. No participants selected "I do not tend to utilize AAC in my practice."

Open-Ended Responses

Strategies.

Figure 3

Treatment Strategies Utilized by SLPs When Working With Children Who Were Bilingual



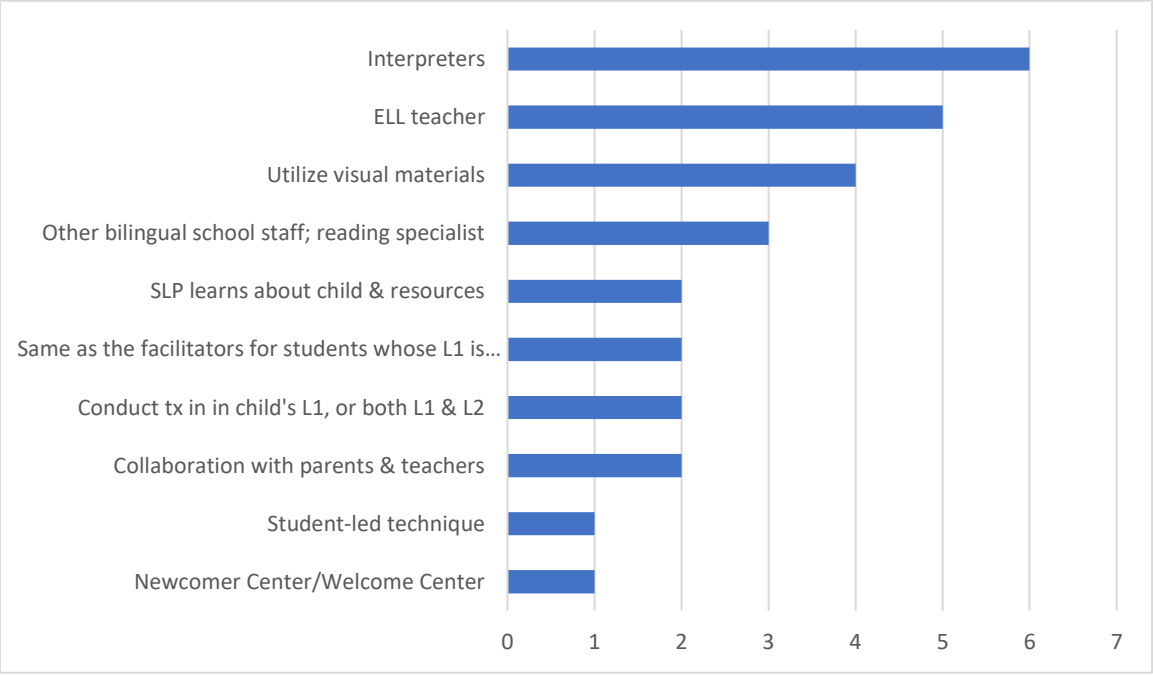
Participants wrote in strategies they utilized with the subject population of this survey. The 31 separate comments were analyzed and grouped into 12 themes. More SLPs (6 out of 22, 27.3%) shared that they utilized the same strategies for treating bilingual children as for English-speaking students which was the most commonly occurring strategy (6 comments out of 31, 19.4%). Included in this theme were the use of traditional interventions for language and articulation as described by one SLP, “Treat mostly as a typical language delayed student.” The next most common topics (4 comments out of 31, 12.9%) was the use of “a lot of visuals” by four out of 22 (18.2%) SLPs. Next, five topics were represented equally, each having 9.7% of items (3 comments out of 31) selected by three SLPs out of 22 (13.6%). These topics included Comparison of L1 to L2 in Interventions/SLP’s Knowledge of Child’s L1 (“For example, for my

Hmong speaking students a majority of their words end in a vowel, so they aren't even listening for the final consonants in words, which are where many of the grammatical markers in English are located."), Resources/Multilingual Materials ("resources found on ASHA's site."), Explicitly Teaching English, Consult ELL Teachers/School Staff ("Utilizing staff who know the L1.") and SLP Research on Child's L1 ("Research sounds present in L1 – Research grammar structures in L1"). The topics, Utilize Interpreters/Translators ("I relied on interpreters," "translators when needed"), and Utilize Caregivers each comprised of 6.5% of total items (2 out of 31) selected by two SLPs out of 22 (9.1%). The least common strategies for treating this population were shared once each and included Treat in Student's L1 ("conducting therapy […] exclusively in Spanish"), and Utilize Hands-On Activities.

Facilitators.

Figure 4

Facilitators Shared by SLPs Who Work With Children Who Were Bilingual



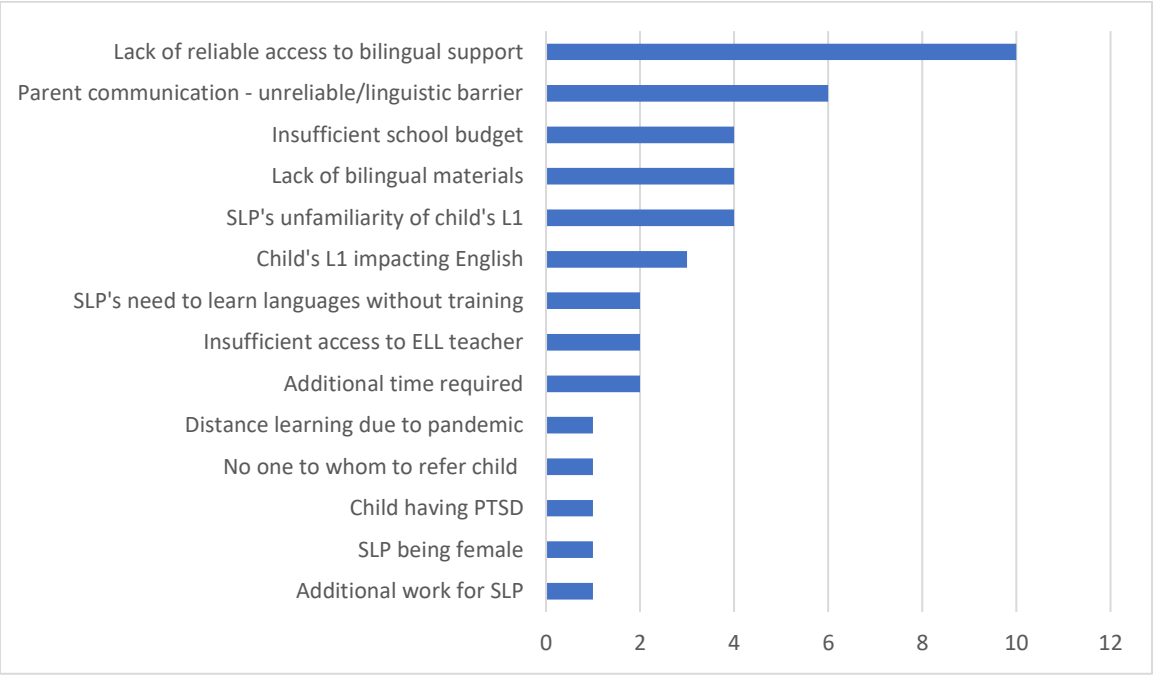
SLPs who had students who were bilingual on their caseload shared facilitators for treating speech-language disorders in the target population. Evaluation of the 29 shared items revealed 10 topics. Collaboration with school staff was the most common larger theme shared by SLPs in this survey. For example, 28.6% of participants (6 out of 21) considered using interpreters a facilitator for working with this population. “We utilized an interpreter regularly.” ELL teachers were also considered facilitators by five SLPs out of 21 (23.8%). “ESL teachers are a great resource.” Other staff including reading specialists, bilingual paraprofessionals, and Spanish teachers reportedly helped 14.3% of SLPs (3 out of 21). SLPs (2 out of 21, 9.5%) shared that collaboration with parents & teachers is a strategy, as stated by one participant, “Cooperation w/parents & teachers.”

Other topics were less common than the collaboration theme. Visual materials were facilitators for four SLPs (19.0%). An equal frequency of responses (2 out of 21, 9.5%) were given for three topics including SLP Learns About Child & Resources (e.g., “reviewing file”, “online resources/blogs have been helpful”), Conduct Treatment in Child’s L1 or Both L1 & L2 (“In the case of Spanish speakers, I will conduct articulation and language therapy sessions in English/Spanish or exclusively Spanish.”), and Same Facilitators as for Students whose L1 is English. The least common response topics were Student-Led Technique (“Having students teach me what they know.”) and Caregiver Resource Center (“Newcomer Center/Welcome Center”) and were shared by one SLP each.

Barriers.

Figure 5

Barriers to Providing Speech-Language Interventions to Children Who were Bilingual



Survey participants who had children who were bilingual on their caseload shared barriers to providing speech-language treatments to these students. Responses were compiled and 42 items were grouped into 14 topics. The most common barrier indicated by ten out of 21 (47.6%) SLPs in this survey regarded a lack of reliable bilingual support, “Our interpreters were in high demand - stretched thin.” “Limited translators in our area.” SLPs (6 out of 21, 28.6%) indicated the second most noted barrier regarded communication with parent (“Difficult to communicate with family members.”). Participants indicated an insufficient school budget (“Money for resources and support.”), and the SLP’s unfamiliarity of the child’s L1 (“Obviously not being able to speak and understand their native language.”) occurred at an equal frequency (4 out of 21, 19.0%). A lack of bilingual materials (“There are simply not enough speech-language materials in multiple languages. I would love to see materials in Hmong, Vietnamese, and

Somali!" "Lack of resources in rural MN.") and the impact of the child's L1 on English ("Reduced vocabulary, reduced sentence length, grammatical errors.") were each considered barriers by 14.3% of SLPs (3 out of 21). Another three topics were each shared by 9.5% (2 out of 21) of SLPs. These included the SLP's need to learn languages without training ("I only know English, so I feel I have to learn other languages on the fly."), additional time required on behalf of the SLP ("time researching, planning, and teaching and supporting students.") and access to ELL teacher. One SLP described collaboration with the ELL teacher as follows:

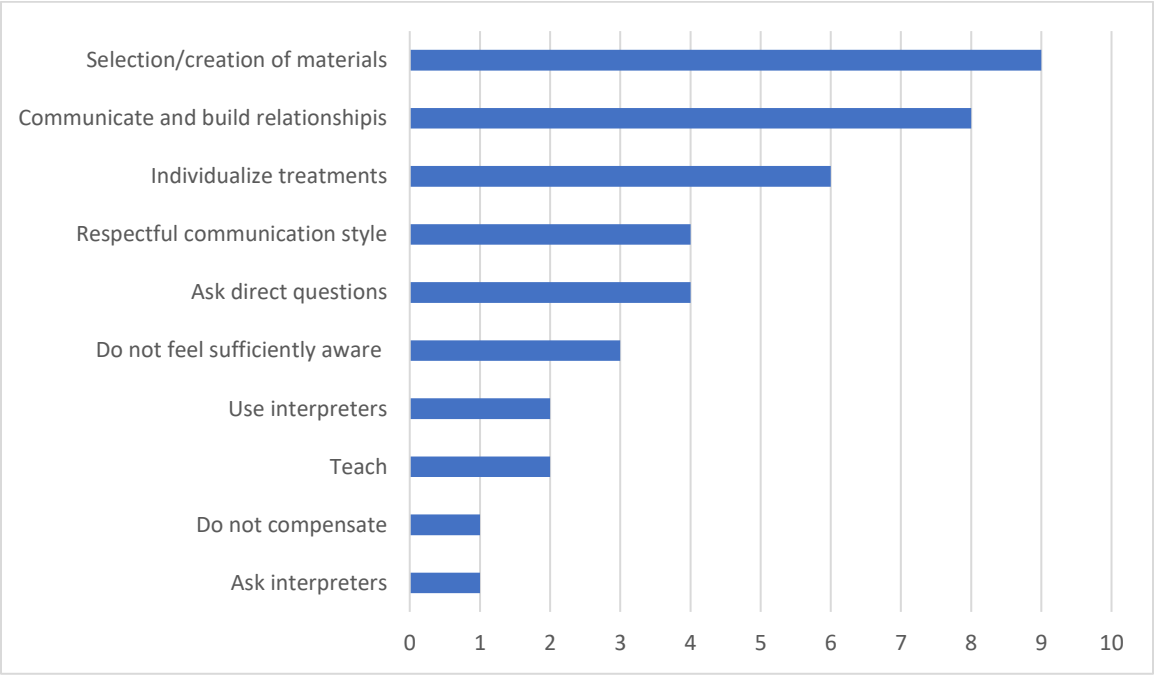
> Our high school Spanish teacher is also our district's ESL teacher. She sits in on meetings as our interpreter and attends initial evaluations if necessary but does not have time during the school day as she has a full-time teaching position.

The least common items shared by one SLP (4.8%) each included additional work required by the SLP, the SLP being female, the student having PTSD ("Sometimes PTSD associated with being a refugee is an unfortunate presence for the student."), having no one to whom to refer the child ("Nowhere local to refer the student to.") and distance learning due to the pandemic.

Compensations for cultural differences.

Figure 6

SLPs Shared Compensations for Cultural Differences Utilized with Children Who were Bilingual



SLPs who had students who were bilingual on their caseload indicated if, or how they compensated for cultural differences when working with this population. Most participants (20 out of 24, 83.3%) wrote in compensations for cultural differences they utilized in serving students who were bilingual. However, 12.5% (3 out of 24) indicated they did not feel sufficiently aware of the cultural differences to make compensations in treatments, and one SLP reported not compensating for cultural differences.

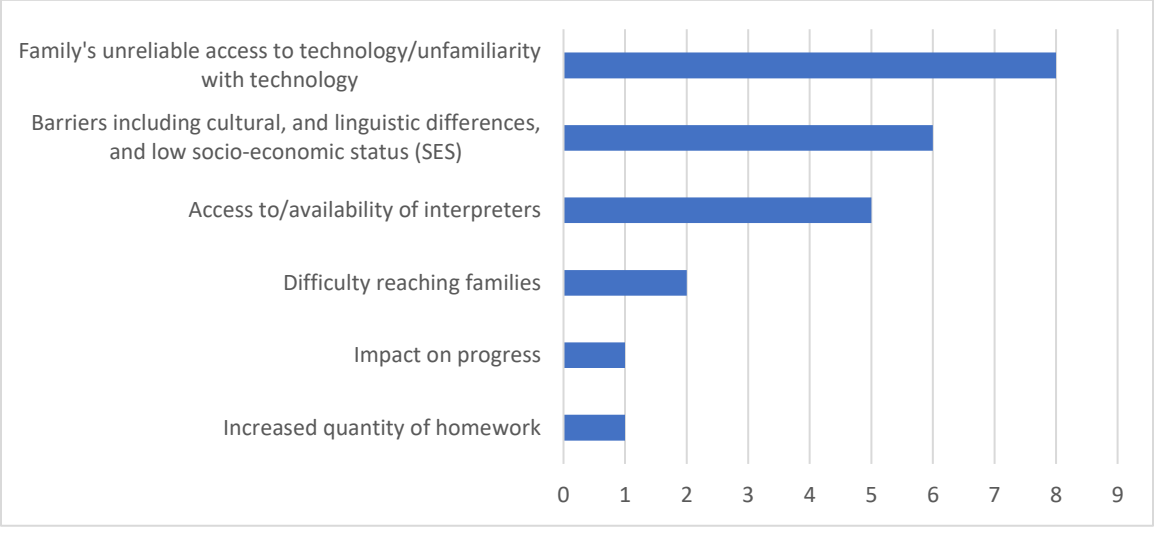
An average of more than 2.08 compensations were given per SLP who wrote in compensations, and nine overlapping topics were compiled. The most common compensation shared by 65.0% of SLPs (13 out of 20) was Learning and Awareness. “I make sure to research cultural norms and I try to be aware of differences.” The next most common topic was Selection or Creation of Materials (9 out of 20, 45.0%) exemplified by, “Conscientiously select speech

sound and/or vocabulary concepts that are culturally sensitive." Communicating and Building Relationships (8 out of 20, 40.0%) was the next most shared topic ("Building relationships with my students and their families is imperative, and drastically improves the quality of the services I provide."). Individualizing Treatments was indicated by 30% of respondents (6 out of 20). For example, "I use a perspective-taking framework often." SLPs learn more about the student's culture by asking the family or child directly was (4 out of 20, 20.0%). An SLP said she had "them teach me about their culture and selves." Having a polite, respectful communication style was a compensation shared by another 20% of SLPs. A participant noted, "It's okay to ask honest questions to increase understanding," and elaborated, "Do it in a polite way." The least common three topics for compensating for cultural differences were Teaching (2 out of 20, 10.0% ("Explain traditions in Minnesota"), and using interpreters (2 out of 20, 10%), and asking interpreters (1 out of 20, 5.0%).

Negative impacts of distance learning during pandemic.

Figure 7

Negative Impacts of Distance Learning During the Coronavirus Pandemic



Participants shared the various ways in which distance learning during the Coronavirus pandemic affected service provision for students who were bilingual. The SLPs provided a total of 32 topic items, resulting in an average of 1.5 items per participant. Evaluation and compilation of items created nine topics of which six were negative. Family's unreliable access to technology led the shared responses of 38.1% of SLPs (8 out of 21) as described by one participant:

> Unfortunately, my students who are bilingual struggled with access to internet and understanding how to connect. Parents or family members who are not proficient in technology caused students to miss or lose out on instruction. My students who had an older sibling, family member, or parent proficient in technology or English, received greater quantity and better fidelity of instruction during the coronavirus pandemic related school closures.

The next most frequently indicated negative themes were Cultural, and Linguistic Barriers given by 28.6% (6 out of 21) SLPs ("Parents from diverse backgrounds and/or low SES have a more difficult time supporting their child's learning at home."), and Access to Interpreters shared by 23.8% SLPs (5 out of 21) ("My translator is also only limited to a certain amount of time she splits between service providers."). Difficulty Reaching Families was shared twice as exemplified by one participant about connecting with families, "Most were very difficult to get ahold of." The least common comments were each shared by one SLP and regarded an increase in homework ("I often send home more at home materials that I translate, but that takes a lot of time to do."), and the impact on progress due to the distance learning service delivery model ("It's difficult to see progress").

Neutral and positive impacts of distance learning during pandemic. Not all topic items regarding distance learning during the Coronavirus pandemic were negative. In fact, one topic was neutral, and two topics were positive. The second most frequent topic was neutral. SLPs (7 out of 21, 33.3%) shared that service effectiveness was unchanged during distance learning ("Once we are connected, I am able to provide services virtually, and I feel like they are effective."). The least common responses were the only positive topics, and shared by one participant each. Working with Caregivers was a positive topic, and was described by the participant, "It's been nice working with caregivers more at the high school level. I've been able to chat with parents about what they are seeing and how I can support their student." Another positive comment regarded the use of an application for translation of texts.

> My school district has accounts with Talking Points, which has been invaluable in communicating with families, because it allows the staff person to text the family in English, and when the family receives the message it is in their L1. They can then respond in their L1 and the teacher receives it in English!

Chapter Five

Discussion

Comparison to Similar Research

Kohnert et al. (2003) conducted a survey of SLPs in a similar region to the current survey. Of the 500 electronic invitations they sent, 20.8% were returned. This is a higher participation rate than the current, electronic or paper survey for which the invitation was sent by post. The lower return rate for the current study may be explained by the mailing method, and participation options (e.g., paper, Qualtrics). Variables such as service delivery, health, and wellness in response to the pandemic may also have impacted participation.

The inclusion criterion for Kohnert et al.'s (2003) study was broader than the current study. Kohnert et al. (2003) deeply investigated SLPs' clinical training, focused on service provision to a broad age group, and included diverse caseload compositions (e.g., SES, race, ethnicity, and language differences). The current study was more focused, and aimed to describe treatment strategies used with children in school. Training for cultural competence was a topic included in both studies. Kohnert et al.'s (2003) survey asked if, and where the participants had received cultural competence training. Differing slightly, the current survey inquired about satisfaction of training received for treating the target population. While it is not the focus of this study, there may be a correlation of increased satisfaction of training received in college by SLPs who have recently graduated as compared to seasoned professionals, who, according to the 2003 survey by Kohnert et al. may not have had cultural competence training. Some participants of the recent survey shared that they participated in cultural development training in the work setting during teacher development workshops. Respondents also shared a desire for increased budget, resources, and reliable access to interpreters. It was noted that SLPs employed in more densely

populated communities appeared to have more available strategies, and/or professional experience on which to rely than SLPs from the smaller communities.

Evidence-based practice integrates evidence (e.g., literature, observations of client), clinical expertise, and client preference to make informed clinical decisions (ASHA, n.d.d). Regarding research, ASHA has not identified a best practice for treating speech-language disorders in this population. Clinicians, therefore, do not have a gold standard for reference. Quality literature was reviewed for this paper; however, the quantity of research of treatment strategies for each speech-language disorder for children who are bilingual was limited. It appeared participants in this survey tended to base their decisions on their professional expertise, perceived theoretical soundness of strategies, and close collaborations with ELL teachers, or bilingual staff. Strategy selection correlated with the amount of professional experience working with the bilingual population, and available resources. According to Verdon et al. (2013), it was critical that the most effective and efficient strategies were available to clinicians to provide interventions that will result in positive functional outcomes for the children who were bilingual. In addition, closing the linguistic and developmental or impairment gap between these children and their typical, monolingual peers will positively impact the children's educational and vocational futures.

Collect Linguistic Background

A valid disorder diagnosis (i.e., language disorder) can only be given if impairments are manifested in both of a student's languages (Hegde, & Pomaville, 2017a). Therefore, a student's linguistic background and proficiency should be collected during the assessment stage of services. Hegde and Pomaville (2017b) recommended not only asking parents whether English was the child's L1, but to prompt for additional information by asking, "…what other

language(s) is he [she] exposed to?" (p. 459). Comparatively, when asked how many students on their caseload were bilingual, one respondent selected "N/A because I have never had a child who is bilingual on my caseload." She added a hand-written notation, "as far as I'm aware – parents speak 2 languages." This raised the concern that perhaps some SLPs had not determined the relative proficiency of each of the child's languages through case history and assessment. According to ASHA (2020), it was important to clinically describe the strengths and needs in each language during assessment.

Factors in Determining the Treatment Language

SLPs were asked to share the most impactful factor for selecting the language in which to treat this population. One response was of particular note: "I would always teach English because 1. That is the only language I know. 2. English is needed to access the curriculum most easily." In a systematic review by Lim et al. (2018), one out of five studies supported providing treatments in the majority language (i.e., English). However, most studies in this systematic review supported providing interventions in the child's L1 (Lim et al., 2018). As a result, there was limited support from literature for SLP participants in the current survey to treat only in the language used in school. Additionally, and quite unexpectedly, no SLP in this survey selected providing interventions in the language in which the child had the greatest need. Discussions in research by Lim et al. (2018) addressed likely benefits of incorporating the student's L1 into therapy. For example, treating in the child's L1 may have positive social implications in the child's home and communities. Data supporting provision of treatment in the student's L1, combined with the recognized lack of bilingual clinicians may make utilization of family for implementing interventions in the student's L1 a valid option (Lim et al., 2018). Thordardottir, Cloutier, Ménard, Pelland-Blais, & Rvachew (2015) indicated equal gains in vocabulary were

obtained through the L1 and bilingual treatment conditions. A possible lack of training, experiences, or resources may have resulted in no SLP in the current study selecting a treatment language based on the child's most-affected language.

It is also important to recognize the individuality of students who are bilingual. Huang, and Kan (2021) warned professionals working with culturally and linguistically diverse populations from overgeneralizing by assuming to know which language an individual considered his/her L1. Ethnic subgroups may use varying languages, or dialects (Huang, & Kan, 2021).

Selected Treatment Language

Subsequently, participants were asked to indicate the language in which they most often provided services to this population. A majority (65%) of SLPs selected "my primary language (L1) only." The region selected for this survey was intentionally diverse in population size, and not centered around the most heavily populated areas to discover current practices of SLPs from these areas. Data from this survey corresponded to the results of an international study by Marinova-Todd et al. (2016) in that the majority language was more often used in interventions by clinicians from cities with the smallest overall populations of individuals who were bilingual.

Culturally Sensitive Materials

More participants (9 vs. 4) were very likely to include culturally varied treatment materials than to use translated materials. While no participants were "Not at all likely" to use culturally sensitive materials, three were "not at all likely" to use translated materials. It appeared that SLPs in this region were aware of the importance of culturally appropriate materials for treatment. Results also appeared to correspond with barriers including a general lack of resources to serve this population, and insufficient access to bilingual interpreters. In terms of culturally

diverse materials, ASHA Special Interest Groups (SIG) might be a useful resource (ASHA, n.d.f). SIGs related to treating speech-language disorders in children, and linguistic diversity include SIG 1 Language Learning and Education, SIG 14 Cultural and Linguistic Diversity, SIG 16 School-Based Issues, and SIG 17 Global Issues in Communication Sciences and Related Disorders. Another resource would be ASHA's Practice Portal (ASHA, n.d.a; n.d.c).

Compensations for Cultural Differences

Compensating for cultural differences enhanced the outcomes of interventions, especially when combined with linguistically responsive compensations. Larson et al. (2020) explained in a systematic review that treatments which were both culturally sensitive and linguistically sensitive resulted in improvements in English or the child's L1 in 100% of studies. Comparatively, interventions which were only linguistically sensitive or only culturally sensitive resulted in improvements in English skills or L1 skills in 64% to 79% of studies (Larson et al., 2020). As a result, the fact that 12.5% of participants in this survey did not feel sufficiently aware of cultural differences to make compensations, and one participant did not make compensations for cultural differences did not appear optimal when serving this population.

Understandably, professionals cannot know everything about all cultures. ASHA (2017) expected SLPs to have a realistic understanding of one's cultural biases, and limitations. It was important to be "open and flexible" regarding treatment material selection and therapeutic activities, and to understand and protect the family's beliefs and values (ASHA, 2017). Some comments shared by respondents in this survey appeared to reflect their benevolent natures, and exemplified ASHA's position. Participants in this survey expressed intentions to be "polite", and "respectful." However, culturally appropriate behavior varies between cultures, and ASHA

(2017) stated simply that treatment materials and tasks "may be inappropriate and even offensive" (Discussion section, para. 3).

Originally, cultural competence was introduced to SLPs as a skill to be mastered (Gregory, 2020). Instead, the gold standard should combine the process of developing cultural competence with having cultural humility, the latter of which was described as "a learning culture based on lifelong dedication, evaluation, and the critique of self" (p. 9). Gregory (2020) recommended that professionals actively pursue goals for having cultural humility by collaborating with the individual, view him/her as the cultural expert, and to develop an authentic relationship. Similarly, ASHA (2017) explained the Code of Ethics in terms of cultural and linguistic competence. For example, Rule D encouraged SLPs to continually be learning about the cultures and languages of their students. Cultural competence may be developed and refined by examining ASHA resources, consulting other professionals, and exploring other sources (ASHA, 2017).

This culture of learning may be instilled in graduate school. In Hammond, Mitchell, and Johnson's (2009) survey, all SLP graduate program director participants reported perceiving their speech-language pathology graduate programs provided at least some academic training to provide services to diverse populations. Participants evaluated that their students were well prepared (M=5.00, SD=1.32, 7-point scale) to provide interventions for clients who were culturally and linguistically diverse given the academic course work, and equally well-prepared following practicum experiences. The program directors also rated a statement (M=2.00, SD=1.30, 5-point scale) about there being greater importance for SLPs to have clinical practicum experiences with culturally and linguistically diverse clients in metropolitan areas than in rural areas (Hammond et al., 2009). These results differed from earlier data collected in the survey by

Kohnert et al. (2003), for which approximately one quarter (27%) of respondents reported having had training in graduate school. Comparing the data from literature across time and from the current study indicated increased sense of preparedness by SLPs to provide interventions for individuals who are bilingual. ASHA scope of practice and certification standards currently include the expectation for development of skills in the areas of linguistic cultural impacts on provided services (ASHA, 2020). In addition, increased minority representation among faculty, staff, and students (Horton-Ikard & Muñoz, 2010) would likely increase retention of SLP students who are bilingual, and ultimately positively impact intervention for clients.

Interpretation Services

Collaboration with an interpreter was one clinical approach used by 12.1% of participants who had students who were bilingual on their caseload. One participant clarified that interpretation services were "provided by parents." ASHA (n.d.b) explained that a facility and its clinicians providing services to this population were legally and ethically bound to provide reasonable and appropriate accommodations, including collaboration with interpreters, when needed, to facilitate service provision. However, survey responses indicated access to, and availability of interpreters was unfortunately limited. Generally speaking, ASHA (n.d.b) gave preference to interpretation services provided by professional interpreters with specialized training, followed by "bilingual assistants; bilingual professional staff from a health or education discipline other than communication disorders; and bilingual staff available within the facility but outside of health or education disciplines." While ASHA (n.d.b) did not include family as a preferred interpretive provider, it did provide reasons for using a friend or family member of the individual. Client preference, no access to others on the preferred list, and inability of the

preferred interpreter to speak the client's language were recognized as less-desirable, however, acceptable interpretation options (ASHA, n.d.b).

Another SLP commented on the challenge of using interpreters, "Would be impossible to have a translator for every session with every student that is ELL. Translators are used for evaluation and only when special needs arise." This participant's response indicated there may be a shortage of interpretation resources available for all services provided by SLPs, and may explain why no SLP participants treated speech-language disorders in the child's most affected language. Increasing the budget, and reliability of access to interpretation services could potentially increase the quality of services to these students. The English Learner Disability Resources page of the Minnesota Department of Education (MDE) website (2020a) provided hyperlinks to related topics and would be a valuable resource for communicating with some students who speak another language, and their families. For example, content included English-Somali Special Education Glossary, and an English-Hmong Dictionary of Special Education (MDE, 2020a). The Individuals with Disabilities Education Act (IDEA) required communication with students' families, and administration of evaluations should be conducted in the child's L1 (Minnesota Department of Education, 2020b). Additional federal laws required schools to offer school program information to these families in their L1. According to the MDE (2020b), few special education educators are bilingual. Therefore, to follow federal law, school districts depended on interpreters or cultural liaisons (MDE, 2020b).

While Minnesota had no training requirements or competency standards for interpretation services outside the court system, at the time of completion of this study, the state offered three levels of training (MDE, 2020b). The basic level of training involved providing materials to educate individuals acting as interpreters. At the intermediate level of training was a workshop

held over a few days intended for school employees who provided interpretation services during evaluations and Individualized Education Program (IEP) meetings. Finally, the intensive education level involved two, partially subsidized, semester-long courses at the University of Minnesota in interpreting in special education. The training program was described as ending after the 2020-2021 school year, and may not be reoffered (MDE, 2020a). Preparing interpreters to work with children who received speech-language interventions appeared to be the State of Minnesota's method for providing reasonable accommodation for this population. In the position statement of the IEMPCS, McLeod et al. (2013) included interpreters in the care team of a student who is bilingual.

English Language Learner Teachers

For the purpose of this paper, English Language Learner (ELL) and English as a Second Language (ESL) teachers will be referred to as ELL. ELL teachers and SLPs have complimentary scopes of practice. In a position statement, ASHA explained SLPs may provide ELL instruction in schools if they meet a district's requirements. This education and experience may include specialized academic training and knowledge in "second language acquisition theory, comparative linguistics, and ESL methodologies, assessment, and practicum" (ASHA, 1998). The State of Minnesota explained the scope of practice of ELL teachers. One aspect which differs from SLPs, is that the ELL teacher is expected to know the processes for acquisition of both the first and second languages, and understand that the age of the individual impacts language acquisition. The teacher should know how aspects including history, society, and politics impact instruction of a second language. ELL teachers combined understanding of teaching English as a second language with principles of learning regarding development, integrated literature into practice, and created goals and utilized teaching strategies and materials.

Training included field experiences in elementary, middle, and high school settings. In addition, a license was required to teach (Minnesota Legislature, 2017). The primary difference from the SLP scope of practice, is the ELL instructors are teachers of English to students whose L1 is not English. Comparatively, SLPs provide services to students who have communication disorders. Consequently, ELL teachers were a natural care team member for SLPs treating speech-language disorders in children who were bilingual. In this survey, the second-most common shared facilitator was collaborating with ELL teachers (17.2%) as demonstrated by one SLP's comment, "ESL teachers are a great resource."

Referrals to Other SLPs

When asked how many students who were bilingual the participants had referred to another SLP, one participant selected "None". She added a notation, "because there is no one to refer them to." In fact, the majority (21 out of 23) of participants who answered this question selected "None." Only two selected "1-24%". The question was raised whether participants had no SLP colleagues due to the size of school district, or whether no other SLP was willing and able to serve the child in the bilingual context. Populations of less than 10,000 accounted for 41% of all responses. Specifically, the two participants who responded having referred 1-24% of their bilingual students to another SLP worked in communities of either "Up to 999," and "5,000 to 9,999." While these referrals were made in smaller communities, they accounted for only 22% of responses of participants who worked in populations of less than 10,000. Another question raised was whether all participants who had not referred a student who was bilingual would have referred to a colleague if referral had been an option.

AAC

The most common response (40%) of participants who served children who were bilingual and who used AAC was "Program in both English and the student's L1 if different than English." Tonsing et al. (2018) supported this approach, due to a broadening of access to communication partners, and communicative contexts. In addition, an AAC system programmed in a language the user's communication partners did not understand, was functionally unsuccessful (Tonsing et al., 2018). As a result, an AAC system programmed in English might be useful in school, however, this language selection might be useless at home where the L1 may be different than English. This would have social implications, and a detrimental impact on skill generalization. An additional 30% of participants were most likely to program the device in the school's L1 (i.e., English). Interestingly, while no SLP selected, "I do not tend to utilize AAC in my practice," 25% indicated more commonly referring to an AAC specialist to program a device for this population. This led the author to question whether the proficiency in programming AAC devices, bilingualism, or other variables caused these SLPs to refer to an AAC specialist. The MDE Special Education Assistive Technology (AT) report to the legislature (2018) described parent and educator survey responses on this topic. The most frequent barrier shared by parent respondents regarded school employees having insufficient knowledge about assistive technology (MDE, 2018). One parent participant was quoted, "Staff are open and willing but have less knowledge than family about what is available and even less knowledge about using specific tools" (p. 7). There was a total of 8923 IEPs in school districts at the time of the report. Of the 6529 IEPs for which AT was considered, 2686 IEPs had an AT component (MDE, 2018). The report also described the range of AT which was available in schools. AAC was the sixth most available AT (82.6%) following assistive listening devices (91.3%), cognition

aids/instructional aids (91.3%), alternative input devices (87.0%), positioning (84.8%), and vision aids (82.6%) (MDE, 2018). This data indicated that AAC was not available in all schools. Then, even in schools which did provide access to AAC for its students, some parents did not have the impression employees were knowledgeable about AT. Combined with the census data provided previously that children who were bilingual were the minority population, it would be understood that school employees likely did not have extensive experience programming AAC devices for students who were bilingual.

Distance Learning

One SLP perceived continued therapy was not embraced by the child's family during the Coronavirus pandemic. She commented, "Culturally, many of my ELL students do not participate in distance learning. Maybe it is the fact that they don't fully understand the need but overall, many families are choosing not to participate. This does not seem to be the case for most of my caseload." A variety of aspects negatively impacted therapy in the distance learning context during the pandemic. Most negative comments related to the child's family having unreliable access to technology, being unfamiliar with the platforms, or, having inconsistent attendance to therapy sessions. The second-most common negative aspect impacting distance learning was barriers including linguistic and cultural differences, and low-socio-economic status (SES). School-based difficulties included access to and availability of interpreters. Another result of teletherapy was an increase in the amount of time and effort required to prepare homework for one SLP's students who were bilingual. In contrast, another SLP explained difficulties with distance learning extended to her entire caseload.

> The biggest challenge … is getting the students to join your Google Meet at a certain time on a certain day. The students often understand more about this

> process than their parents do so support from home when things are not working can be difficult to get. Many, many barriers with distance learning for ALL my students.

Only one SLP noted it was difficult to ensure progress through distance learning.

Not all responses were negative, however. One SLP stated she enjoyed collaborating with parents, while another appeared grateful for improved communication with families through the use of a translation application for texts provided by the school. The most common topic that was not negative was a neutral report on unchanged effectiveness of services.

Practical Implications

Many SLPs indicated their school's lack of resources negatively impacted their treatment services for this population. If ASHA had a Preferred Practices for treating disorders in this population, SLPs would have added leverage in negotiating additional resources in their school districts. Many SLPs in schools have very large caseloads. It is hoped that all SLPs providing treatment services for these children take the time to find and examine current evidence on which effective interventions are based. Another benefit to ASHA developing Preferred Practices would be the ease of accessibility which would save precious clinical and documentation time for these busy professionals. Schools were required to provide services to these students. Increases in budget, materials, cultural competency training (McLeod et al., 2013), cultural humility training (Gregory, 2020), personnel (e.g., trained interpreters, bilingual paraprofessionals), are required to meet the needs of these children.

Huang, and Kan (2021) also suggested recruitment of SLP graduate students who are culturally-linguistically diverse. Increasing the linguistic diversity of the professionals working

with children would likely reduce dependence on interpreters, and other bilingual personnel. It would also support rapport building with the child and family.

Limitations

Operational definitions. Reading notations, and answers to short answer questions, it appeared that some terms required clearer operational definitions. “Bilingual” was operationally defined as, “Students who speak more than one language.” One participant indicated uncertainty about how to respond given she primarily served nonverbal children. The operational definition for “bilingual” was intended to mean all children who have expressive and/or receptive language skills in more than one language.

Providing an operational definition for “language” and “culture” might have resulted in increased specificity and depth of responses about compensations for culture during treatment. Culture could be operationally defined as the customs, rules, beliefs, languages, arts shared by people in a given time (American Sociological Association, 2021). Using the operational definition above, language is part of culture. Given the survey’s primary focus is bilingualism, the intent for a question about culture was to learn about compensations for other aspects of culture.

The terms “translator” and “interpreter” were used interchangeably by respondents. A possible weakness of this study was not providing an operational definition for each of these terms. For this reason, participants’ use of “translator” and “interpreter” were accepted to mean a third party who acted as a linguistic liaison between the child (or family) and the SLP. “Translator” could be operationally defined as a person who changes written words from one language into another. Whereas “interpreter” could be operationally defined as a person who verbally translates oral words between speakers who do not speak the same language.

Participants. A possible limitation to the study was to only send survey requests to SLPs with the Certificate of Clinical Competence (CCC). Because of this, perspectives of non-certified clinicians who worked with children who were bilingual may have been overlooked. In addition, response rate might have been higher had non-certified SLPs had been included. Clinicians' addresses were purchased through the national organization, ASHA, which had access only to SLPs who had their clinical certification.

The percentage of respondents roughly correlated to the prevalence of population who were bilingual as reported on the Census. In 2019, 87.7% of Minnesotans, and 94.9% of North Dakotans spoke only English at home (U.S. Census Bureau, 2019). The percentage of usable surveys was 9.7% of the total surveys sent. While a small response rate is usually considered a limitation of survey research, the purpose of this paper was to compile current practices of school SLPs of this region, and compare these strategies to literature. The quantity of responses appeared to adequately represent the population surveyed.

Another possible limitation was not controlling for services provided to populations outside the K-12 ages. The survey directions did not request the SLP to only provide responses in consideration of K-12 students. The reality was that SLPs, especially those employed in smaller communities, may serve a broad range of ages of children. Clinicians may have served preschoolers in addition to working with elementary students. One participant's caseload included preschool-aged children, as she noted, "+ preschool" on her paper survey. Results may have included a broader age range than intended.

Future Research

Time. The author was surprised 16% of SLPs reported spending significantly less, or less time, and that 56% reported spending the same amount of time treating the target population

compared to treating students who spoke the SLPs' L1. These results raised concerns about the cause for a reduced amount of time spent with children who were bilingual. In addition, the data did not correspond with literature. Therapists spent more time with this population in research by Verdon et al. (2013). Future research could analyze data on the reason for spending less time treating these students.

Materials and strategies. Future studies could focus on materials and effective strategies. A survey could collect data on current sources for culturally sensitive materials. An organized compilation of materials would be clinically beneficial for busy school SLPs, and other clinicians working with this population. Continued research is needed to determine best practices for treating each of the speech-language disorders in children who are bilingual.

Training. Only one SLP indicated feeling her training prepared her well for treating speech-language disorders in students who were bilingual. Future research could collect descriptive and quantitative data on the aspects covered in training. In addition, it could compile a list of educational sources (e.g., graduate school, Continuing Education).

Interpretation. An interpreter was used by some SLPs in this survey. Future surveys could collect data on the source of interpretation services (e.g., sibling, bilingual paraprofessional, professional interpretation service). ASHA (n.d.b) recommended working with a trained, professional interpreter, however, bilingual SLPAs, professional staff, and other staff may also be used. Comparing current practices with ASHA's general order of preference may arm SLPs advocating for adequate resources in their school districts.

Strategies unique to this population. It would be interesting to know what strategies are uniquely utilized with children who are bilingual. Future surveys could collect strategies SLPs use uniquely with children who are bilingual compared to monolingual peers. In addition, a

compilation of the most effective strategies, for each speech-language disorder with this population would be useful. Conversely, a list of strategies which are most ineffective or inefficient with children who are bilingual would also be beneficial. Likely, results will vary according to the children's languages and cultures.

AAC. Future research in the area of AAC and complex communicators who are bilingual would benefit SLPs and AAC specialists who work with this population. It would be interesting to know what variables are most likely to lead an SLP to refer to an AAC specialist to program a device for this population. Is the SLP's lack of proficiency in programming AAC devices, the SLP's monolingualism, a lack of a gold standard for determining the language in which to program an AAC system, or other variables the cause SLPs referring to an AAC specialist? Such knowledge may indicate a need for training at universities or in Continuing Education courses.

Conclusion

Overall, the SLPs in the selected region appeared to attempt to follow recommendations in current literature. While there were outliers, the most common responses to the questions indicated strategies utilized corresponded with research, ASHA's recommendations, and IDEA regulations. There were two important practical implications of this study. One was the need to create a central, organized resource, such as a Preferred Practice, for SLPs who work in schools with children who are bilingual to reference. The other recommendation was to increase resources in schools to support SLPs who work with this population, given appropriate services are required by MDE, IDEA, and ASHA.

References

Ad Hoc Committee on the roles and responsibilities of SLPs in schools (2021). Professional Issues Statement. *American Speech-Language-Hearing Association.* Retrieved from https://www.asha.org/policy/PI2010-00317/

American Sociological Association. (2021). *Culture.* Retrieved from https://www.asanet.org/topics/culture

American-Speech-Language-Hearing Association. (n.d.a). *Bilingual Service Delivery.* Retrieved from https://www.asha.org/practice-portal/professional-issues/bilingual-service-delivery/#collapse_2

American-Speech-Language-Hearing Association. (n.d.b). *Collaborating with interpreters, transliterators, and translators.* Retrieved from https://www.asha.org/Practice-Portal/Professional-Issues/Collaborating-With-Interpreters/

American Speech-Language-Hearing Association. (n.d.c). *ELLs (English Language Learners) in the schools.* Retrieved from https://www.asha.org/practice/multicultural/ELL/

American-Speech-Language-Hearing Association. (n.d.d). *Evidence-based practice (EBP).* Retrieved from https://www.asha.org/Research/EBP/

American Speech-Language-Hearing Association. (n.d.e). *Self-assessment for cultural competence.* Retrieved from https://www.asha.org/practice/multicultural/self/

American-Speech-Language-Hearing Association. (n.d.f). *Special Interest Groups (SIG).* Retrieved from https://www.asha.org/sig/

American Speech-Language-Hearing Association. (n.d.g). That's Unheard Of [Online application]. Retrieved from https://www.thatsunheardof.org/

American Speech-Language-Hearing Association. (1998). *Provision of instruction in English as a second language by speech-language pathologists in school settings* [Position Statement]. Retrieved from www.asha.org/policy

American-Speech-Language-Hearing Association. (2017). *Issues in ethics: Cultural and linguistic competence.* Retrieved from https://www.asha.org/practice/ethics/cultural-and-linguistic-competence/

American-Speech-Language-Hearing Association. (2020). *2020 Standards and implementation procedures for the Certificate of Clinical Competence in speech-language pathology.* Retrieved from https://www.asha.org/Certification/2020-SLP-Certification-Standards/

American Speech-Language-Hearing Association, Special Interest Group 14. (n.d.) *About Special Interest Group 14, Cultural and Linguistic Diversity.* Retrieved from https://www.asha.org/sig/14/about-sig-14/#resources

Augustine, R. M., Veale, T. K., Holland, K. M. (2021). International Alliances. In M. Hudson, & M. DeRuiter (Eds.), *Professional issues in speech-language pathology and audiology* (5th ed. pp. 141-164). San Diego: Plural Publishing.

Gregory, Kyomi. (2020, August/September). Moving forward as a profession in a time of uncertainty: Cultural competence and cultural humility are the gold standard in communication sciences and disorders. *The ASHA Leader, 25*(6), 8-9.

Guiberson, M. & Ferris, K. P. (2019). Early language interventions for young dual language learners: A scoping review. *American Journal of Speech-Language Pathology, 28,* 945-963. doi:10.1044/2019_AJSLP-IDLL-18-0251

Hammond, C., Mitchell, P., & Johnson, M. (2009). Academic and clinical preparation for cultural and linguistic diversity in speech-language pathology: Program director

perspectives. *Contemporary Issues in Communication Science and Disorders, 36,* 63-76. Retrieved from https://trmproxy.mnpals.net/login?url=https://www-proquest-com.trmproxy.mnpals.net/scholarly-journals/academic-clinical-preparation-cultural-linguistic/docview/197884899/se-2?accountid=12548

Hegde, M. N., & Pomaville, F. (2017a). General strategies for assessing bilingual children. *Assessment of Communication Disorders in Children* (pp. 93, 100). San Diego: Plural Publishing.

Hegde, M. N., & Pomaville, F. (2017b). Interview Questions. *Assessment of Communication Disorders in Children* (p. 459). San Diego: Plural Publishing.

Horton-Ikard, R., Muñoz, M. L. (2010). Addressing multicultural issues in communication sciences and disorders. *Contemporary Issues in Communication Science and Disorders, 37,* 167-173. Retrieved from https://trmproxy.mnpals.net/login?url=https://www-proquest-com.trmproxy.mnpals.net/scholarly-journals/addressing-multicultural-issues-communication/docview/759646857/se-2?accountid=12548

Huang, S., & Kan, P. F. (2021). Working with culturally and linguistically diverse populations. In M. Hudson, & M. DeRuiter (Eds.), *Professional issues in speech-language pathology and audiology* (5th ed. pp. 485-503). San Diego: Plural Publishing.

International Expert Panel on Multilingual Children's Speech. (2012*). Multilingual Children with Speech Sound Disorders: Position Paper.* Retrieved from http://www.csu.edu.au/research/multilingual-speech/position-paper ISBN 978-0-9874288-0-6

Kohnert, K., Kennedy, M. R. T., Glaze, L., Kan, P. F., & Carney, E. (2003). Breadth and depth of diversity in Minnesota: Challenges to clinical competency. *American Journal of*

Speech-Language Pathology, *12*(3), 259-272. Retrieved from https://trmproxy.mnpals.net/login?url=https://www-proquest-com.trmproxy.mnpals.net/scholarly-journals/breadth-depth-diversity-minnesota-challenges/docview/204264874/se-2?accountid=12548

Larson, A., Cycyk, L. M., Carta, J. J., Scheffner Hammer, C., Baralt, M., Uchikoshi, Y., … Wood, C. (2020). A systematic review of language-focused interventions for young children from culturally and linguistically diverse backgrounds. *Early Childhood Research Quarterly, 50,* 157-178. doi:10.1016/j.ecresq.2019.06.001

Lim, N., O'Reilly, M. F., Sigafoos, J., Ledbetter-Cho, K., & Lancioni, G. E. (2018). Should heritage languages be incorporated into interventions for bilingual individuals with neurodevelopmental disorders? A systematic review. *Journal of Autism and Developmental Disorders 49,* 887-912. doi: 10.1007/s10803-018-3790-8

Marinova-Todd, S. H., Colozzo, P., Mirenda, P., Stahl, H., Kay-Raining Bird, E., Parkington, K., … Genesee, F. (2016) Professional practices and opinions about services available to bilingual children with developmental disabilities: An international study. *Journal of Communication Disorders, 63,* 47-62. doi:10.1016/j.jcomdis.2016.05.004

McLeod, S., Verdon, S., Bowen, & The International Expert Panel on Multilingual Children's Speech. (2013). International aspirations for speech-language pathologists' practice with multilingual children with speech sound disorders: Development of a position paper. *Journal of Communication Disorders, 43,* 375-387. doi:10.1016/j.jcomdis.2013.04.003

McLeod, S., Verdon, S., & The International Expert Panel on Multilingual Children's Speech. (2017). Tutorial: Speech assessment for multilingual children who do not speak the same

language(s) as the Speech-Language Pathologist. *American Journal of Speech-Language Pathology, 26,* 691-708. doi:10.1044/2017_AJSLP-15-0161

Minnesota Department of Education. (2018). *Special education assistive technology: Report to the Legislature.* Retrieved from https://education.mn.gov/MDE/Search/index.htm?query=MN+Special+Ed+AT+report+to+the+legislature+2018&searchbutton=Search&v%3Asources=mn-mde-live&qp=mn-mde-live

Minnesota Department of Education. (2020a). *English learner disability resources*. Retrieved from https://education.mn.gov/MDE/dse/sped/div/el/

Minnesota Department of Education. (2020b). *Staff development and resources for spoken language interpreters and cultural liaisons.* Retrieved from https://education.mn.gov/MDE/dse/sped/div/el/MDE071288

Minnesota Legislature. (2017). *870.4400 Teachers of English as a second language.* Retrieved from https://www.revisor.mn.gov/rules/8710.4400/

Thordardottir, E. (2006). Language intervention from a bilingual mindset. *The ASHA Leader, 11*(10), n.p. doi:10.1044/leader.FTR1.11102006.6 Retrieved from https://leader.pubs.asha.org/doi/full/10.1044/leader.FTR1.11102006.6

Thordardottir, E. (2010). Towards evidence-based practice in language intervention for bilingual children. *Journal of Communication Disorders, 43*(6), 523-537. doi:10.1016/j.jcomdis.2010.06.00

Thordardottir, E., Cloutier, G., Ménard, S., Pelland-Blais, E., & Rvachew, S. (2015). Monolingual or bilingual intervention for primary language impairment? A randomized

control trial. *Journal of Speech, Language, and Hearing Research, 58,* 287-300. doi:10.1044/2014_JSLHR-L-13-0277

Tonsing, K., M., van Niekerk, K., Schlunz, G. I., & Wilken, I. (2018). AAC services for multilingual populations: South African service provider perspectives. *Journal of Communication Disorders, 73,* 62-76. doi:10.1016/j.jcomdis.2018.04.002

U.S. Census Bureau (n.d.), 2019; 2020: American Community Survey 1-Year Estimates. TableID: S1601. Retrieved on 11/17/20 from https://data.census.gov/cedsci/table?q=languages%20spoken%20in%20ND&g=0400000US27&tid=ACSST1Y2019.S1601&hidePreview=false

Verdon, S., McLeod, S., & Wong, S. (2013). Reconceptualizing practice with multilingual children with speech sound disorders: people, practicalities and policy. *International Journal of Language & Communication Disorders, 50,* 48-62. doi:10.1111/1460-6984.12112

Verdon, S., McLeod, S., & Wong, S. (2015). Supporting culturally and linguistically diverse children with speech, language and communication needs: Overarching principles, individual approaches. *Journal of Communication Disorders, 58,* 75-90. doi:10.1016/j.jcomdis.2015.10.002

Appendix A

Survey

Operational definitions for the purpose of this survey include:

Bilingual. Students who speak more than one language.

L1. An individual's primary language.

L2. An individual's secondary language. For the purpose of this survey, this term refers to any additional languages beyond L1.

Speech-language disorders. Per ASHA, speech-language disorders in children include speech sound disorders, stuttering, voice and resonance disorders, receptive and expressive language disorders, cognitive aspects of communication, social aspects of communication, and augmentative and alternative communication (AAC) intervention.

Demographic Questions:

1. What is your age?

○ 25 and under	○ 26-35	○ 36-45	○ 46-55	○ 56-65	○ 66 and up

2. Please indicate below.

○ Female	○ Male	○ Other	○ Prefer not to respond

3. How many years have you been employed as an SLP in K-12 schools? Round to the nearest full year.

○ 0-4	○ 5-9	○ 10-19	○ 20-29	○ 30 and up

4. In the most recent school year, how many children were on your caseload?

○ 19 or under	○ 20-29	○ 30-39	○ 40-49	○ 50 or more

5. In the most recent school year, how many children on your caseload were bilingual?

○ 4 or under	○ 5-9	○ 10-19	○ 20-29	○ 30-39	○ 40-49	○ 50 or more

6. What type(s) of facility(ies) do you work in? Check all that apply.

○ Elementary school	○ Middle school	○ High school	○ Private school	○ Public school

_____

_____

7. What is the population of the community(ies) you serve? Mark all that apply.

○ Up to 999	○ 1,000-4,999	○ 5,000-9,999	○ 10,000-19,999
○ 20,000-49,999	○ 50,000-74,999	○ 75,000-99,999	○ 100,000 or more

Survey Questions:

8. Share what **strategies** you have used to treat speech-language disorders in children who are bilingual.

_____

_____

_____

_____

_____

_____

o N/A because I have never had a child who is bilingual on my caseload.

9. Share **facilitators** to providing speech-language interventions to children who are bilingual.

_____

_____

_____

_____

_____

_____

o N/A because I have never had a child who is bilingual on my caseload.

10. Share **barriers** to providing speech-language interventions to students who are bilingual.

_____

_____

_____

_____

_____

_____

o N/A because I have never had a child who is bilingual on my caseload.

11. Share how you **compensate for cultural** differences (unrelated to language) in speech-language interventions with children who are bilingual.

_____

_____

_____

_____

o I do not feel sufficiently aware of the cultural differences of the children who are bilingual ono my caseload to make compensations in treatments.
o I do not compensate for cultural differences.
o N/A because I have never had a child who is bilingual on my caseload.

12. Compared to providing speech-language treatments to students who speak your L1, how much **time** are you likely to spend providing speech-language interventions to children who are bilingual?

o Significantly less time	o Less time	o Same amount of time	o More time	o Significantly more time	o N/A

13. What percentage of students who are bilingual have you **referred to another SLP** because you are not proficient in the student's L1?

o None	o 1-24%	o 25-49%	o 50-74%	o 75-99%	o All	o N/A

14. Which **clinical approaches** have you used in providing speech-language treatments to students who are bilingual? Select all that apply.

o Acquired translated materials	o Classroom curriculum interventions
o Translated therapy tools	o Modified treatment strategies/procedures
o Used interpreter	o Referred to bilingual service providers
o Caregiver-based approach	o Explicit instruction on targeted language skills
o Interaction-based approach	o Early literacy strategies
o Language strategies	o Interactive book reading
o Translated written materials, including consumer information	
o None of the above	
o N/A because I have never had a child who is bilingual on my caseload.	

15. What most impacts your choice when **selecting the language** in which to provide speech-language treatments?

o The child's relative proficiency in his/her language/s	o The child's most-impacted language
o The type of disorder (e.g., fluency, speech sound, voice)	o The caregivers' preference

_____

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o N/A because I have never had a child who is bilingual on my caseload.

16. How likely are you to use **translated materials** in a student's L1 if it is different than Standard American English?

○ 1 = "Not at all likely"	○ 2	○ 3	○ 4	○ 5 = "Very likely"
○ N/A because I have never had a child who is bilingual on my caseload.				

17. How likely are you to select **treatment tools which are sensitive** to the student's **culture**?

○ 1 = "Not at all likely"	○ 2	○ 3	○ 4	○ 5 = "Very likely"
○ N/A because I have never had a child who is bilingual on my caseload.				

18. **In which language** are you most likely to provide speech-language treatments to students who are bilingual?

○ My primary language (L1) only	○ I use an interpreter
○ The child's primary language (L1) if different from my L1	○ Both my L1 and the child's L1 if different from my L1
○ N/A because I have never had a child who is bilingual on my caseload	

19. How are you most likely to **program an AAC system** (e.g., low tech, high tech) for a child who is bilingual?

○ Program in the school's L1 (i.e., English)	○ Program in student's L1 if different than English
○ Refer to an AAC specialist	○ Program in both English and the student's L1 if different than English
○ I do not tend to utilize AAC in my practice	
○ N/A because I have never had a child who is bilingual on my caseload.	

20. How well do you feel your **training prepared you** to treat speech-language disorders to students who are bilingual?

○ 1 = "Poorly"	○ 2	○ 3	○ 4	○ 5 = "Very well"	○ N/A

21. Share how delivering services through distance learning during the **coronavirus pandemic** has affected your effectiveness for providing speech-language services to students who are bilingual.

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Appendix B

Informed Consent

Dear Speech Language Pathologist,

You are invited to participate in a web-based online or paper survey on strategies utilized by Speech Language Pathologists (SLPs) for treatment of speech-language disorders in children who are bilingual. I hope to learn about how SLPs in the school setting are providing interventions with this population, and how these practices compare to current research. You were selected as a possible participant in this study because you are certified by the American Speech Language and Hearing Association (ASHA) and are employed in school.

If you decide to participate, please complete the enclosed survey, or follow the link to the Qualtrics electronic survey https://bit.ly/3mp8gbv . Your participation in this survey is implied consent. The survey is designed to collect information about current intervention practices. It will take approximately 10 minutes to complete. No benefits accrue to you for answering the survey, but your responses may help us learn more about strategies utilized by school SLPs when treating speech-language disorders in children who are bilingual. Any discomfort or inconvenience to you derives only from the amount of time taken to complete the survey. There are no foreseeable risks involved in participating in this study.

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will not be disclosed.

Your decision whether or not to participate will not affect your future relationships with the Minnesota State University Moorhead. If you decide to participate, you are free to discontinue participation at any time.

Please feel free to ask questions regarding this study. You may contact the principle investigator, Nancy Paul, Ph.D. if you have additional questions at 218-477-4642 or paulnan@mnstate.edu. Any questions about your rights may be directed to Dr. Lisa I. Karch, Chair of the MSUM Institutional Review Board at 218-477-2699 or by e-mail at: irb@mnstate.edu.

Thank you for your time.

Sincerely,

Julianne Monceaux B.S. Speech-Language Pathology Graduate Student

Minnesota State University Moorhead