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A Study of Dual-Language Preschoolers with Moderate to Severe Autism: Perspectives and Practices of Professionals in Boston-area Massachusetts School Districts

Susan Davison
suedavison24@gmail.com

A Study of Dual-Language Preschoolers with Moderate to Severe Autism:

Perspectives and Practices of Professionals in Boston-area Massachusetts Public School Districts

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Susan Thomas Davison

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Approvals

In the judgment of the following signatories, this Dissertation meets the academic standards established for the Doctor of Philosophy Degree.

Dr. Marcia Bromfield Doctoral Committee Chair	_____	_____ Date
Dr. Maria de Lourdes B. Serpa Doctoral Committee Member	_____	_____ Date
Julia K. Landau, Esq. Doctoral Committee Member	_____	_____ Date
Dr. Jeffrey Perrin Director, Individually Designed Specialization	_____	_____ Date
Dr. Valerie Shinas Chair, Ph.D. Educational Studies	_____	_____ Date
Dr. Dana Fusco Interim Dean, Graduate School of Education	_____	_____ Date

Abstract

The rate of autism continues to increase globally across cultures and languages. Inequities exist in early access to an autism diagnosis and necessary evidence-based education and related services for dual-language children in the U.S. This qualitative dissertation study investigated the perspectives and practices of 10 educators and therapists working in the Boston area of Massachusetts with dual-language preschoolers with moderate to severe autism. Data was collected via semi-structured interviews on Zoom. Practitioners described their commitment to their students and families. Using a social constructivist phenomenological approach, the data analysis of the practitioners' responses resulted in seven main findings. Assessment procedures for special education eligibility determination, monitoring progress, or 3-year-reevaluations did not address the required practice of assessment in the home language. Instructional practices described included early childhood and monolingual special education with little mention of cultural and language factors. Barriers to dual-language instruction were highlighted, leading to the use of primarily monolingual practices in special education and related services. Challenges identified included accessing competent interpreters, the limited availability of early childhood bilingual special education professional development, and rare support from English as a second language (ESL) teachers. Parents' language barriers impacted their understanding of the special education process for their children and led to a delayed start of evidence-based autism services. Priorities for language instruction did not address the social communication needs of dual-language students with autism across settings. Additional barriers were identified regarding student access to appropriate online education and therapy for dual-language preschoolers during the COVID-19 pandemic. A limitation of this study is the research context of the pandemic lockdown, making it challenging to access practitioners and collect data. Recommendations

include the development of state standards for teacher preparation and professional development, policy change from monolingual to bilingual early childhood special education, and further research that includes dual-language preschoolers with autism. Using a bilingual special education approach with continuation of the native language and a focus on social communication development across home, school, and communities can support the most significant progress in learning and best quality of life outcomes for dual-language preschoolers with autism and their families.

Keywords: autism, autism spectrum disorder, early childhood bilingual special education, cultural and linguistic diversity (CLD), emergent bilingual, dual-language (DL), social communication, severe disability, COVID-19 pandemic virtual education

DEDICATION

To Ron, my amazing husband, my best friend, and my adventure buddy

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interacting laws for dual-language preschoolers with autism and encouraged me to write concisely. Julia stayed on my committee despite not knowing what a long journey this would be.

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CHAPTER 1: Introduction

> *For young children, the language of the home is the language they have used since birth, the language they use to make and establish meaningful communicative relationships, and the language they use to begin to construct their knowledge and test their learning...Each child's way of learning a new language should be viewed as acceptable, logical, and part of the ongoing development and learning of any new language.*
>
> *NAEYC Position Statement on Linguistic and Cultural Diversity*

This qualitative dissertation study was completed to explore the perspectives and practices of educators and therapists who worked in Boston-area, Massachusetts, public school settings with dual-language preschoolers with autism and their families. The practitioners engaged in semi-structured interviews via Zoom regarding their experiences providing in-person and virtual instruction and therapy[1] during the 2019-2020 school year. These educators and therapists reported they taught one or more students who lived with family members who spoke either a non-English home language or a combination of their home language and English. The family members' English language abilities were described as lying across a continuum of levels of English proficiency to bilingual fluency in English and the home language. The purpose of this research study was to investigate how these educators and therapists supported these young learners and their families within the overlapping fields of early childhood, special, and dual-language education. The researcher anticipated that the findings from this study would add additional information to the limited available research, provide insight into public school

[1] Due to the 2020 worldwide COVID-19 pandemic, Massachusetts' schools moved to a virtual format (https://www.mass.gov/doc/april-21-2020-school-closure-extension-order/download).

practitioners' decision-making processes, and lead to recommendations for policy, practice, and future research.

This chapter begins with descriptions of the background and context for this study, the problem statement, the statement of purpose, and the research questions. Next in this chapter are the following: the rationale for and significance of this study; a brief discussion of the research approach (later detailed in Chapter 3); and the researcher's assumptions. The last section of this chapter outlines the content of Chapters 1-5.

Background and Context

The complex process of providing education and therapy for dual-language preschoolers with moderate to severe autism in public school settings was the primary focus of this study. In addition, the researcher wanted to know how the practitioners addressed their dual-language students' home language learning needs in developing social communication skills across school, home, and communities. The interacting federal and Massachusetts state laws in civil rights, general education, special education, and English-language learner (ELL) education were created to protect the rights of dual-language learners with disabilities. Despite the educational research describing the cognitive and social-emotional benefits of bilingualism and the recommendations for a dual-language approach for children with disabilities (Castro & Artiles, 2021), the findings of published studies indicated various levels of knowledge among professionals and families and differences in opinions regarding effective practices (Drysdale et al., 2015; Kitzhaber, 2012; Kuhl, 2011; Padilla Dalmau et al., 2011; Reppond, 2015; Yu, 2013). The special education needs of young learners with autism generally have taken precedence over dual-language learning needs and have led to missing or delayed services to support developing communication in both

the home and school languages (Kay-Raining Bird, Genesee, & Verhoeven, 2016; Marinova-Todd et al., 2016).

Most autism education studies have been completed with children from the majority culture of the research location and with middle- and upper-class families (Dyches et al., 2004; Ennis-Cole et al., 2013), excluding culturally and linguistically diverse (CLD) populations from the data. Research involving children with disabilities has often presented itself as culture-free (American Psychological Association, [APA], 2021; Bal & Trainor, 2016) and has not reported consistently on race, class, or gender in special education research, making it difficult to understand which studies included CLD participants. Also, few studies have been completed on education models for dual-language learners with autism at the early childhood level (Bernier et al., 2010; Brodhead et al., 2014; Lund et al., 2017).

Children with severe autism with limited communication skills in English and their home language are also excluded from education research studies (Kohnert & Medina, 2009; Ohashi et al., 2012; Reetzke et al., 2015). Although children with developmental disabilities can and do become bilingual, dual-language preschoolers with moderate to severe disabilities have had rare access to dual-language opportunities (de Valenzuela et al., 2016). Due to this exclusion of children with autism from dual-language school programs and educational research studies, the available data related to bilingual education for children with moderate to severe disabilities has been limited.

Prior research that was available to review regarding bilingualism with children with autism often framed the findings by stating that a bilingual instructional approach does not cause adverse effects or result in disadvantages to the child's language development and learning (Restrepo & Castilla-Earls, 2013; Thordardottir et al., 2015) rather than describing the

detrimental consequences for the child and family when not supporting the home language (Hambly & Fombonne, 2012; Ohashi et al., 2013; Valicenti et al., 2013). Recent studies discussed the trauma to young children when not using a dual-language educational approach and the harm to the students' social-emotional development and family relationships (Halle et al., 2014; Opitz & Degner, 2012, as cited in Davis et al., 2021; Pesco et al., 2016; Silveira-Zaldivar et al., 2021). When a dual-language approach is *not* used, English-only instruction has been found to lead to home language loss, negatively impacting parent-child relationships and quality of life for bilingual children and their families. Therefore, this study sought to gather information about current educational and therapeutic practices to examine the problem of how to best address the complex education and therapy needs of dual-language preschoolers with autism.

Problem Statement

The problem addressed with this study was related to the difficult task of providing effective teaching and therapy in the overlapping areas of early childhood, special, and dual-language education for preschoolers with moderate to severe autism. The literature provided evidence that bilingual students have been over-identified or under-identified as having a disability (Restrepo & Castilla-Earls, 2021). Some bilingual students have been considered to have a disability when they instead required a better approach to addressing their dual-language learning needs. Other learners that had unidentified disabilities missed out on needed special education services because the professionals assumed the students' challenges were related to their bilingual experiences.

A third group, not often included in the research or discussed in practice, consists of the students with noticeable delays in early development and with inequitable levels of early access

to an autism diagnosis who have received special education services without dual-language instructional supports at the preschool level (Kay-Raining Bird, Genessee, & Verhoeven, 2016; Marinova-Todd et al., 2016; Rivera et al., 2021). The discrepancies in the age of access to an early diagnosis of autism for CLD toddlers, often required for necessary autism-based early intervention services, have resulted in many children having a delayed start to autism-based services or no autism-based services prior to and after entering the public schools at age three (Aylward et al., 2021; Castro & Artiles, 2021; Norbury & Sparks, 2013; Pieretti & Roseberry-McKibbon, 2016). When autism-based services have been offered, they have generally been provided in a monolingual English model for students with moderate to severe disabilities. The necessary dual-language professionals and resources for public school practitioners to do their jobs effectively in early childhood special education have been limited or missing due to a history of excluding children with moderate to severe autism from bilingual methodologies.

Multiple factors have contributed to and exacerbated these problems. Public school practitioners' have varied levels of training and understanding of the research-supported practices for bilingual special education. It has been complicated for educators to interpret and apply the appropriate types of services based on interacting civil rights, special education, and English language learner laws without developed public school policies that have included all dual-language learners, regardless of the severity of their autism disability. There has been a limited number of CLD professionals in early childhood education. Preschool practitioners have worked diligently in challenging roles to meet the needs of their unique learners without these appropriate policies and resources. The instructional process has been complicated when preschoolers with autism are dual-language learners, and the educational system in place has not supported identifying these learners as bilingual due to the severity of their autism disability.

Statement of Purpose and Research Questions

The purpose of this qualitative research study was to understand the perspectives and practices of professionals who worked in four public school settings during the school year 2019-2020 with dual-language preschoolers with moderate to severe autism and their families. The 10 interview participants confirmed that they taught one or more students who lived with family members who used a non-English language at home and in their community. The parents and extended family members were described at different levels of English proficiency and stages of the acculturation process of living in the U.S.

The following research questions guided this study:

1. How do practitioners provide education and therapy to dual-language preschoolers with autism in Boston-area, Massachusetts, public school districts? What is happening in the day-to-day experience of interacting with and providing education for these children and their families, as described by these practitioners?
2. In these practitioners' experiences, what may be different or additional when teaching dual-language (as compared to monolingual) preschoolers with autism and collaborating with their families? What decisions are made regarding the language of instruction and educational strategies when the preschool child with autism lives with non- or limited-English-speaking families?
3. How are the social communication needs of dual-language preschoolers with autism from culturally and linguistically diverse (CLD) dual-language families considered and supported across the school, home, and communities?

4. What happened to teaching and therapy for dual-language preschoolers with autism and their families when educational services switched to a virtual format due to the COVID-19 pandemic?[2]

Rationale and Significance

The rationale for this study emerged from the necessity to better understand the research-based practices for dual-language preschoolers with moderate to severe autism by examining what was happening in public schools according to practitioners in the field. This researcher was especially interested in investigating how the important social communication skills of young dual-language learners with moderate to severe autism were supported by practitioners across the school, home, and community settings. This was deemed significant because this student population has generally been excluded from education studies and access to dual-language programs. This study also adds to the limited research on bilingualism in the overlapping special and dual-language education fields for preschoolers with autism.

The researcher determined that an increased understanding of the challenges faced by public school educators and therapists when working with their dual-language preschoolers with autism and their families would lead to recommendations to better inform practitioners' instructional decisions. In addition, by highlighting the importance of social communication skills across languages and settings, evidence-based strategies to support dual-language preschoolers with autism could be implemented. This study also addressed the disconnect between education research, public laws, and current practice, leading to recommendations for policy, practice, and future research.

[2] Unexpectedly, due to the COVID-19 global pandemic, schools closed in March 2020 and moved to a virtual format and led to a fourth research question.

Research Design Overview

A phenomenological approach to qualitative research (Bloomberg & Volpe, 2012) was used to gather data via semi-structured interviews in August and early September 2020. This research design was chosen to retrieve data in the practitioners' own words about their perceptions and practices related to working with their dual-language preschoolers with autism and their families. The use of semi-structured interviews allowed for asking initial questions from the developed research tool (see Appendix B) and additional probing questions within the context of the interview conversation (Bloomberg & Volpe, 2012; Maxwell, 2013).

The 10 educators and therapists from whom the data was obtained were recruited using a snowball or chain sampling strategy (Bloomberg & Volpe, 2012). The practitioners worked across four school districts outside Boston, Massachusetts that reported 30% or higher levels of Hispanic students per the Massachusetts Department of Education website (2020). The researcher transcribed the audio recordings from the Zoom interviews. The printed transcripts were coded and organized into categories and themes and analyzed using a social constructivist lens, leading to seven main findings. These findings represent the practitioners' perspectives regarding their work with dual-language preschoolers with autism.

The Researcher

The researcher has worked for over 40 years as a general and special educator with young children with moderate to severe disabilities, including preschoolers with autism, in integrated and substantially separate classroom settings in public and out-of-district schools in Massachusetts. As a board-certified behavior analyst (BCBA) for the past 15 years, specifically trained to provide education and therapy to individuals with autism and their families in their homes, clinic-based, and school settings, the researcher has utilized evidence-based strategies

with monolingual and bilingual children. During this work, the researcher observed a lack of coordination between special education and dual-language learner services for bilingual preschoolers with autism, leading to the topic of this study. The researcher wanted more information to improve her practice from a bilingual perspective and to inform stakeholders in the autism education field.

The researcher was situated both inside and outside this research from a sociocultural perspective. As a professional who grew up in a monolingual family and attended a predominantly White middle-class school district, the researcher had access to multiple higher education and career opportunities to become one of the majority-language educators and therapists primarily found in special education (Lopez-Reyna et al., 2021). The researcher's early second language learning opportunities were studying Latin and French in classroom settings from middle school through undergraduate college. Therefore, this researcher did not have first-hand experience either growing up or raising her children in a bilingual environment. Throughout this study, the researcher maintained her awareness of her lack of experience as a student, mother, and educator in dual-language classrooms and communities.

The researcher's first opportunity to use another language in everyday experiences occurred when she worked as a residential counselor at a school for the Deaf (capitalized per Deaf culture expectations), supporting three young Deaf children with autism and a learning disability while working alongside Deaf residential counselors. The experience at the school for the Deaf gave the researcher the perspective of being a minority-language English speaker in the voice-off communication environment of American Sign Language (ASL) and Deaf culture. As a result, the researcher developed increased empathy for minority-language speakers. The researcher developed fluency in ASL over several years with daily immersion opportunities. This

researcher has been studying Spanish for the past decade with limited immersion opportunities and considers herself an advanced beginner in reading and writing but with continued difficulties understanding and speaking with fluent Spanish speakers, demonstrating the timely process of becoming proficient in other languages, especially if not able to experience regular second language immersion opportunities.

Learning a new language takes considerable time and effort, despite many public school professionals' advice to families to speak English with their children as if it were a simple feat to match the fluency levels of their home languages for appropriate parent-child interactions. The researcher utilized ongoing self-reflection practices to maintain awareness of her status as an insider and an outsider throughout the steps of completing this study.

Researcher Assumptions

The researcher worked to address any biases and assumptions throughout this dissertation process, given her multiple higher education and career experiences as an educator and behavior analyst and her extensive knowledge about evidence-based practices for children with autism. Several assumptions were considered at the start of and monitored throughout this study. It seemed likely that the researcher's cultural and linguistic background would be similar to many of the practitioners interviewed, given the majority culture prevalence of public school professionals in the education field (Lopez-Reyna et al., 2021). However, despite these similarities, the researcher also assumed that the participants' perspectives might vary from her views based on their different education and work experiences. The researcher also had prior experiences working with monolingual colleagues who expressed differing opinions about a bilingual approach for dual-language preschoolers with autism.

In addition, the researcher had not worked in public school settings for several years, so she assumed that the practitioners might share updated policies and protocols for addressing the complex needs of dual-language preschoolers with autism. The researcher's goal was to engage the practitioners in conversations about their perspectives and practices during the semi-structured interviews without judgment. Since it seemed likely that the practitioners' opinions could be different from this researcher's perspectives, she worked on listening to the responses with an open mind, as Maxwell (2013) recommended. The researcher used established qualitative practices throughout the interview process and when transcribing, coding, and analyzing the data to obtain reliable and valid conclusions in this study while addressing any assumptions.

Summary

In this chapter, the researcher described the study's context, why this problem must be addressed, and the research questions that were examined to answer how the 10 public school educators and therapists supported their young learners with autism within the overlapping fields of early childhood, special, and dual-language education. Also, included in this chapter were the following: the rationale for and significance of this study; a brief discussion of the research approach (later detailed in Chapter 3); and the researcher's assumptions. See definitions of educational terms in Appendix A. Brief summaries of the content of this full dissertation are next.

Outline of Chapters

Chapter 1: Introduction

This chapter included descriptions of the background and context for this study, the problem statement, the statement of purpose, and the research questions. Also included were the

following: (a) the rationale for and significance of this study; (b) a brief discussion of the research approach (later detailed in Chapter 3); and (c) the researcher's background and assumptions at the start of the study.

Chapter 2: Literature Review

In this chapter, three main areas of literature were critically reviewed: (a) the definition and statistics about the special education disability category of autism and the research-based practices related to assessment and instruction for preschoolers with autism, including CLD implications; (b) the history of bilingual education for children who are typically-developing and with disabilities other than autism; and (c) the research and recommendations in the literature for children with autism who require specialized instruction in the overlapping areas of early childhood, special, and dual-language education.

Chapter 3: Methodology

This chapter includes this study's research design, participants' profiles, and data collection and analysis processes. The chapter ends with sections about ethical considerations and the limitations and delimitations of this study.

Chapter 4: Data Analysis and Findings

Chapter 4 presents the seven main findings to answer the four research questions and includes practitioner quotes to illustrate the categories.

Chapter 5: Discussion of Findings

Included in the final chapter are the following: (a) a discussion of the seven main findings within the context of the literature; (b) the limitations of this study; and (c) the recommendations for policy, practice, and future research.

CHAPTER 2: Literature Review

The purpose of this qualitative research study was to investigate the perspectives and practices of professionals working in Boston-area, Massachusetts, public school settings with dual-language preschoolers with moderate to severe autism during the 2019-2020 school year. This researcher sought information in the practitioners' own words about how they addressed the overlapping education disciplines of early childhood, special, and bilingual education. Three main areas of literature were critically reviewed.

Section 1 of this literature review provides information about autism: definitions of autism and autism statistics; the importance of social communication skills and the need for using a wider lens for language instruction for young children with autism; and a summary of autism assessment and treatment models and the challenges in accessing appropriate diagnoses and education for culturally and linguistically diverse (CLD) children. Section 2 includes a brief history of bilingual education in the United States and a summary of the research on current dual-language instruction for children who are typically developing and with disabilities other than autism. In Section 3, the researcher analyzed the studies related to young dual-language children with autism and their families, conducted both inside and outside the U.S. Studies included reviews of research on bilingualism and autism, research studies organized by relevant topics, and a few small but important studies.

Some terms that may be considered synonymous will be utilized as follows. The terms "autism," "autism spectrum disorder," and "ASD," are used with the understanding that due to the discrepancies in accessing an early autism diagnosis, some children may be accessing public

school services under the special education disability category of "developmental delay"[3] rather than "autism." The terms "dual-language," "emergent bilingual," "bilingual," and "English language learner" (ELL) may be used interchangeably to refer to students and families. The term "culturally and linguistically diverse" (CLD) is also used to refer to families. Programs of instruction and curricula are labeled as the following: "English language" or "EL"; "English as a Second Language" or "ESL"; "culturally responsive"; "dual-language" or "DL"; or "bilingual special education." See definitions of educational terms in Appendix A.

Research that met the criteria for inclusion in this review, whether completed inside or outside the U.S., included bilingual participants, non-majority language speakers, or at various levels of development in the majority language of the location of the study. Research conducted in the U.S. includes descriptions of the languages as English and non-English or English and the specific languages used by the study's participants. For studies completed outside the U.S., the predominant language will be named along with the other languages spoken by the individuals studied when available and relevant to the concepts being explained.

Cultural aspects related to communication and education for young dual-language learners with autism are shared when described in the research. Differences exist within cultures as they do within majority-culture monolingual families regarding country of origin; family makeup; family values, beliefs, and preferences; socio-economic parameters; opinions about disabilities; and personal experiences parenting a child with disabilities. Other factors described when available include the severity of the autism diagnosis of the children in the studies and if additional diagnoses of intellectual disability or cognitive delays are mentioned. The types of

[3] See this link for definitions of disability categories: https://www.doe.mass.edu/sped/definitions.html

programs children have access to for special education and learning a second language are provided when available and relevant. This paper does not allow for an in-depth analysis of the variety of programs and the differences in access to these programs (see Serpa [2011] for more information).

Section 1: Autism

Section 1 of this literature review provides information on autism spectrum disorders (ASD) and statistics worldwide, in the U.S. and in Massachusetts, where the public school settings of this study's participants were located. The evidence-based practices for supporting dual-language preschoolers with autism across skill areas, particularly related to the development of social communication skills, are discussed. Cultural and language factors relevant to this study are also described.

Definition of Autism

Autism is a neurodevelopmental disorder, with children exhibiting skill deficits in social interaction with restricted interests and repetitive behaviors (American Psychiatric Association, 2013; 2021; Centers for Disease Control and Prevention [CDC], 2021; Dawson, 2010). According to the DSM-5, updated in 2013, autism spectrum disorder (ASD) is now considered a single umbrella disorder with a continuum from mild to severe ("spectrum" of abilities), rather than the separate diagnoses of autism, Asperger's syndrome, or pervasive developmental delay (PDD) used in the DSM-IV (American Psychiatric Association, 2013). To meet the criteria for an ASD diagnosis, a child must show deficits that persist across settings in social communication and social interactions *and* repetitive, rigid, or restricted interests or behaviors that interfere with daily functioning. Social communication deficits include unusual or absent social initiations, limited responses to verbal and non-verbal interactions, and reduced reciprocal interactions.

Examples of repetitive or restricted interests or behaviors may include motor movements such as hand-flapping or teeth-grinding, using toys and objects in unusual ways (spinning wheels on cars or opening and closing doors on dollhouses), and over-focusing on specific topics or routines.

Often the terms "high-functioning" or "low-functioning" have been used to describe how a child with autism engages in their environment. According to the DSM-5 (American Psychiatric Association, 2021), severity levels are determined by the intensity of support needed (requiring support, substantial support, or very substantial support). This spectrum of levels of participation and interactions across settings and activities varies for each child. For a child considered "high-functioning," the child's differences may not be easily noticed by the casual observer. For a child with severe autism requiring very substantial support, significantly delayed communication and social interaction abilities can result in limited verbal language and noticeable differences based on the child's engagement in motor stereotypy, unusual affect, and challenging behaviors such as bolting and aggression.

Autism Statistics

Worldwide, autism is estimated to impact one in 100 children, with recommendations for community and societal support for improving communication and social skills, leading to positive outcomes and better quality of life (World Health Organization [WHO], 2021). Autism has educational and medical implications, with the rate recently updated by the Center for Disease Control (CDC; 2021) occurring at a rate of 1 in 44 children in the United States. This data indicated that 2.3% of 8-year-old children in this country have an autism diagnosis, according to an analysis of 2018 data (The Autism and Developmental Disabilities Monitoring [ADDM] Network, CDC, 2021). Medical issues related to autism (not the focus of this review

but important to consider) can include anxiety or other mental health issues, sensory dysfunction, allergies, seizure disorders, and gastrointestinal problems (Sala et al., 2020).

Educational implications for the young child with autism often include learning delays across areas of development, including early academics, play skills, and activities of daily living (dressing, eating, sleeping). An additional impact on learning results from approximately one-third of the 8-year-olds in ADDM's analysis of the 2018 data meeting the criteria for an intellectual disability *and* autism, with more Black children identified with intellectual disabilities than White or Hispanic children. Global data indicated that 50% of individuals with autism also met the criteria for intellectual delay or cognitive disability (Russell et al., 2019). Although educational and therapeutic strategies have been proven necessary to remediate all skill deficits and challenging behaviors, the social communication needs of children with autism are the primary area focused on in this study, especially for those children more compromised by autism with or without an intellectual disability.

The CDC (2021) data reported were collected from health and special education records of four- and eight-year-olds within 11 communities across the U.S. Despite the continued rise in autism rates based on the CDC data, a report indicated that children born in 2014 (4 years old in the 2018 collected data) were 50% more likely to receive an autism diagnosis by the age of 48 months as compared to those born in 2010 (age 8-years-old in the 2018 data pool). Early access to diagnoses and treatment is considered necessary for positive educational and medical outcomes. However, racial and ethnic differences connected to accessing an autism diagnosis and appropriate services were reported to continue.

Although differences in autism phenotypes and genetic history based on ethnicity and race have not been exhaustively researched, there appeared to be more similarities than

differences across groups based on race, culture, and ethnicity (Chaidez et al., 2012). Despite these similarities in autism presentation, cultural and language factors that impact equitable access to an autism diagnosis and services have included sociodemographic effects and the level of financial and educational resources of families (Aylward et al., 2021; Chaidez et al., 2012).

According to U.S. Census (2016) data in Massachusetts, people who identified as Hispanic or Latino made up 12.4% of the state's population. Black individuals represented 9%, and Asian individuals represented 7.2%. Massachusetts public school enrollment data for the 2021-2022 school year (Massachusetts Department of Education, 2021) indicated that 23.9% of students reported the first language as other than English, with 23.1% identifying as Hispanic, 9.3% as African-American, and 7.2% as Asian. Students with disabilities represent 18.9% of this overall population. The percentage of children ages three to five years old in Massachusetts that were dual-identified for qualifying for special education and English as a second language (ESL) services was 5.15% of students that age (Office of Special Education Programs, 2022). This data indicated that many students with disabilities live with non-English families and attend Massachusetts public schools and require equitable access to appropriate educational services.

Intersecting Laws in Special Education and Dual-Language Learning

Dual-language preschoolers with autism are legally protected by federal and state laws in the United States. The interacting laws that have been developed and updated at the federal and state levels provide mandates for educational policies for this growing population of children with autism and their families in public school education and their homes and communities. Civil rights, general and special education, English language learning, and autism laws interact to protect the rights of children who are ELLs and students with disabilities (Serpa, 2011).

Despite the work that has been completed to design policy guidelines at the federal and state levels, increase cultural awareness of educators, and provide resources to families, many gaps continue to exist between the research, public laws, policies at the state and district levels, and education practices regarding the interaction of language learning and special education needs (Raj, 2015). In particular, the needs of early childhood preschoolers with severe disabilities have not been adequately addressed in the guidelines. Research has also described the over- and under-identification of children who are English language learners and may require special education (Serpa, 2011; Restrepo & Castilla-Earls, 2021). Due to the lack of appropriate training and specialized staff across the educational disciplines, children may have been designated as special needs students when they instead required better strategies for supporting them as dual-language learners. Alternately, the special education needs of many bilingual students have been ignored because their cognitive and academic delays were assumed to result from their bilingualism. These mistakes have led to a lack of appropriate services for these students. Also, in this researcher's experiences and as described in the literature, when young children with a recognizable disability have not had equitable access to appropriate diagnostic evaluations and early intervention services, it has appeared that some public school professionals have incorrectly assumed that the more severe the disability, the less need there was to address the home language of the child (Pieretti & Roseberry-McKibbon, 2016; Rivera et al., 2021).

The use of advocacy strategies and services, often necessary for families to better navigate the maze of medical and educational needs of their young child with a disability, are most easily accessed by families with "cultural capital" (Trainor, 2010). Cultural capital requires parents to have appropriate knowledge and skills, available time, and financial resources to support their child in accessing services mandated by the interacting public laws. CLD and lower

SES families (often correlated) may have language barriers that interfere with their ability to understand the special education steps and to access advocacy to support their child's Individualized Education Plan (IEP) process. For more information on the laws, please see the links in footnote.[4]

The Importance of Social Communication Skill Development

Although children with autism require research-based educational and therapeutic strategies across all areas of development, this study focused on language and social communication development for dual-language preschoolers with autism. For young children, social communication skills (also sometimes referred to as pragmatic language skills) are critical for engagement with people across settings (American Speech-Language-Hearing Association, 2021; Fuller & Kaiser, 2020; Silveira-Zaldivar et al., 2021; Stronach & Wetherby, 2017). This is an area of significant delay for children with autism. Learning to use the multiple functions of language (greeting, informing, demanding, requesting) and practicing the rules of communication (gestures, facial expressions, positioning and space with communication partners, eye contact, turn-taking) are necessary for positive relationships with family members and peers, success in school, and reduction of behavior challenges. Social communication skills have been connected to long-term positive outcomes for language development and quality of

[4] IDEA, 2004: https://www.doe.mass.edu/sped/idea2004/#:~:text=The%20Individuals%20with%20Disabilities%20Education,education%20for%20children%20with%20disabilities
ESSA, 2015: https://www.ed.gov/essa?src=rn
Kangas, S., 2018: https://www.sarakangas.com/uploads/3/0/1/0/30101275/kangas__2018__tq.pdf
Serpa, M., 2011: https://scholarworks.umb.edu/cgi/vnt.cgi?article=1151&context=gaston_pubs

life. Pragmatic language development can be taken for granted in typically developing children as they progress within enriching language environments without requiring systematic instruction, as is often required for children with autism. It is critical to provide opportunities for children with autism to engage across settings, especially when they have limited communication abilities.

Using a monolingual perspective, Sterponi and colleagues (2014) reviewed research on language in autism. They presented a view of communication development from a multidimensional perspective focused on interactions within the context of social actions and experiences. This perspective has led to interventions that support scaffolding social interactions for each child's overall development rather than using the reductionist viewpoint of language as a referential system for spoken English only. Fuller and Kaiser did not mention CLD factors in their meta-analysis, which included 29 studies on social communication outcomes for children with autism. However, these researchers did conclude that early intervention supported the increase of crucial social communication skills. Implementation by therapists, trained parents, and educators resulted in the best outcomes for intentional communication, including non-verbal communication and spoken language (with a more impressive positive effect when the parents implemented the procedures than the educators).

In a Taiwanese study that addressed social communication development for babies and toddlers with autism, but without mention of implications for dual-language children, Wu & Chiang, (2013) focused on joint attention and social initiations and responses. Wu & Chiang investigated the early trajectories of the development of social communication skills at ages nine months, 12 months, and 15 months. The 26 typically developing children in the study demonstrated a reliable pattern of developing social communication skills, including joint

attention, imitation, and play. When compared to the typically developing children, babies and toddlers with autism showed a different sequence of skill acquisition and required specialized interventions to support progress in social communication skills. Stronach & Wetherby (2017) completed a similar study investigating social communication skills across race and ethnicity with 364 toddlers ages 18-36 months. Stronach and Wetherby found delays and differences in the patterns of social communication development for children with autism, with no significant differences in the learning trajectory related to race or ethnicity. Stronach and Wetherby concluded that using tools to assess social communication patterns of development in young children with autism could result in earlier identification of autism across race and ethnicity and lead to appropriate education and related services. Additional research studies on the social communication needs of bilingual preschoolers with autism are described in Section 3 of this chapter.

Autism Assessment for Diagnosis and Accessing Services

Assessment practices are used to diagnose children with an autism spectrum disorder (by a neuropsychologist, neurologist, or developmental pediatrician), for determining eligibility for special education services under the IDEA (2004) law and for accessing insurance-based education and health services at home or in a clinic-based setting. Although this literature review did not allow for an in-depth discussion of the research related to assessment for a diagnosis of autism and the increased challenges for young dual-language children, a general discussion with some examples is included next.

CLD Considerations in Diagnosis for Autism Spectrum Disorder

Diagnosis for an autism spectrum disorder has been reported as challenging for monolingual English children when assessed in English (Castro & Artiles, 2021). The diagnostic

process was said to be more complicated when language and cultural factors were present. Initial pediatric screenings that determined possible areas of concern have led to recommendations for additional testing by a pediatric specialist, neurologist, or multi-disciplinary team with expertise with young children with autism. However, the current model has often been to assess CLD children's language and communication abilities using a monolingual perspective of language learning based on a White western middle- and upper-class English model, which was shown to be problematic (Aylward et al., 2021; Huerta & Lord, 2012; Norbury & Sparks, 2013). The child's home language has often not been considered significant during the assessment process. Due to the nature of autism, there is considerable variability in language levels, imitation abilities, and pre-linguistic babbling among children. When a child from a non-English family presents with limited communication skills, it is essential to assess all modes of communication in receptive, expressive, and social communication skills within a cultural context across settings (Sloan-Pena, 2015).

The authors of a Dutch study (Begeer et al., 2009) that aligned with the findings in the U.S. studies reported the difficulty in detecting ASD in minority children. Results indicated subtle bias among medical practitioners. Delays in language and social development were incorrectly attributed to the general dual-language needs of minority children and the family's adaptation process to a new location and culture. Emerging research emphasized the need to remedy these inequities and find ways to remove barriers for young dual-language children to access an early autism diagnosis.

The American Psychological Association (APA; 2021) and other professional organizations developed guidelines on the responsibility to use CLD practices in research, yet the field of psychology has continued to use standardized psychological tests based on majority-

culture assumptions. The validation of translated diagnostic instruments was reported as an emerging field (Norbury & Sparks, 2013; Pieretti & Roseberry-McKibbon, 2016; Sloan-Pena, 2015). Properly validated instruments must be developed because items on diagnostic tests cannot be considered equivalent when interpreted across cultures and languages, and instruments need to include norms based on CLD populations of children. Because professionals have relied heavily on standardized tests for many children, even though primarily White middle-class males have developed these assessment instruments (Norbury & Sparks, 2013; Pieretti & Roseberry-McKibbon, 2016; Sloan-Pena, 2015), assessment for bilingual children has continued to be problematic with limited neuropsychological tests created specifically for children living with Spanish-speaking (or other non-English) families. Only a small number of bilingual psychologists have been available to administer appropriately translated and normed assessments for non-English speaking children and families.

A multi-stage model was developed by El-Ghoroury and Krackow (2012) for assessing multicultural children for early detection of autism with a culturally responsive approach. This screening supported the determination of needed referrals to early intensive behavior intervention for dual-language toddlers. The model utilized parent input and addressed cultural perspectives throughout each stage. Four reviewed cases provided examples, with the children described at ages 30 months, three years, eight years, and 11 years old; and two Puerto Rican, one African American, and one Arabic. These case examples highlighted specific challenges with cultural assessments, including misdiagnoses, late diagnoses, and struggles on the part of evaluators to separate language and behavioral issues. Similarly, after a review of multiple autism screening and diagnostic tools (Harris et al., 2014), the team recommended the use of an ecological approach, gathering information across various environments and people who had

interacted with the child. Harris et al. made similar recommendations to those by El-Ghoroury and Krackow (2012).

Harris et al.'s (2014) review identified the following problems in assessment tools and processes. Assessments included normative samples with non-English speaking children but not with English-language learners. Assessments collected information from families but not from multiple adults who interacted with the child in daycare and school settings. Assessments did not include observations of the child in their natural settings. Assessment tools had no standardized process for modifying and adapting for CLD dual-language children; only one assessment tool even mentioned CLD children. Only one assessment included collecting information about home language use, which is necessary to determine a language delay. Only one assessment included details on how to use an interpreter, which is essential to the evaluation process due to the low number of bilingual practitioners. Assessments did not all address non-verbal communication, and no assessment included understanding the acculturation process or its importance when evaluating the child. Recommendations included addressing these issues to provide equitable access to an early autism diagnosis.

School-Based Assessments

Initial assessments are a part of the public school process for determining eligibility and planning for special education services for a young child with a diagnosis of autism (or indicating delays with signs of autism). Based on IDEA (2004), school-provided assessments should include evidence-based practices for dual-language preschoolers with autism. Despite the education laws (ESSA, 2015; IDEA, 2004) that assessment and instruction be individualized and include the home languages, this has not been the case in practice for many dual-language students. School districts have documented variability in how and when they provide autism-

based services (sometimes contingent on having accessed an autism diagnosis before age three). Assessments have also been utilized to access insurance-based medical services (such as ABA) provided in the child's home and community for those with an autism diagnosis (National Conference of State Legislatures, 2017). Unfortunately, CLD children have often experienced delays in accessing autism-based services (Castro & Artiles, 2021).

At the preschool age, dual-language children with autism have already accessed inequitable levels of early intervention supports that research has correlated with the best learning outcomes for students with autism during the K-12 grades and beyond (Zwaigenbaum et al., 2015). For families that are not proficient in English, language barriers have limited or denied access to verbal and written communication in the medical and educational fields, resulting in reduced levels of parent knowledge regarding autism. In addition, challenges with translating information in print or via interpreters have complicated understanding the diagnostic and treatment options. Reduced literacy levels and limited experience accessing services can also lead to inequities for dual-language preschoolers (Bernier et al., 2010; Ijalba, 2016; Tek & Landa, 2012). Variability in parent interpretation of vocabulary may lead to misunderstandings, such as "developmental delay" being translated as "mental retardation" (Sloan-Pena, 2015). Therefore, the family's literacy level and understanding of social versus medical or academic language have impacted the home-school communication partnership and school-based assessment outcomes.

Monolingual English Educational Practices for Young Children With Autism

Effective educational and therapeutic practices for young children with autism have been developed due to the increasing number of children impacted by autism. Research reviews have investigated the literature for appropriate instructional strategies. Other factors contributing to

successful educational outcomes for children with autism include implementing appropriate strategies across natural environments with parent involvement. In a review of the research from 2000 to 2013 related to effective practices for children with autism, Zwaigenbaum et al. (2015) concluded that a combined behavioral and developmental approach, used as early as possible (preferably starting before the age of two years old), with a minimum of 25 hours per week of intensive services leads to the most progress across skills. The provision of specific instructional approaches, following the guidelines of applied behavior analysis (ABA) and early intensive behavior intervention (EIBI), are evidence-based practices used by school personnel, therapists, and parents. EIBI is based on ABA, providing a comprehensive approach as early as possible across settings and people (Eldevik et al., 2009; Reichow, 2011). Developmental social pragmatic instruction has also provided success for children with autism in the development of social communication and language skills when used in conjunction with ABA and parent implementation (Binns & Cardy, 2019; Smith & Iadarola, 2015). Augmentative and alternative communication (AAC) supports have provided additional communication modalities (Light & McNaughton, 2014) for individuals with autism requiring options to supplement emerging speech and foundational social communication skills.

Applied Behavior Analysis and Early Intensive Behavior Intervention

Applied Behavior Analysis (ABA) uses the systematic application of principles of behavior analysis to improve socially significant behaviors in individuals (Cooper et al., 2007). Behavior analysts identify the variables responsible for behavior change to reduce challenging behaviors and increase skill acquisition in language, communication, social skills, and other areas of development. Research has emphasized the importance of using ABA principles in a contemporary, flexible model within the child's natural environments rather than the initial

traditional model with skill practice in an isolated setting (Vivanti, 2020). When embedded into the child's natural environment and using a developmental model (understanding the typical and atypical patterns of development over time), these intervention strategies have supported social communication development from pre-linguistic to linguistic stages across people and settings.

In a unique study that compared pre- and post-test outcomes for 831 children (Makrygianni et al., 2018) by analyzing 29 studies from 1987-2015 completed across seven countries, ABA was found to be moderately to highly effective when utilized to increase expressive and receptive language, social communication skills, adaptive behaviors, and cognitive skills. Reichow (2011) reviewed several meta-analyses on early intensive behavior interventions (EIBI) for young children with autism to better understand effective interventions. EIBI utilizes ABA strategies in a comprehensive format and has been determined as a robust approach to interventions that have increased children's IQ and adaptive behaviors.

Since ABA and EIBI approaches have not resulted in similar successes for all children, recommendations have called for additional research that breaks down variables such as the approach, intensity, duration, and fidelity of procedures. Ongoing studies that have included mostly monolingual children and families (often excluding dual-language learners) have continued to demonstrate success for many children with the use of ABA; however, more information is required to understand why some children make dramatic progress and some children, despite intensive programming, make very little progress (Vivanti et al., 2014; Zwaigenbaum et al., 2015). Also of importance to note is the range of how ABA practices are implemented, from traditional to contemporary models, and with trauma reported in the adult autism communities from rigid ABA methodologies (McGill & Robinson, 2020).

Augmentative and Alternative Communication

Many children with complex communication needs, including children with autism, require a combination of aided and unaided augmentative and alternative communication (AAC) supports (Mirenda, 2009). Unaided supports include sign language and gestures. Aided supports consist of objects, photos, symbols, and drawings, often on a communication board, in a book format, or on an electronic speech-generating device (SGD). Professionals might avoid use of AAC tools when a child speaks a few words because of a misperception that waiting will allow the child to develop further speech. Educators and families have shared concerns about using AAC tools if implemented before basic communication skills have developed. However, research has confirmed that AAC tools support rather than hamper speech development (Mirenda, 2009; Light & Drager, 2007). AAC strategies offer additional means for communication development in children with moderate to severe autism. In a review of the past 40 years of AAC research, Light & McNaughton, 2014 found an increased need for the use of AAC supports for positive social communication outcomes, partly due to the growing number of children with autism. In addition, practitioners and the general public have developed increased awareness and acceptance of AAC as appropriate for individuals with complex communication needs, even when they present with cognitive impairments.

In a systematic review of research on AAC approaches for increasing social communication functions in children with autism, Logan et al. (2017) investigated language skills beyond simple requests for desired items and found evidence that supports the social validity of teaching varied communication functions and abilities. Of note, Logan et al. did not include bilingual or cultural guidelines, demonstrating a significant gap in the literature. Logan et al. analyzed 30 articles (six group studies and 24 single-case experimental design studies) that

reported positive evidence for Picture Exchange Communication Systems (PECS) and speech-generating devices (SGDs) as aided communication for children with disabilities. This group of studies provided support for recommendations to utilize AAC tools to teach a variety of functions of language outside the basic early language skill of requesting objects. Logan et al. have advised the use of strategies that increase children's abilities to express multiple communication functions, including the following recommendations. AAC instruction should be supported by ABA methodologies. The best progress has been reported when intervention is provided in the child's natural settings. Identifying and using the interests of each child must drive programming and instruction. Planning requires the provision of increased communication opportunities with a variety of communicative partners and the inclusion of families. Therefore, further research on dual-language AAC approaches is warranted.

Naturalistic and Parent-Implemented Interventions

Early intervention with appropriate education and therapy has been recommended and supported by research, regardless of early identification of autism, when a child exhibits developmental delays. Naturalistic and parent-implemented strategies that teach critical social communication skills in a developmentally appropriate manner have led to better outcomes for children (Boyd et al., 2010). Studies continue to trend toward utilizing the technologies of ABA and EIBI in each child's daily settings, with natural contingencies, integrating child and family interests, preferred materials, and reinforcement strategies (Schreibman et al., 2015). Goals have been maximized when parents are included in the process with practitioners and can follow teaching guidelines when engaging with their children (Landa, 2018). In a review of 51 empirical studies, Rojas-Torres et al. (2020) investigated early intervention strategies for children with autism. The positive influence of parent participation in therapy and teaching was reported. A

retrospective study completed with 112 children with autism to investigate sibling effects on severity of ASD presentation found that children with older siblings had reduced social communication challenges (Ben-Itzchak et al., 2016), demonstrating the importance of social communication opportunities within the home with all family members.

Commonalities in Successful Treatment Models and CLD Considerations

Zwaigenbaum et al. (2015), in their review of empirical studies for effective educational and therapeutic practice for children with autism described earlier, analyzed outcomes across areas of development to provide clear recommendations for intervention guidelines for children with autism under the age of three. In addition to the developmental-behavioral practices already described, active family and caregiver involvement were critical factors in their child's success. Developmental progress was enhanced via interventions that included understanding the family's sociocultural beliefs, economic level, and ability to access supports.

When turning three, per IDEA (2004), children with disabilities are required access to school-based special education programs. The type and amount of programming provided has varied across states and school districts, but recommendations from the research generally have included these key components: services provided for a full school day and year-round based on individual needs; family involvement; specialized curricula; instruction in a systematic, deliberate fashion in 1:1 and small group settings; a functional approach to decrease problem behaviors; and a communication-rich environment (Iovannone et al., 2003; National Research Council, 2001). When interventions are based on the general factors stated above, components can vary in form and intensity to support individual child needs and differences, such as age, autism severity, and the communication and language contexts of family and community.

As a leader in the field of ABA, Smith (2012) has recommended that researchers and practitioners consider the original definition of ABA by Baer et al. (1968, as cited in Smith, 2012), describing ABA as a technology to identify and deliver effective interventions, not as a predetermined set of intervention techniques. Therefore, the ABA methodology can be applied to most ASD interventions in a manner individualized for each child within family and community contexts without trauma to the child with rigid protocols. ABA technologies can be applied in diverse ways, in structured and naturalistic teaching formats for teaching social communication skills across a range of settings (Boyd et al., 2014; Schriebman et al., 2015). In looking at the variety of programs and treatments available for autism, reviewers pinpointed the commonalities of the quality programs and continue to seek to understand why the key components work and for which children. This additional information has supported practitioners to better apply treatment approaches for individual children in specific contexts.

Learning From ABA and EIBI Studies and Next Steps for Research and Practice

Due to the limited number of studies on using ABA and EIBI strategies and treatments with dual-language children with autism, more research is called for to investigate developmental and behavioral approaches for increasing language and social skills with a CLD dual-language approach (Brodhead et al., 2014). To determine to what extent the culture or language of research participants has been reported in the field of ABA, Brodhead et al. completed a systematic quantitative review of 103 articles that met the search criteria for behavior analytic research on language acquisition from 2000-2011. Only *nine* of the 103 articles included descriptors of cultural background, and only *one* article listed language background. As a result, Brodhead et al. recommended that all researchers report on the participants' language and cultural backgrounds since the lack of these details cannot and should not lead one to assume

that participants are of a particular culture or language. This recommendation is aligned with the American Psychological Association (2017) guidelines regarding reporting the language and culture of participants. Brodhead et al. recommended that professionals consider the environmental variables and family and client preferences and beliefs when supporting language development across languages and settings. In addition, conditional discriminations (the child's ability to determine specific behaviors for specific environments) for language use can be learned for bilingual children to use different languages in different settings as part of intervention services, rather than ignoring the home language in the child's education program.

Later in Section 3, specific CLD research is shared regarding the use of applied behavior analysis, AAC strategies, and parental interventions for dual-language preschoolers with autism. To better understand bilingual instruction for young children with autism who have had their bilingual learning needs ignored due to the severity of their disability, it is essential to first understand the research connected to bilingual education for typically developing children and children with disabilities other than autism.

Section 2: Research in Bilingual Education and Disabilities

This section of the literature review discusses the research on the history of bilingual education in the United States. It describes the research findings regarding children with disabilities living with families who identify as bilingual or non-English speakers. The history of bilingual education has been controversial. Research findings have changed from implications about language confusion for dual-language children, especially those with disabilities, to indications of multiple neurological and cognitive benefits of bilingualism (Baker et al., 2016; Barac et al., 2014; Raj, 2015). Issues of power relations and politics have influenced decision-making regarding evidence-based practices to support dual-language children and families.

Recommendations have ranged from supporting bilingualism to expecting children and families to "learn English," or the majority language of a country or region. One must move beyond the controversy and follow the research findings for guidance on evidence-based practices with dual-language preschoolers with moderate to severe autism who live with non-majority-language-speaking family members.

History of Bilingual Education in the U.S.

Over the past century, educational practices regarding learning English and continuing bilingualism in school settings have been controversial (Baker et al., 2016). Although research conducted across five or more decades has indicated that a bilingual approach has offered the best outcomes for students with or without disabilities, policies and educational practices have changed from supporting dual-language programs to instructional options that focus on learning English while losing skills in the home language (Espinosa, 2015; Raj, 2015; International Literacy Association [ILA], 2019). Differences in the use of terminology to describe the characteristics of dual-language or bilingual learners and the variety of educational strategies and programs have complicated the analysis of the research in this field (Baker et al., 2016; Barac et al., 2014). With typically developing bilingual children often denied access to quality dual-language programs, the research has indicated that these learners are not being appropriately taught in many school districts.

The research results of the past few decades contradicted the findings prior to the 1960s that seemed to indicate language confusion in children learning more than one language. There is now a large amount of evidence that young children can learn multiple languages (Barac et al., 2014; Espinosa, 2015). Flaws in early 20th-century research included participants not matched on age and socio-economic status and the lack of clear definitions and quantification of bilingual

terms, making these research findings confusing and questionable. Therefore, the research from the past few decades holds more merit than the earlier research.

Bilingualism in Typically Developing Children

Research reviews from the past several decades have been completed on bilingual education for children with disabilities. One study analyzed the results from five meta-analyses and four systematic reviews conducted over the past three decades (Baker et al., 2016). Baker et al. compiled the research from 1985 through 2003 on bilingualism in education and the more recent research since 2003. The purpose of this study was to analyze the past and more current research to propose an agenda for future studies in this field. Baker and colleagues designed specific criteria for descriptions of participants and their languages, ethnicity, and socioeconomic status; the amount of each language used within education programs; and methodological descriptions. In another research review, Barac and team (2014) reviewed and synthesized research from 102 peer-reviewed articles from 2000 to 2013 (38 U.S. studies; 64 international studies) with preschool-age dual language learners. The author of a third research review (Espinosa, 2015) analyzed the research on the characteristics of young dual-language learners and investigated the similarities and differences in the learning profiles of bilingual preschoolers compared to monolingual preschoolers. The reported findings of these reviews highlighted differences but not delays regarding the language development of dual-language learners compared to monolingual learners.

Across the findings of reviews, bilingualism was shown to provide multiple benefits for typically developing bilingual students in language and cognition. Children with bilingual experiences demonstrated less vocabulary use in each language than a monolingual child at a given time; however, the combined vocabulary of all languages used was found to equal the

vocabulary of the monolingual language learners. Slower word recall and verbal fluency, also noted in bilingual learners, are aspects of language development considered temporary as neural connections are made in the brains of these young children, given systematic exposure to both languages. As a result, benefits have been noted in cognitive, language, executive functioning, and social-emotional development.

Other findings included that bilingual children demonstrated advantages in cognitive tasks, such as conflict resolution, task switching, working memory, attentional and inhibitory control, and flexibility (Baker et al., 2016; Espinosa, 2015). The amount and type of exposure to the home language and English varied across children and settings. The benefits of bilingualism were more evident in balanced bilingual children, who developed equal abilities in each language over time. To become a balanced bilingual, one needs experience with quality learning in all languages across people and settings. This has been documented as rare in the U.S., as professionals often, based on a lack of knowledge, continue to falsely view bilingualism as a risk factor, not an asset.

When dual-language children who have engaged with family members in their non-English home language enter the public school setting, if they are immersed in an English-only model, it is considered a "subtractive approach" with loss of the child's first language (Pesco et al., 2016; U.S. HHS/U.S. DOE, 2017). The findings described in the research have led to recommendations for an "additive approach," where the home language is reinforced and strengthened as English is learned, rather than viewing bilingualism via a deficiency model (Baker et al., 2016). To support an additive approach, educators require appropriate training and resources to work with dual-language learners, providing their students with access to bilingualism's social, language, and cognitive benefits.

Research findings were described as confounded by socio-economic status (SES) issues and the connection to less exposure to the language of any type for children, whether they live in monolingual or bilingual homes (Calvo & Bialystok, 2014). When studying the diverse population of children learning English as an additional language, researchers have not always carefully accounted for SES variables, making it difficult to interpret many of the findings. Calvo and Bialystok conducted a quantitative study to determine the effects of SES and bilingualism on children's test performances in language, non-verbal intelligence, and executive functioning. The results indicated that bilingualism and SES each impacted test results, but separately, not collectively. All participants, whether monolingual or bilingual, performed equally on non-verbal intelligence tests. Still, lower SES factors negatively impacted the language and executive function skills levels of all children, regardless if the students were categorized as monolingual or bilingual. In another difference, monolingual children performed better on language tests, and bilingual children performed better on tasks related to executive functioning.

After completing their review of the research, Baker and team (2016) concluded that bilingual education was at a turning point where the value of bilingualism has become more recognized. To better support educational decisions and bilingualism in children, Baker et al. proposed setting minimal standards for bilingual research with the inclusion of rigorous experimental studies to determine how to make bilingual education more accessible consistently and appropriately for all learners. The gaps in the research, the limitations in methodology, and the need for further research highlighted in these studies led to recommendations to conduct additional rigorous studies (Baker et al.; Barac et al., 2014).

This brief discussion of the research related to findings for typically developing bilingual children has provided strong evidence of the benefits of bilingualism for young learners.

Supporting the continued development of the child's home language in addition to learning English provides these students with the best opportunities for communicating across environments and access to cognitive, language, behavior, and social-emotional benefits. Research must explicitly state SES factors and other variables, including how the home language is valued in the home, school, and community and the family's acculturation level, to best understand and compare past, present, and future research findings.

Bilingualism in Children With Disabilities

The complex factors described in research related to bilingual education for typically developing children were reported to be further complicated in research involving dual-language learners with disabilities (Kohnert & Medina, 2009; Takenishi & Le Menestrel,2017). In many research studies, children were not always matched on developmental and disability levels, or this information was not reported, making it difficult or impossible to compare study findings. In the studies, in addition to the varied disability levels that impacted each learner, there were other variables, such as the participants' learning styles, the influences of the child's family and the community, and access to different types of programming offered across school districts. Also deemed problematic, the research involving children with disabilities often presented itself as "culture-free" (Bal & Trainor, 2016). It did not report on race, class, or gender, despite APA (2021) recommendations regarding the inclusion of ethnic backgrounds and languages of participants. These omissions led to difficulty analyzing and using the research to support decision-making for children with disabilities from CLD dual-language families.

Based on the research, Raj (2015) reported the gaps between the rights of dual-language children with disabilities and the reality of learning opportunities at the intersection of language learning and special education instruction. Generally, in education, for children with moderate to

severe disabilities, the special needs diagnosis has taken precedence over any language learning needs, even though ignoring language and cultural factors for children is contraindicated in ethical and legal guidelines (Fong & Tanaka, 2013; IDEA, 2004). For children with less recognizable or no disabilities, educators have often struggled to determine the differences between English-language learner needs and language disabilities (Serpa, 2011; Restrepo & Castilla-Earls, 2021). Barriers to an interdisciplinary approach for dual-language learners with disabilities have included poor early education and accountability policies, lack of training for educators in higher education, and bias in assessment practices (Castro & Artiles, 2021).

Kohnert and Medina reviewed empirical research on bilingualism in children with communication disorders (2009). In this review, although the authors looked for studies completed since 1950, they found no published research on this topic until 1978. The 64 articles examined, published over 30 years, included children primarily with language impairment and experiencing sequential dual-language learning. Spanish and English were the most frequent combination in the studies meeting the criteria for inclusion in the review. Some studies discussed in the Kohnert and Medina (2009) review highlighted the benefits of bilingualism for children with disabilities.

Cheatham et al. (2007) indicated the following positive outcomes for bilingual children with disabilities: the home language helped the child to learn English; there was a better quality of family life using the home language due to sharing a common language; more community opportunities were available to the child; and the child had better-reported self-esteem. The number of studies investigating bilingualism and disabilities in children increased from two to three studies per year before 2000 to an average of four to five studies per year from 2000 to 2008. There has also been a building interest and additional research since 2008 (Lund et al.,

2017). The International Literacy Association (ILA, 2019) completed an extensive quantitative study with hard data that indicates that *all* learners do best when provided with dual-language instruction.

In a consensus study report edited by Takanishi and Le Menestrel (2017), findings were shared that although more research needs to be completed for dual-language children with disabilities, there has been no evidence to support an English-only approach. In fact, it has been detrimental to discontinue the development of the home language; this denies children access to the cognitive, social, and learning benefits of bilingualism and avoids the importance of using a multipronged approach in making decisions related to assessment and treatment, using both languages.

In summary, the research indicated that dual-language instruction does not disadvantage bilingual children with disabilities in their language and communication development. Bilingualism does not negatively impact language learning. The advantages of bilingualism available to typically developing children were also observed for children with disabilities. Using a dual-language model in education also supported family members in being a more significant part of their child's education. Practitioners should not instruct parents that they need to give up on their home language, which leads to the reduction of a rich language environment and harms the child-family relationships (Alvaredo et al., 2021).

Studies About Young Bilingual Children With Disabilities Other Than Autism

Recommendations for research-based practices for working with young dual-language children with communication disabilities were developed based on an empirical review of 30 years of research articles related to bilingualism and children with communication disorders (Kohnert & Medina, 2009). Kohnert & Medina also considered the guidelines of the American

Speech-Language-Hearing Association for speech-language pathologists (SLPs) to use both their clinical experience and the research to drive their practices based on the preferences and values of CLD clients. Kohnert and Medina reported that the combined studies provided clear evidence of children with disabilities having the capacity to become bilingual. The range and level of communication aptness of bilingual children with disabilities were as variable as that of monolingual children with disabilities.

From an evidence-based standpoint, assessment practices, education, and therapy services should be conducted in the home language *and* English. Based on the analyzed research (Kohnert & Medina, 2009), simultaneous bilingual learners with disabilities risk plateauing in or losing their native language when only taught in English. This is detrimental to their ability to engage at home and in their community. In addition, the long-term outcomes for social, emotional, and language learning skills are negatively impacted when parents use less language and interact less with their disabled child when attempting to use an English-only approach, as recommended by practitioners.

Research completed after Kohnert and Medina's (2009) review that included dual-language children with disabilities reported similar findings. Some of these studies were conducted with children with speech and language impairments (SLI), Down syndrome (DS), and developmental delays (DD; de Valenzuela et al., 2016; Hambly & Fombonne, 2012; Lund et al., 2017). The findings of these studies added to the earlier conclusions that bilingualism does not hinder the language development of bilingual children with disabilities when compared to monolingual children with matched developmental levels and types of disability. Limitations in studies included small sample sizes, variable levels of bilingual language exposure for the children, and differing language abilities in outcome measures (Hambly & Fombonne, 2012;

Kay-Raining Bird et al., 2005). These research results have provided solid data that the interacting laws for bilingual children with disabilities in assessment and teaching are based on evidence-based practices.

Bilingualism With Specific Language Impairment and Down Syndrome

Studies were completed on dual-language instruction for young children with specific language impairments (SLI). The findings added to the research base about effective instruction for young dual-language children with disabilities. Restrepo et al. (2013) investigated Spanish and English vocabulary interventions in 202 dual-language learners diagnosed with SLI and 54 typically developing dual-language learners to compare monolingual and bilingual intervention strategies. These interventions included reading and language instruction in "math" and "non-math settings" and were compared to a "no intervention" group. Results indicated that the measured vocabulary increase was comparable in both treatments; however, the English-only intervention model did not lead to gains in Spanish vocabulary, whereas the bilingual model led to gains in both Spanish and English.

In another study, Ebert et al. (2014) used three treatment models: (1) nonlinguistic to increase cognitive processing and attention; (2) English only to focus on vocabulary increases and morpho-syntactic development; and (3) bilingual (Spanish-English) intervention to focus on the same language targets as the English only with explicit instruction in cross-language connections. All interventions demonstrated positive gains in the targeted areas, leading researchers to conclude that bilingual instruction does not impede the development of English *and* can also support the continued development of Spanish. In addition, speed in cognitive processing and attention were skills that could be taught, as indicated by gains in these areas.

Ebert et al. recommended explicit instruction in both Spanish and English, along with cognitive processing instruction for continued progress in the home and school languages.

A randomized controlled trial (RCT) study was conducted by Thordardottir et al. (2015) in Canada. French and English were the dominant languages in the area, and the home languages of the 29 children with SLI were neither French nor English. The children, with an average age of five years old, participated in 16 sessions targeting vocabulary and syntax development implemented by speech and language therapists. The three groups included a monolingual intervention group, a bilingual intervention group, and a delayed intervention group. Parents supported the therapist in the bilingual treatment group. The mixed results indicated significant gains in French vocabulary in the treated groups (regardless of monolingual or bilingual interventions) versus the delayed treatment group. However, both the treated and untreated groups made similar gains in French syntax, the dominant school language, an unexpected outcome. The authors had hypothesized that the bilingual treatment group would have stronger gains; however, utilizing parents as co-therapists and the short duration of the intervention (16 sessions) could have led to the unexpected results.

Thordardottir and colleagues (2015) completed a study that confirmed the findings of the earlier studies of Restrepo et al. (2013) and Ebert et al. (2014) and concluded that assessment in both languages continued to be necessary when determining treatment models. The bilingual model did not hinder the children's progress in French, the primary language used in school. Therefore, despite the outcomes being mixed in the Thordardottir and team (2015) study, all three research studies showed that bilingual intervention did not impede the child's learning of the dominant school language. The primary skills targeted in the interventions increased, regardless of the language used. Continuing the home language has many benefits, as previously

described, and a dual-language approach does not delay the learning of the primary school language, despite the unfounded opinions of many professionals.

In addition, these findings can be tentatively generalized to young children across different languages and cultures; developmental-behavioral interventions can be provided across settings to address increases in language and other foundational skills, such as attention, processing, and social skills. Communication must be supported in the context of learning different skills to help these young children to better engage in all environments in a functional and socially valid way, using both the school and home languages for social communication and learning.

Bilingualism and Children With Severe Disabilities

Only a limited number of studies have included children with severe disabilities. Children with severe disabilities may have multiple disabilities, including an intellectual disability. In a recently published reflection based on contemporary educational issues for dual-language children with significant cognitive disabilities, Rivera and colleagues (2021) discussed this understudied and underserved population. With substantial gaps in the literature, there has been little agreement on how to define this population of students, which requires multiple alternate assessments and instructional practices. These dual-language needs of preschoolers with severe autism and other disabilities have often been ignored. Rivera et al.'s recommendations included utilizing dual-language interventions that support successful outcomes at school and home across developmental domains and that focus on long-term quality of life for these students.

Two small studies provided insight into dual-language instruction for students with severe disabilities. In a unique case study with a five-year-old girl with a severe developmental disability from a Spanish-speaking home, Rispoli and colleagues (2011) examined the effects of

language of implementation on functional analysis (FA) outcomes. The child was enrolled in a bilingual program with related services in English. She seemed to understand Spanish better than English, and it was hypothesized that English could have aversive properties for this child, demonstrating the importance of reviewing data in both languages and across both home and school settings.

The authors (Rispoli et al., 2011) discussed that behavioral research has often used English without consideration of the language or culture of the child's home. This study found a higher level of challenging behaviors in the English language conditions. The functions of behaviors were similar across languages, but at home, the challenging behaviors were ignored, and in school, they were addressed in English, leading to an increase in attention-maintained inappropriate behaviors with English. Rispoli et al. (2011) suggested that differences in responding included a preference for praise in the home language; if the home language is more developed than English, the child may understand it better and be more likely to respond. Variations observed between the use of English versus the home language that impacted the behavioral procedures and the response levels of the child supported Rispoli et al.'s recommendations for further research and a dual-language approach in current practice.

In a small study in which parents were part of the treatment process, Padilla Dalmau and colleagues (2011) worked with two young children with developmental disabilities and behavior challenges who experienced English and Spanish at home. They used ABA methodologies to investigate treatment effectiveness using English or Spanish for functional communication training. Parents were trained to implement procedures, with results indicating that functional communication training in either language resulted in decreased challenging behaviors and increased requesting and task completion. No differences between Spanish and English emerged

with these two children in the levels of success in the functional communication sessions, leading the authors to conclude that a child is not confused by bilingualism and, since it is assumed that not all children will respond the same way, parents can be a part of the process of determining how and when to use each language.

These two studies offered insight into individualized approaches to determine language use, but with the inclusion of the home and school languages. Further studies are called for per Rivera et al.'s (2021) recommendations.

Studies About AAC With Dual-Language Students

As mentioned in the first part of this chapter, augmentative and alternative communication (AAC) strategies and tools have been recommended for young children with autism, particularly if they have limited communication abilities. Yet, CLD research for this population has been limited. The research on AAC and bilingualism included studies that investigated AAC use with children with severe disabilities and did not focus on dual-language preschoolers with autism. In a critical review of research on bilingualism and children with communication disabilities, including AAC, Soto and Yu (2014) recommended using a sociocultural approach. Based on the findings of Soto and Yu's study, factors impacting AAC use at home included language and educational barriers, varied cultural values, and different expectations of professionals and family members. Soto and Yu recommended using AAC tools beyond the goal of supporting isolated language skills but primarily to develop children's social communication abilities across communication partners at school and home.

AAC strategies have offered increased communication options for children with complex communication needs. AAC tools have supported interactions and learning for children with disabilities in more than one modality and language and across settings. Dual-language children

require AAC supports in a bilingual format to engage in social communication at school and home effectively. Soto and Yu's (2014) review provided a framework for educators and therapists working with dual-language children who require AAC support. Soto and Yu considered the evidence compelling that children who utilize AAC practices must continue their home languages to increase family interactions and to practice and generalize social communication skills from school to home. Language is a "dynamic system that is expanded with rich input and diverse opportunities" (p. 86) to use it. When language is limited to the school language, the dual-language learner's communication opportunities are not supported across all social and learning contexts, including the child's home and community.

Research on cultural differences completed over a decade ago investigated the specific challenges for CLD children and their families using AAC tools (Trembath et al., 2005). Trembath et al. reported differences in the interpretation of the symbols on AAC devices based on culture. Therapists and educators must consider all ACC users' cultural and linguistic needs and those with whom the child will communicate. Chosen symbols for high and low technology formats must reflect the child's and family's interpretation of them. Additionally, CLD parents may differ in expectations for their children compared to the monolingual culture of these students' schools; therefore, therapy guidelines must coincide with parent values and culture. AAC intervention planning must consider a child's experiences and current and future needs for communication interactions across settings (Soto & Yu, 2014). Practitioners supporting a child with AAC tools must plan the basic structure of the symbols, design layout, pictures, and colors based on each family's home language and cultural perspectives.

Building on the study by Soto and Yu (2014), Kulkarni and Parmar (2017) reviewed 11 international studies from two decades that met their criteria for inclusion about the use of AAC

with CLD individuals and the perspectives of their families. It was noted that many studies on AAC did not report on the participants' culture, race, or language. Kulkarni and Parmar (2017) concluded that the Euro-American culture has dominated the AAC decision-making process and that, generally, recommendations have been structured around the use of the English language. In addition, when culture was addressed in the research, it was based on narrow definitions of cultural groups without consideration of within-group differences and individual child and family needs.

Two studies included in Kulkarni and Parmar's (2017) review were completed by Binger et al. (2008) and Pickl (2011). Binger et al. (2008) designed a mixed methods study to evaluate an instructional program for caregivers to increase their child's AAC use. This research included a focus group of professionals and parents and a single subject design across three child participants (with severe motor speech impairments and 2-7 years old) and their parents. All children and parents spoke English as their primary language and used some Spanish. Prior research had indicated that AAC users had difficulty shifting from single- to multi-symbol use. This study showed that all families reported increased AAC use of multi-symbol messages for each child. The focus group participants of the study, which included four experts in Latino culture, said that training procedures needed to be varied based on the culture and language of families for success in AAC use. Reported limitations included that this study was done with acculturated Latinos. Further research needs to be completed with recent immigrants and non-English speaking families to add to the guidelines for appropriate strategies.

To investigate families' perceptions of communication interventions, including AAC use with children with severe disabilities across multilingual backgrounds, Pickl (2011) completed a qualitative study. Pickl utilized observations and survey research with 12 family members (who

had all moved to Austria as adults and were at different levels in the acculturation process) and 24 special education teachers. The focus children, ages six to 16, included 14 girls and 29 boys, with the majority language of the school, reported to be German. Pickl gathered data on the practices and perceptions of teachers and parents to investigate factors that facilitated communication and removed potential language barriers for these children who experience different home and school languages as dual-language learners. The children had received education and intervention in German at the expense of their first and stronger home language. Pickl found that some teachers included parental input in their educational planning decisions. Two teachers had tried to incorporate the child's home language, but most of the education was in German. Since the teachers found it challenging to include parents in planning for their students' AAC needs due to language barriers, Pickl described the importance of teachers considering dual-language variables when planning guidelines for communication with AAC tools.

Section 3: Research Related to Autism and Bilingual Special Education

Based on educational research, as shared in previous sections of this literature review chapter, bilingualism can provide increased social, cognitive, learning, and positive self-esteem outcomes for typically developing and disabled children. Supporting bilingualism avoids the harmful effects of a child becoming disconnected from their family and community when opportunities to practice social communication skills have been decreased with a monolingual English approach at school. In this section, the research described and analyzed specifically relates to young dual-language children with autism.

Bilingualism and Autism

Autism research has historically involved primarily White monolingual children from middle- to upper-class homes and has often excluded children from non-White cultures, regardless of socioeconomic levels (Dyches et al., 2004; Ennis-Cole et al., 2013; Lord & Bishop, 2010; Tek & Landa, 2012; West et al., 2016). The number of quality studies on bilingual and cultural issues and autism education is small but has increased over the past decade (Drysdale et al., 2015; Kay-Raining Bird et al., 2012; Lund et al., 2017; Morrier & Hess, 2010; Park, 2014). Although, studies have varied in methodology and number of participants, they have resulted in significant findings and recommendations that a monolingual approach should not be utilized in education for dual-language learners with autism.

The U.S. Census Bureau predicted a continued increase in CLD children diagnosed with autism (Fong & Tanaka, 2013; Raj, 2015). The Multicultural Alliance of Behavior Analysis (Fong & Tanaka, 2013) and the Behavior Analyst Certification Board (2017) have recommended ethical guidelines for supporting CLD children and their families with evidence-based autism services. These guidelines included training professionals on cultural and socio-economic status (SES) influences that impact educational decisions. Since it is impossible to be culturally neutral, the interconnected and evolving perspectives of practitioners and CLD families must be brought to the forefront of educational planning for dual-language students with autism. Based on public laws (ESSA, 2015; IDEA, 2004), dual-language children with autism have the right to culturally and linguistically responsive educational models, including education and therapy in both the home and school languages. The research has highlighted improved outcomes across domains of development for clients when services have been implemented with dual-language methodologies. Contrary to these recommendations for dual-language instruction and therapy,

autism intervention services have been primarily conducted in the dominant language of the student's wider community (English in the U.S.), thus reducing the opportunities for the child to communicate across settings while negatively impacting the parent-child relationship (de Valuenza, 2016; Marinova-Todd, 2016; Pesco et al., 2016; Takanishi & Le Menestrel, 2017).

Systematic reviews follow a quantitative process and are considered scientific evidence (Gough et al., 2012). Narrative reviews tend to be qualitative with less stringent parameters; however, authors of narrative reviews discuss important theories and make inferences about evidence-based practices. Commentaries are also qualitative, with a discussion of published research leading to recommendations for the field. In all types of published reviews of educational research related to bilingualism and autism, there were no indications or recommendations that supporting bilingualism for dual-language children with autism, even when children meet the criteria for severe autism, resulted in adverse learning outcomes for the students (Beauchamp & MacLeod, 2017; Davis et al., 2021; Drysdale et al., 2015; Lim et al., 2019; Lund et al., 2017; Park, 2014; Takanishi & Le Menestrel, 2017; Wang et al., 2018). In fact, not providing bilingual support was described as harmful to the child's cultural identity, social-emotional development, family relationships, and overall learning progress when the home language was not maintained and developed in instruction and therapy. These reviews addressed children with autism or children with autism and those with other disabilities.

Lim and team's (2019) systematic review resulted in a small positive effect in supporting bilingual instruction for children with autism. Lim et al. reviewed nine studies about children with autism, intellectual disabilities, and global developmental delays. Lim et al. (2019) found a disconnect between policy and practice, as discussed in the section of the chapter about dual-language instruction for children with disabilities other than autism. Wang and Jegatheesan

(2018) completed a scoping review of nine studies and described a potential bilingual advantage in nonverbal IQ, expressive language, and adaptive functioning for children with bilingual support. In a systematic review, Lund and colleagues (2017) analyzed seven articles from the previous five years that met their criteria for comparing language development in monolingual and bilingual young children with autism. In a narrative review, Drysdale et al. (2015) compiled and summarized eight studies on autism and bilingualism. Park (2014) searched for answers in the research to address her concerns when practitioners recommended that parents speak only English with their bilingual children with autism. Park sought to determine if this English only expectation aligned with the research findings for evidence-based practices with dual-language students. A critical research review chapter, part of a more extensive study (Takanishi & Le Menstrel, 2017) related to dual-language learners, included information about children with autism. Beauchamp and MacLeod (2017) also reviewed the research to compare outcomes for bilingual children with autism. Davis and colleagues (2021) provided a commentary based on a summary of research findings and offered what they described as innovative recommendations. In these eight research analyses, although having completed different reviews with variations in article inclusion, all teams concluded that, despite needing future research and a better understanding of the variables in the studies, children with autism could successfully become bilingual. As monolingual practitioners incorrectly feared, a bilingual approach does not affect dual-language preschoolers' language development and learning progress.

In Lund and colleagues' (2017) conclusions, the researchers found that most providers in the field of special education were monolingual English speakers, and most school instruction and therapies for children with disabilities were provided in English. Many practitioners have continued to act on the outdated notion that an English-only model is best for children with

disabilities. This practice leads to decreased language input and social interactions for the child at home, a negative consequence as described in previous studies on bilingualism and children with disabilities. Based on their analysis of the research, Drysdale and team (2015) recommended that practitioners should not advise against the continuation of home languages. Like the descriptions in the sections on bilingualism and typically developing children and those with disabilities other than autism, an additive approach offers more benefits than a subtractive approach for children and families who are not native English speakers. Park (2014) answered her question that professionals' recommendations for English only are not appropriate. Practice must also align with policies based on public laws (Lim et al., 2019). Children should receive interventions in both languages, and when not possible to provide speakers of both languages, educators and families need to collaborate to offer this bilingual support (Beauchamp & MacLeod, 2017). Davis and team (2021) recommended focusing on more than the cognitive benefits of bilingualism with strategies to support essential bonds with the dual-language learner among family and community members.

Effects of Bilingualism on Language Development of Young Children With Autism

Many of the studies in this section were included in the research reviews from the past few decades discussed in the previous section but warranted a closer look. The authors of these published studies agreed with the findings that there are no adverse effects in supporting bilingualism in individuals with autism (Alexander, 2015; Dai et al., 2018; Hambly & Fombonne, 2012; Kay-Raining Bird, 2005, 2012; Ohashi et al., 2012; Petersen et al., 2012; Reetzke et al., 2015; Valicenti-McDermott et al., 2013). The authors concurred that dual-language instructional and therapeutic approaches have been demonstrated to provide multiple benefits and positive outcomes for young dual-language learners with autism. However, the

findings were stated from the monolingual perspective that there were no adverse effects for dual-language learners from bilingual instructional methods (since bilingualism was previously considered a deficit), rather than from an asset-based standpoint of bilingualism with its extensive benefits to children. In addition, the findings that bilingual approaches do not cause language confusion or harm must be considered in the context of the studies that have demonstrated trauma and harm to children and families when not using a dual-language approach (Halle et al., 2014; Opitz & Degner, 2012, as cited in Silveira-Zaldivar et al., 2021).

Several quantitative studies compared the skills of monolingual and bilingual children with autism in early language development. Ohashi and colleagues (2012) investigated age at first words and phrases and receptive and expressive and functional communication scores with 20 simultaneous bilingual-exposed Canadian children (exposed to English or French and one other language in the home setting; some were Spanish speakers) and 40 monolingual children (English or French only), ages 30-52 months, matched based on chronological age, non-verbal IQ scores, and the severity of communication delays related to an autism diagnosis. Petersen and colleagues (2012) monitored expressive language use and receptive understanding of vocabulary and conceptual skills related to this vocabulary with 14 English/Chinese bilingual and 14 English monolingual preschool-aged children with ASD. Hambly and Fombonne (2012) compared the language and social levels of 75 bilingual (n=45) and monolingual (n=30) Canadian children with an average age of four years, eight months with autism. In a review of multidisciplinary evaluations of 80 toddlers with ASD (Valicenti-McDermott et al., 2013), half identified as having English-Spanish experiences, data was collected and analyzed on expressive and receptive language. In China, parents of children with autism (54 monolingual; 23 bilingual)

completed questionnaires related to their children's structural and pragmatic language and social behaviors (Reetzke et al., 2015).

These studies reported no disadvantages or additional delays in language development because of bilingualism (Hambly & Fombonne, 2012; Ohashi et al., 2012; Valicenti et al., 2013), leading to the conclusion that a bilingual language environment does not delay early language development in children with autism. In addition, Petersen and team's (2012) findings indicated that the bilingual children had a more extensive vocabulary than and conceptual vocabulary equivalent to monolingual peers, consistent with research on typically developing bilingual children and bilingual children with Down syndrome. Valicenti and colleagues (2013) found that bilingual children were likelier to vocalize and use gestures than monolingual children.

Of note, in Ohashi's and team's (2012) study, children who spoke fewer than 30 words were excluded, and Reetze and colleagues (2015) also excluded non-verbal children. These studies cannot be generalized to all dual-language learners with autism, including those with more severe disabilities. However, the evidence was compelling from all the combined studies supporting bilingualism regardless of the severity level of a child's autism disability. Adding to the evidence shared in these studies are the findings of an extensive investigation into language learning related to bilingual experience for ASD children (Dai et al., 2018), that included 388 children in total, 106 with bilingual experience (57 with ASD; 49 with other developmental disorders) compared to 282 monolingual children (176 with ASD; 106 with other developmental disorders), findings indicated that parents could communicate with their children in more than one language with no adverse effects on language functioning. Support for a bilingual approach for young children with autism was the overarching conclusion of the research analysis related to bilingualism in children with autism.

Similarly, in recent research completed in Singapore with 40 children with autism ages 4-6.11 years, Sendhilnathan & Chengappa (2020) implemented six months of language intervention (half of the children in English only; half of the children in English plus the native language of home). Sendilhathan & Chengappa determined that using the English-only intervention hurt the children's social language development because it interfered with the need for dual-language stimulation for building vocabulary and communication across settings. These results are consistent with the findings from earlier studies.

Special Journal Issue 2016 Bilingualism With Developmental Delays

As part of an international collaboration, including six sites in Canada, the U.S., the U.K., and the Netherlands, several overlapping studies were completed by a team of researchers (Kay-Raining Bird, Genesee, & Verhoeven, 2016; Kay-Raining Bird, Trudeau, & Sutton, 2016) that reported findings that aligned with previous research outcomes and recommendations. In Kay-Raining Bird's and colleagues' research review and mixed methods studies, policy and practice for bilingual children with developmental disabilities, including children with autism, were analyzed. Although children with developmental disabilities were successful in becoming bilingual, limited opportunities for these children to access dual-language programs and their special education services were reported. Due to fewer experiences with dual-language instruction for students with disabilities, the researchers highlighted this population's lack of data. However, the authors contended there was enough evidence to support removing the barriers to dual-language education models and improving the practice of overlapping the disciplines of special education and bilingual education.

This series of studies also reviewed research on timing and exposure factors in bilingualism for children with specific learning disabilities, developmental disabilities, and

autism (Kay-Raining Bird, Genesee, & Verhoeven, 2016; Kay-Raining Bird, Trudeau, & Sutton, 2016). Children who had simultaneous exposure to two languages from birth appeared to perform better than children who added a second language after experience in the first language alone. However, regardless of simultaneous versus consecutive bilingual experiences, instruction in the first language helped the child to learn the second language. Learning a second language appeared more successful when the languages had linguistic similarity. A primary recommendation based on these studies was that children with disabilities require access to dual-language programs and special education services. This allows dual-language children with disabilities increased opportunities to communicate across settings with appropriate language experiences at home with family members using the family's preferred language. The outcomes for bilingual children with disabilities were variable based on their learning profile, level of disability, amount of language utilized in the family, and the type of school programming. However, these contextual factors must be considered when making educational and therapeutic decisions for dual-language learners with disabilities.

As part of the 2016 journal studies, Marinova-Todd and colleagues (2016) completed an online survey of 361 respondents. Most practitioners reported that they believed that children with mild and severe disabilities could learn two languages, even though most assessments and services were not completed in the minority home language. These findings indicated a positive outlook on bilingualism instead of continuing the harmful recommendation to parents to only speak the school language with their child. However, failures to align their practices with their beliefs were observed. Like the other studies in this series, Marinova-Todd et al. (2016) reported that students with disabilities had less access to dual-language learning services in schools than typically developing peers. Despite stating they believe students with disabilities can become

bilingual, the practitioners were also found to be more neutral or negative about providing children access to dual-language programs, questioning the students' abilities to become bilingual when they had a severe disability as opposed to a mild one.

In another study of this 2016 multiple study research project, de Valenzuela and colleagues completed a thematic analysis of 79 semi-structured interviews of professionals with expertise in either special education or dual-language education, or both. This research was collected at the same sites across Canada, the U.S., the U.K, and the Netherlands as the Marinova-Todd and team (2016) study and the two Kay-Raining Bird and team (2016) studies. The major themes that emerged in the findings included the following: the special education needs of a child drove the practitioners' decisions related to school instruction for dual-language learners with disabilities; conflicts pertaining to scheduling and time interfered with the overlap of language learning services with special education; and, although parents were supposed to be a part of the decision-making process, there were limitations in the availability of language learning services for dual-language children with disabilities. Without increased access to dual-language learning programs, it was difficult for these research teams to make recommendations based on the collected data for assessment and instruction practices. However, it was evident in the findings that dual-language children with disabilities were being denied access to essential and appropriate assessments and services as offered to bilingual students without disabilities.

Cultural Information in Research About Children With Autism

As required by public law IDEA (2004), CLD factors must be considered in education and therapy for children with autism. As described in the first section of this literature review on evidence-based practices for children with autism, using a behavioral-developmental approach is regarded as the best intervention. Kauffman et al. (2008) reviewed research to find evidence of

differences in how individuals responded to behavioral interventions based on ethnicity, gender, and religion. Although their analysis lacked specifically-defined aspects related to CLD practices in behavioral teaching, the authors concluded that there were no differences in how individual clients from CLD families responded to behavioral interventions when provided with evidence-based educational and behavioral practices. In other words, behavioral practices resulted in positive outcomes when the individual child was considered within the context of the social and cultural factors of the family, regardless of differences from the dominant culture.

In another literature review, Bernier et al. (2010) investigated cultural differences in autism presentation and possible impact on treatment. Bernier and the team recommended the consideration of both the macro-level culture (community of the child, including home and school communities) and the micro-level culture (family of the child) in making educational decisions. In a 2016 study completed as part of the special journal research series already discussed, Kay-Raining Bird recommended using a Biological Systems Model (Bronfenbrenner & Morris, 2007, as cited in Kay-Raining Bird, Trudeau, & Sutton, 2016). This model encompasses the following systems: the internal aspects of the child, such as the child's disability and cognitive and language capacities; the microsystem of family culture, language, and beliefs; the exosystem, which includes the language of intervention and education, along with practitioner beliefs; and the macrosystem of the larger community and its language status. During treatment planning for each child to determine effective strategies for skill development for dual-language children with autism, these levels need to be investigated and included.

Several other studies addressed cultural considerations in the education of children with autism. Hardin et al. (2009) developed focus groups consisting of administrators, educators, and parents of dual-language preschoolers with autism in an urban and rural location in North

Carolina. Hardin et al. aimed to investigate disparities in planning instruction using a combination of special and dual-language education services. Voelkel and colleagues (2013) completed a survey with 169 families to explore and understand the perspectives of Hispanic families living in the Southwestern U. S. Voelkel et al. sought information related to the families' perceived barriers, with findings indicating that many Hispanic families mistrust professionals and authority figures. The families discussed fears connected to the political climate, the possibilities of deportation due to immigration status, or marginalization based on ethnicity. In addition, the families' reduced participation in the diagnosis and treatment process for their young children with autism resulted from a lack of parent understanding of medical and educational processes and a lack of professional awareness and training in working with children from CLD families (Hardin et al., 2009; Voelkel et al., 2013)).

Using a qualitative phenomenological interview with 22 parents of preschool-aged children with ASD, Ijalba (2016) described the cultural differences in parent understanding of autism based on experiences in their country of origin, which generally had limited medical and educational resources. The mothers reported feeling stigmatized as immigrants and pressured to use English rather than Spanish with their children. They had preconceptions related to developmental milestones and ASD that differed from the U.S. medical and educational majority culture understanding. Differences in how Latino families communicated with doctors and described their child's development were also noted, even in mothers from higher socio-economic statuses (Tek & Landa, 2012). This limited understanding of CLD families has resulted in variations in access to diagnoses and traditional versus non-traditional care (Bernier et al., 2010; Sloan-Pena, 2015)

Social Communication Needs of Children With Autism

The first section of this literature review discussed the social communication delays in children with autism and the need to consider language as more than a coded system of speech. Practitioners must address the critical pragmatic language skills via a wider lens of multiple modalities, including verbal and non-verbal, AAC, and all languages experienced by dual-language preschoolers with moderate to severe autism. An important ethnographic discourse analysis case study by Yu (2016) aligned with this researcher's argument that young children require participation in authentic language opportunities at home regardless of the severity of the autism disability. Yu's study provided specific examples to highlight the importance of continuing the home language experience for all dual-language students with autism. The purpose of Yu's study was to investigate the family members' beliefs regarding language use with their 6-year-old child with severe autism, the efforts required to implement an English-only model within a bilingual Chinese family (parents, grandfather, adult cousin, and older sister), and the actual practice that occurred. Several of the adults spoke limited English, and their native language was Mandarin Chinese.

Yu's (2016) analysis of the language interactions demonstrated that this child's family generally spoke to him in English when they directed him or responded to his simple requests. However, the child was continually immersed in the home language of Mandarin Chinese when present for family activities, such as at the dinner table and during after-dinner social interactions. The child engaged in simple communication in English with parent support and scaffolding. Language supports and scaffolding were not provided in Mandarin, nor was a translation of their conversations to English offered to the child. In a comparison of two interactions, one with the grandfather in English about bedtime choices while the child played

with trains, the other with the mother in Mandarin during a play activity in the garden, the difference in the child's communication success or lack of it was evident. In the Mandarin exchange, with the current context and moment-by-moment scaffolding and high affect from the mother in her native language, the child successfully engaged in a meaningful social exchange with smiles, laughter, and gestures not evident during the out-of-context forced verbal interactions in English with the grandfather.

In Yu's (2016) discussion of the study's findings, she emphasized that authentic communicative interactions, regardless of language choice, are critical for a child to build joint engagement and other social communication skills. An English-only communication approach, due to unfounded concerns of educators on the coding issues of switching between two languages, was ineffective in producing meaningful family interactions. Within the English-only approach, these critical parent-child interactions decreased when the rest of the family spoke in Chinese, and the child was excluded. The mother reported feeling frustrated with the process of using English only. Still, she was doing her best to follow teacher recommendations because she did not want her desire to use both languages with her son to interfere with his access to services or have the school blame his learning struggles on the home language. Yu recommended that professionals work with families to understand the complexities and uniqueness of each child and family. Yu highlighted the need for additional studies to investigate the lived experiences of dual-language children with autism. In addition, practitioners need to understand the importance of providing authentic rich home language opportunities for children with autism who have core deficits in social communication tasks. When the family continues the home language, high-quality social and language interactions occur during the critical early years of children's development.

An exploratory study with an analysis of cross-sectional and longitudinal data on social and language outcomes was completed to investigate differences for toddlers ages 12-26 months based on the use of home language supports (Zhou et al., 2019). The bilingual group showed increased gesture use, no loss of social communication skills with dual-language instruction, and higher overall social communication skills. In a longitudinal cohort design with 60 monolingual and 60 bilingual children with autism receiving a community-based intervention, Siyambalapitiya et al. (2021) reported progress in social communication skills in both the home and school language conditions in the study. These two studies highlighted the importance of addressing young bilingual children's social communication needs.

Parent Perspectives

Several research teams used interview and ethnographic approaches to gain information from parents of young dual-language learners with autism. Hampton et al. (2017) completed semi-structured interviews with 17 bilingual parents of children with ASD and 18 bilingual parents of typically developing children. Howard (2021) conducted an interpretive phenomenological analysis based on interviews with 16 family members of children with autism in England and Wales. In a study to investigate the challenges of parents trying to support their child's communication in the home environment, Yu (2013) completed phenomenological interviews with 10 bilingual mothers who speak Mandarin Chinese and English. Niles (2013) used semi-structured interviews with eight Hispanic-American mothers regarding their decision to speak Spanish, English, or both.

Kay-Raining Bird and team (2012), building on an earlier quantitative study by Kay-Raining Bird and colleagues (2005) and an article describing a portion of an ethnographic study by Kremer-Sadlik (2005), analyzed survey responses (open- and close-ended questions) of 49

parents' perspectives (mostly Canadian; 75% of the sample reporting as bilingual or multilingual) on language choices used with their children with autism. Jegatheesan (2011) completed an ethnographic study that focused on understanding the needs of Muslim immigrants from Southeast Asia to the U.S. who are bilingual or multilingual. Jegatheesan spent 17 months engaged in home and community settings in an ethnographic study of three families with children with autism, ages 5-8. Parent interviews were part of the data-gathering process.

These researchers all reported that there was no evidence that bilingual environments interfered with the language development of young children with autism and recommended the continuation of a dual-language approach with increased support for families and training for professionals. The parents in Yu's (2013) study were confused about deciding the best method (English only or bilingual) for their children with autism due to conflicting advice from professionals who valued English at the expense of the students' home languages. Kay-Raining Bird et al. (2012) found that parents stated they needed more information and services for their bilingual children with autism and themselves. Jegatheesan (2011) recommended that professionals increase their understanding and awareness of their students' cultures and languages.

Yu (2013) found a universal theme among the parents she studied: they all wanted their children to succeed in school and life and felt that learning English was a significant part of this, contrary to the research findings on the benefits of bilingualism. Niles (2013) reported that the parents felt that proficiency in English was needed for their children to succeed in education. Kay-Raining Bird et al. (2012) described the parents' perspectives about the importance of English but also that using the home language was necessary for communicating across non-school environments, despite the parents' concerns that more than one language could confuse

their child with autism. Yu also described the parents who found it challenging to use only English at home despite their English fluency in their professional settings. In social situations, these parents could better communicate at a deep emotional level using their native language (Yu, 2013). Kay-Raining Bird et al. (2012) reported parents feeling success in using a dual-language approach with their children with autism when they provided increased language input and translation support to their children with autism.

The parents of bilingual children with autism reported increased concerns about supporting bilingualism compared to the parents of typically developing children in Hampton's study (2017). This seemed especially true when the children had limited verbal abilities. However, closer bonds with their children were maintained for parents who opted for a dual-language approach despite the educators' unfounded concerns about language confusion. Howard (2021) reported that most parents felt positive about bilingualism, but their language practices did not always align with these beliefs. As in other studies, these parents made decisions on language use based on the severity of their child's autism disability. Niles (2013) noted themes related to the mothers' desire to prioritize effective communication for their children and felt English was expected from educators. However, this contradicts the research that a dual-language approach is best regardless of the severity of autism. All the parents in these studies felt the practice of bilingualism to be the ideal. Still, their priorities changed to accepting English as the primary language after their children received a diagnosis of autism, despite the multiple research findings that there are no contraindications and many benefits to continuing the development of both the home and school languages.

Dual-Language Instruction for Children With Autism

Despite the limited inclusion of CLD children with autism and their families in bilingual education studies, several small studies provide information on dual-language approaches for teaching specific language targets. All studies mentioned the lack of research in this field, but many offered viable suggestions for current intervention approaches with successes described using a dual-language approach. Several studies also involved students with severe disabilities.

Seung et al. (2006) completed a longitudinal case study using Korean and English for speech and language intervention to investigate bilingual ABA interventions and demonstrate the effectiveness of this process. The family of the 3-year-old child with autism chose a bilingual approach for intervention. The procedure involved the first twelve months of treatment in Korean, with early treatment addressing the goals of animated imitation and expectant waiting from parents to increase social skills such as joint attention and expanding the child's interests to less rigid activities. Speech and language tasks began with building vocabulary and then updating goals to two-word combinations while practicing pragmatic skills such as greetings, turn-taking, and appropriate transitions. Parent interventions were added to the therapist's twice-weekly sessions. Following the first year of therapy in Korean, the next six months of treatment were provided in Korean *and* English, and the final six months of treatment were implemented in English. The child improved expressive and receptive communication in both languages, with a noted decrease in challenging behaviors.

In another example, an alternating treatment design with four dual-language children with autism, Lim & Charlop (2018) investigated language use in children's play skills in home language and English. Findings indicated that all four children demonstrated increased play

behaviors in their home language, and one demonstrated decreased behavior challenges with using the home language.

Lang and colleagues (2011) completed research with a four-year-old girl with autism who experienced Spanish at home and both English and Spanish at school, with standardized tests showing similar delays in each language. Discrete trials (an ABA strategy for learning), with instruction presented systematically to teach specific language targets, English and Spanish, were used in an alternating treatment design. With Spanish instruction, the child demonstrated more correct answers and fewer problem behaviors, and parents reported less stress at home when using Spanish. The positive outcome of this case study indicated that providing a solid primary language foundation and then adding English as a second language was successful. These findings suggested that the language of instruction can make a difference even when the child tests at similar levels in both languages. For this child, Spanish appeared to be more reinforcing to the child.

In a single case investigation, Alexander (2015) added to the above study findings by working with a five-year-old bilingual boy with autism, measuring language targets of mean length of utterance (MLU) and receptive understanding of two-step commands, using an alternating treatment design of monolingual instruction and bilingual English and Spanish instruction. Alexander found that the child showed mixed results in performance but demonstrated progress in both skills and languages. Initially, he performed better in MLU in the English condition but then showed gains in the Spanish language condition. The child followed commands better in Spanish in the early stages of the study but also progressed in the English condition. These results indicated that the child benefited from interventions in both languages. This study supports the importance of monitoring language development and individualizing

instruction appropriately for each child. These four small studies, utilizing quantitative methodologies, provided evidence of the importance of using a dual-language instructional approach for young learners with autism and how the best progress can be supported.

Severe Autism and Intellectual Disabilities and Bilingualism

The researcher of this study chose this problem due to the exclusion of young CLD children with severe autism from research studies and dual-language programs in both the research and this researcher's experience (de Valenzuela, 2016; Kasari et al., 2013). Russell et al. (2019) reviewed 301 studies with a total of 100,245 participants to investigate the under-inclusion of children with severe autism, with information about intellectual disabilities missing in 38% of studies, even though globally, intellectual disabilities are suspected to be present in 50% of ASD cases (Russell et al., 2019). Russell and his team confirmed selection bias against children with autism and intellectual abilities across the field of autism research.

Professionals' Perspectives

This section includes studies with a similar methodology to this dissertation study using qualitative approaches to access information from practitioners who worked with young dual-language students with autism. Two studies utilized semi-structured interviews with the practitioners, and two studies asked the practitioners to complete surveys, one of which included open-ended survey questions.

In a qualitative thesis, Kitzhaber (2012) completed semi-structured interviews with five professionals (two psychologists, one counselor, one mental health practitioner, and one clinical social worker). Four of the five practitioners utilized ABA in their work, and all five had a range of experience and knowledge working with multicultural children with autism. Information was not provided on the practitioners' ethnic or racial identity, languages spoken, or whether they

were monolingual or bilingual. Carrillo (2013) completed a thesis to examine language choice for intervention by speech and language therapists in El Paso, Texas, near the border of Mexico. This research was conducted via a survey with 48 current practitioners, most of whom delivered services to at least some children from Spanish-speaking families using Spanish and English. Seventy-seven percent of the practitioners self-reported as bilingual. There was no description of the ethnic backgrounds of the participants. In a qualitative capstone study, Reppond (2015) investigated how dual-language and special education teachers supported CLD students with autism. Five special education teachers answered the open-ended survey questions, two English as a Second Language (ESL) teachers and one speech and language therapist. Three of the eight practitioners described themselves as bilingual, with English being their second language. Finally, in a very recent dissertation study, Howard (2020) interviewed parents, education practitioners, and children ages seven to 14 with autism in England. Howard compared responses across groups and between bilingual schools in Wales and monolingual schools in England and found commonalities among themes.

Kitzhaber (2012) reported that ABA, speech, occupational, social, and play therapies were a part of treatment programs for young children with autism. The practitioners varied in their beliefs about the continuation of the child's home language versus recommending English only in all settings. The rationale for an English-only approach was that if the child accessed education in English and only heard non-English at home, the child could be at risk of not developing any language, despite current research stating otherwise. Kitzhaber recommended the continual assessment of each child's languages and communication repertoires to make appropriate decisions with family and cultural considerations with a focus on understanding family values regarding aspects of services, such as the use of play materials. Kitzhaber

recommended completing further studies to understand the complexities of language development and language choices in intervention.

In Carrillo's (2013) geographical area of study, the practitioners were more likely to use an English-only approach in schools but less likely to use English only with children in early intervention. Carrillo suggested that, most likely, these findings are not generalizable to other parts of the United States since this population is unique, with 82% reported Hispanic children in the area. However, these findings provided additional information about dual-language instruction and practitioners' rationale for the language of choice for interventions with young dual-language children with autism.

Reppond's (2015) study indicated that while most professionals agreed about the barriers to successfully educating dual-language preschoolers with autism, there was disagreement on the solutions to the problems. These practitioners' varied perspectives seemed to correlate with their background, education, and experience. The barriers to providing appropriate cross-over services between special education and dual-language services included a lack of communication between the disciplines, limited training and relevant materials, educators fixed in their opinions, and not enough time in the school day. Two professionals were adamant that the children should have an English-only approach and that it was the families' responsibility to learn English, despite current research about the problems with this approach and the missed benefits of bilingualism.

In Howard's (2020) study, practitioners supported bilingualism for the general population but had conflicting thoughts about dual-language supports for individuals with autism. There was also a noted disconnect between the practitioners' perspectives and practices. However, those involved in the multilingual environment commented more positively about maintaining and

supporting multiple languages than those in a monolingual environment. Howard recommended assessing the changing communication needs of individuals over time and stopping the use of a deficit view of bilingualism and autism.

Summary of Literature Review

The three main areas discussed in this literature review were as follows. Section 1 included definitions and statistics about the IEP disability category of autism, the educational practices demonstrated to address these students' needs, including CLD implications, and a summary and resources about the federal and state laws and published guidelines protecting this population. Section 2 presented the research on the history of bilingual education for typically developing and disabled children with a discussion of recent research for bilingual children with disabilities who do not carry an autism diagnosis. Section three analyzed the research and recommendations for children with autism who require specialized instruction in the overlapping areas of English-language learning and special education.

This researcher's review and analysis of the literature led to the following important concepts related to dual-language preschoolers with moderate to severe autism:

- The rate of autism has continued to increase across cultures, languages, and geographical locations.
- Education research has been limited in the inclusion of non-majority culture families, preschool-age learners, and children with severe disabilities.
- Inequities have continued to exist in access to an early autism diagnosis and early evidence-based services based on CLD and SES factors.

- There have been challenges in differentiating between English language learner and language disability needs resulting in over-identification of ELs with disabilities or ignoring the disabilities of ELs.
- For students with a recognizable disability, specialized support for bilingual needs has not often been provided. In actual practice, the special education needs of students with moderate to severe autism have often taken precedence over dual-language learner needs.
- Practitioners have continued to recommend an English-only approach for learners with moderate to severe autism due to unfounded concerns about language learning confusion.
- There are multiple cognitive and learning benefits to supporting bilingualism in children, including those with moderate to severe disabilities; an additive bilingual approach avoids harm to the child's social-emotional development and family relationships.
- Evidence-based effective practices for children with autism have included early intervention developmental-behavioral strategies with professionals and family members working together.
- The interacting laws in civil rights, special, and dual-language education are designed to protect the rights of bilingual students with autism and their families and mandate the provision of assessment and instruction in English and the home languages.
- Social communication skills, an area of delay for students with moderate to severe autism, require direct instruction by educators and therapists across people and settings (school, home, and community).
- An interdisciplinary approach is needed in early childhood, general, special, and dual-language learner education to best meet the needs of dual-language preschoolers with moderate to severe autism.

CHAPTER 3: Methodology

The purpose of this qualitative research study was to understand the perspectives and practices of educators and therapists who worked in public school settings during the school year 2019-2020 with dual-language preschoolers with moderate to severe autism and their families. The 10 practitioners confirmed that they provided education and therapy to one or more students with family members who used a language of communication at home and in their community that was not English. The parents and extended family members were described at different levels of English proficiency and stages of the acculturation process of living in the U.S. The researcher sought to gain information in the practitioners' own words regarding how they assessed and instructed their dual-language preschool students from culturally and linguistically diverse (CLD) families in their classroom and therapy settings. Additionally, the researcher was hoping to gain information from the practitioners regarding the ways they supported the development of social communication skills across the settings of school, home, and the children's families' communities.

The researcher anticipated that the findings from this study would add additional information to the limited research on bilingual children with moderate to severe autism and their families, provide insight into public school practitioners' decision-making processes, and lead to recommendations for policy, educational practice, and future research. This chapter describes the study's research methodology, including the rationale for a social constructivist phenomenological approach to answering the research questions. This chapter also includes the participant recruitment process, profiles of the practitioners, the data collection and analysis methods, ethical considerations, and the study's potential limitations.

Rationale for a Qualitative Research Design

The researcher chose a qualitative research design using semi-structured interviews to obtain data in the practitioners' own words (Quinney et al., 2016; Seidman, 2019). It was determined that a qualitative approach would lead to the best collection of information about the perspectives and practices of public school professionals working with dual-language preschoolers with autism and their families (Bloomberg & Volpe, 2012; Maxwell, 2013). A quantitative approach would not have led to a collection of rich data on the participants' thoughts, feelings, and expressions regarding their perspectives and their practices as educators and therapists working with dual-language preschoolers with autism. In a phenomenological tradition, this qualitative approach led to the retrieval of objective and subjective data categories and themes from the practitioners' responses via this interactive process. The researcher utilized a social-constructivist paradigm to analyze the data by interpreting the practitioners' words about *their* experiences, both in the context of the researcher's background working in similar professional roles *and* by stepping back to seek to understand the practitioners' thoughts and described experiences. This approach provided the opportunity to examine the "social phenomena from a context-specific perspective" (Bloomberg & Volpe, 2012, p. 28) because data was analyzed from the practitioners' descriptions of their daily practices. Therefore, the researcher determined that this qualitative approach best provided the opportunity to gain deeper insight into the practitioners' responses. The recorded interviews led to important, relevant data to answer the research questions and meet the purpose of this study.

Overview of the Research Design

This study began with a review of the literature related to dual-language instruction and therapy for young children with moderate to severe autism. An examination of studies

highlighted the gaps due to the exclusion of CLD preschool-aged children with severe disabilities from the research. This researcher developed four research questions using the primary literature findings, the noted missed areas of prior study, and her concerns about dual-language preschoolers who did not receive bilingual education services. The researcher then designed the interview tool questions based on recommended practices for a qualitative approach to gathering data from semi-structured interviews with participants (Bloomberg & Volpe, 2012; Maxwell, 2013). Next, the researcher recruited participants and created practitioner profiles. After the data was collected via Zoom interviews with the audio portion recorded, the researcher transcribed and printed the conversations for analysis.

The Research Questions

The following research questions guided this study:

1. How do practitioners provide education and therapy to dual-language preschoolers with autism in Boston-area, Massachusetts, public school districts? What is happening in the day-to-day experience of interacting with and providing education for these children and their families, as described by these practitioners?
2. In these practitioners' experiences, what may be different or additional when teaching dual-language (as compared to monolingual) preschoolers with autism and collaborating with their families? What decisions are made regarding the language of instruction and educational strategies when the preschool child with autism lives with non- or limited-English-speaking families?
3. How are the social communication needs of dual-language preschoolers with autism from culturally and linguistically diverse (CLD) dual-language families considered and supported across the school, home, and communities?

4. What happened to teaching and therapy for dual-language preschoolers with autism and their families when educational services switched to a virtual format due to the COVID-19 pandemic?[2]

Design of Research Tool

The researcher developed the tool with the study's research questions in mind and added several questions similar to those asked in published studies about the education of dual-language children with autism (see the interview tool in Appendix B for questions and citations). The interview tool questions were arranged from general to specific to elicit responses from the practitioners regarding their work with dual-language preschoolers with autism. Additional probing questions were asked to obtain further details from the practitioners. The interview tool consisted of two main sections. The first section included questions to gather background information and develop practitioner profiles. During this initial part of the interview, the researcher developed a rapport with the participants. The second section included questions to lead the participants to describe their practices and examples of their experiences.

Participant Recruitment Process

Next, the researcher worked to recruit participants by reaching out via emails (see the letter in Appendix E) to prospective participants from two compiled lists. One list included former colleagues and friends known to be providing education and therapy in public school settings to young dual-language learners with autism. The second list was developed of professionals found on staff directories in early childhood and early elementary settings on public school websites in the Boston area. Since the practitioners worked in Massachusetts

[2] Unexpectedly, due to the COVID-19 global pandemic, schools closed in March 2020 and moved to a virtual format and led to a fourth research question.

public school settings, they were required to follow state and federal public education laws (IDEA, 2004; ESSA, 2015) and district policies when they provided assessment and instruction to their dual-language students and seemed likely to be able to respond to the interview questions with relevant information within the context of this study. The practitioners worked in schools that met the researcher's criteria of at least a 30% Hispanic enrolled population. This was the highest bilingual population of students per the Massachusetts Department of Elementary and Secondary Education data (MADESE; 2020). Additionally, the researcher chose schools outside Boston that she could drive to within an hour for commuting practicality. The initial plan was to conduct in-person interviews after the practitioners' school day ended. However, the researcher had to complete the interviews via Zoom due to the COVID-19 protocols in school districts during the summer of 2020.

Snowball sampling or chaining was utilized to select participants from these lists (Bloomberg & Volpe, 2012; Noy, 2008; Peoples, 2021). Snowball sampling is a widely-used method to recruit participants for qualitative research (Noy, 2008). In this process, initial interview participants recommended other possible practitioners for the study after completing the interview, thus leading to additional participants for the study. Although there was a risk that participants who had completed the interview could explain the interview questions to their colleagues or friends, in this study, they were asked not to do so and agreed to comply with this request.

Included in the initial emails were a description of the researcher, the dissertation topic, the purpose of the research study, and the interview expectations with the offer to engage in a phone call to discuss any questions before the interview. Nine potential participants initially responded. Two did not meet the study's criteria based on the ages of the students they taught

(grade one and older). Only one participant requested the initial phone call to discuss this study further; all six others moved forward with scheduling an interview via Zoom. Next, following the snowball or chaining protocols, after the interview each participant was asked to suggest practitioners who might agree to be interviewed, either by providing the contact information to the researcher or giving their colleagues or friends the researcher's contact information.

The Research Sample

The researcher's goal was to obtain 10-20 educators and therapists to participate in the semi-structured interview process working in any of the following public school roles: special education teachers, general education teachers, English as a second language (ESL) teachers, speech-language pathologists (SLPs), board certified behavior analysts (BCBAs), school adjustment counselors (SACs), and paraprofessionals. Participants in these public school positions were chosen based on the researcher's previous experience in similar settings and her knowledge that practitioners in these roles were typically involved in providing education and therapy to dual-language preschoolers with moderate to severe autism. The criteria for participation was to have worked during the school year 2019-2020 in a public school setting with dual-language preschoolers with autism in the Boston area of Massachusetts. The researcher also determined that the practitioners continued to work from March 2020 to June 2020 during the move to online teaching and therapy due to the COVID-19 pandemic. Some practitioners also taught in this online format during the summer of 2020. All interviews were completed in late August and early September 2020.

Demographic information necessary to this study included how practitioners identified regarding race, culture, and ethnicity. During the interviews, some practitioners readily shared this information, while some seemed unsure how to answer the question of their identity

regarding race, culture, and ethnicity. None indicated that they did not want to respond. The researcher had hoped to recruit more than one native speaker of languages other than English but only received one respondent who met this criterion. The researcher asked the native-Spanish bilingual practitioner if she felt comfortable completing the interview in English. She stated that she was fluent in both languages and was fine with that process. Data was not collected for gender identity as that seemed irrelevant to the study, and it is a well-known fact that there are a higher number of females than males who work in the field of education with young children (NAEYC, 2019). The practitioners worked in four public school districts, with the number of participants equaling six, three, one, and one from each district. The pseudonyms for the four different school districts are as follows: North, South, East, and West. These names are not connected to the geographic location of any school in relation to Boston but were randomly assigned.

One of the participants (Mary) known to the researcher before the interview connected the researcher to two unknown co-workers who participated in the study; one of the unknown participants (Debbie) connected the researcher to two of her colleagues who subsequently participated. Although other practitioners agreed to reach out to colleagues, no additional potential participants contacted the researcher. It was unknown if this was due to the timing of scheduling interviews at the start of a new school year and traditionally a very busy time for educators. The constraints of continuing teaching during the COVID-19 pandemic may have been a factor as well. Therefore, a total of 11 interviews were conducted before the start of the 2020-2021 school year, with data utilized from 10 of them[5], meeting the researcher's goal of at

[5] Data was not utilized from the physical therapist because of the following: a) The PT reminded the researcher she was a contracted rather than public school employee at the start of the interview; and, b) the PT utilized hands-on supports, visuals, and modeling to engage with all

least 10 participants. Of the 11 participants, four were known to the researcher as former colleagues or friends, and seven were met after the initial email communication at the start of the interview process.

Practitioners identified as the following:10 = White, with two of those self-identified as Jewish; 1 = Hispanic; three participants had prior experience working in this field in a state other than Massachusetts; three participants stated they were fluent in languages other than English (2 = Spanish with one identifying as a native Spanish-speaker; 1 = Hebrew) and 10 of the 11 participants had some knowledge of a language other than English. Again, approximate ages were used in the participant descriptions to protect identity further; they were as follows: 3 = 50s, 3 = 40s, 4 = 30s, and 1 = 20s. Current roles included: 4 = PreK teachers in integrated classrooms with students with and without disabilities; 4 = PreK teachers in substantially separate/intensive classrooms; 2 = speech-language pathologists (SLP); 1 = board certified behavior analyst (BCBA); and 1 = physical therapist (PT)[5].

There was no opportunity to interview English as a second language (ESL) teachers, school adjustment counselors (SAC), paraprofessionals, or administrators. Professionals in these roles were not intentionally excluded; they could not be interviewed because no one in those roles responded to the researcher's initial email or via the snowball process. Further study that includes professionals in these roles is warranted. Table 1 summarizes the practitioners with names changed and identifying information removed (listed alphabetically).

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students at the preschool level and did not describe processes for anything additional or different when engaging in dual-language preschoolers with moderate to severe autism.

Table 1

	Age	**Race Ethnicity** (self-identified)	**+Fluency in languages other than English *Partial ability in languages other than English**	**Years' Experience Bilingual Autism**	**Current Job Title**
Angie ***North***	20s	White French Polish	None reported	2	Teacher Substantially Separate Classroom
Chad ***South***	40s	White	*Japanese *Spanish	14	Teacher Substantially Separate Classroom
Debbie ***North***	40s	White European	*German *Sign language	20+	Teacher Integrated PreK Classroom
Elena ***East*** **MA+**	30s	Hispanic Guatemalan	+ Native Spanish *ASL	10	BCBA
Faye ***North***	30s	White Ashkenazi Jewish	+Hebrew *Spanish *ASL *Portuguese	8	SLP
Izzy ***West*** **MA+**	30s	White	*Romanian *American Sign Language	9	Teacher Substantially Separate Classroom
Karen ***East*** Known	50s	White Irish Italian	*Spanish	20+	Teacher Integrated Classroom
Mary ***East*** Known	50s	White European Portuguese Spanish African	*American Sign Language *Spanish	20+	Teacher Substantially Separate Partially Integrated Classroom
Sandra ***East*** Known	50s	White Jewish	*Spanish	20+	Teacher Full-day Integrated Classroom
Tessa ***East*** **MA+**	30s	White German Polish Irish	+Spanish	6	SLP

MA+Experience in a state outside Massachusetts = 3 (Tessa, Elena, Izzy)

Data Collection

During the interviews, the practitioners responded to the questions and described their experiences and practices working with dual-language preschoolers with autism. As Seidman (2019) stated, the interview process provides data via conversation focused on the lived experiences and their meanings as described by each participant. In this approach, the audio recordings and the transcripts created during and after the interviews were the practitioners' points of view and reflections of their past experiences shared as a verbal and then textual expression (when transcribed). Since the researcher had recruited practitioners who had been teaching during the prior school year (2019-2020), the educators and therapists could share recent experiences interspersed with a few relevant older memories.

All interviews were conducted via Zoom with the video on or off per each practitioner's choice and audio recorded. Interviews lasted approximately 60-75 minutes, not going beyond a predetermined limit of 75 minutes to avoid the burden of taking up too much of the practitioners' valuable time, as they were currently preparing for their upcoming school year and the COVID-19 pandemic was ongoing. Establishing rapport during the semi-structured interview process can potentially draw out more information depending on how questions are asked (Maxwell, 2013). When a rapport is developed, which happens more quickly when interviewees feel their world is understood by the interviewer, described by German philosopher Heidegger as "Being-there-too" (p. 3, as cited in Quinney et al., 2016), there is generally an increased sharing of stories, perspectives, and ideas. In this study, rapport was built in the initial part of the interview before turning on the audio recording tool on Zoom, with friendly conversation about the researcher's background and simple questions related to the participants' profiles. Then the interview tool

questions were asked to gain general accounts of what these practitioners do *and* information about specific events, actions, and ideas, leading to meaningful answers.

Quinney et al. (2016) offered recommendations for qualitative research with semi-structured interviews with known participants in their study about nursing. The researcher in this study utilized a journal during the interview process to take notes on aspects of the interview process with known and unknown participants for later comparisons. The initial plan had been to interview practitioners at neutral locations so they would not feel simultaneously immersed in conflicting roles as educators and research participants. For example, Quinney and her team (2016) noticed when they interviewed nurses in uniform at work that the responses were short and clinical. When Quinney et al. (2016) interviewed nurses in non-work locations out of uniform, the responses included richer data with reported feelings, thoughts, and experiences. For this study, due to the COVID-19 pandemic, the interviews were conducted on Zoom video chat while practitioners were in their home offices rather than in in-person interviews. This appeared to work well as the practitioners were not at their respective schools, it was after the end of their school day, and they could choose their location and attire. The use of Zoom also appeared to have become a comfortable platform from March 2020 to August 2020 for practitioners during the switch to virtual teaching. Each could choose whether to be on audio and video or audio only.

Practitioners were reminded that they could choose not to respond to any question or could end the interview at any time. All questions were answered, and no practitioners asked to end the interview early. Although a few technology glitches occurred with the Zoom interview process where the screen temporarily froze, or it was difficult to hear what the practitioner was saying, the interruptions were minor, and the practitioners impacted were understanding and

flexible. Only a couple of practitioners had to repeat things once or twice. The interviews were completed over a week, and then the researcher began the transcribing and analysis processes as described next.

Data Analysis

The researcher utilized systematic steps throughout this qualitative study. The researcher waited until all interviews were completed before starting the transcribing process so as not to impact the subsequent interviews with the data transcribed from completed ones, a method recommended by Seidman (2019) to separate the interviewing task from the transcribing one. The researcher opted to analyze the text by hand using printed documents of the transcripts while maintaining hard copies on a locked computer. Listening to the interview recordings multiple times with pausing, typing, and rewinding to access all the data was very time-consuming. However, the transcribing process allowed the researcher to access in-depth reviews of the practitioners' responses as the first part of the analysis process. This would not have occurred using voice-to-text transcribing or a transcribing service.

The researcher transcribed the initial interview tool questions, the additional questions that were asked as part of the semi-structured process, the participants' responses, and changes in voice tone, laughing, sighing, and notable pauses (ultimately not used in the analysis). The researcher also documented her interjections, comments, and sharing of stories or examples. Although the researcher attempted to keep her part of the conversation brief, she did find that turn-taking in speaking appeared helpful to the flow and interaction of the interview process (Quinney et al., 2016). In addition, the transcribed data and journal notes were used to make comparisons in interview style and methods between known and unknown subjects to rule out any potential differences within and between interviews.

Judgment was exercised in deciding what data was relevant and meaningful (Seidman, 2019) during the coding process and when choosing quotes to illustrate the emerging concepts. The criteria included coding words, phrases, and sentences about specific experiences and perspectives directly connected to the tool questions and the framework of research-supported practices for working with dual-language preschoolers with moderate to severe autism and their families. Similarities and differences among the participants' responses were noted and compared. Other data pulled from the transcript text included any conflicts and challenges mentioned by participants, hopes and frustrations as they did the hard work of engaging with their young students with autism, and any reported triumphs or learning in the field and through this interview process. Additionally, any reported barriers to appropriate teaching and therapy with descriptions of problems and possible solutions were deemed important. During the researcher's transcribing process, notes were taken in the journal regarding the differences in the practitioners' styles of sharing their experiences. Some practitioners responded linearly by describing their ordered processes and strategies; others engaged in more storytelling about their experiences while giving specific examples.

The researcher completed the evolving process of coding and journaling by hand rather than using qualitative analysis software. This supported the interpretive act considered vital in qualitative research (Bailey, 2008). Using sticky notes and creating tables helped compare the units (words, phrases, quotations). This reflexive process of moving among the practitioners' words, the printed transcripts, and the tables of codes led to the development of seven primary findings (Bloomberg & Volpe, 2012; Seidman, 2019) and choosing the best quotes to illustrate them, as shared in Chapter 4. Framing the findings within the context of the literature on autism education for dual-language preschoolers led to the Chapter 5 discussion.

Ethical Consideration and Issues of Trustworthiness

Ethical guidelines for educators and behavior analysts were followed throughout this research process, along with Lesley University's Institutional Review Board protocols. Participation in this research posed no known risk to the participants. Answers were not shared with any practitioner's colleagues or supervisors and should not have impacted anyone's position in their district. An informed consent form that explained confidentiality measures and the ability to discontinue participation in the study at any time was signed before the interview (see Appendix D). The names of participants were changed, and no questions that would lead to identifying specific children or families were asked. Any information that could lead to identification was not included in the transcripts, codes, or this dissertation paper. Transcriptions were accessed from the audio recordings and the Word documents were kept on a locked laptop computer until completed, then transferred to a flash drive. This flash drive, printed transcriptions, and the journal did not include any identifying information.

The researcher worked to represent the responses of the educators and therapists accurately. All relevant information was included, whether it aligned with or differed from the researcher's knowledge or opinions and the prior research related to providing education and therapy for dual-language preschoolers with moderate to severe autism. The processes recommended by Maxwell (2013) and Bloomberg and Volpe (2012) were utilized for transcribing, analyzing, and carefully completing the transcriptions and the iterative process to pull meanings from the data. Due to the careful process undertaken, the researcher considered the seven main findings as reliable and valid representations of the data analysis. These findings led to the discussion of implications in the context of prior research as detailed in Chapter 5.

Limitations and Delimitations

As in any qualitative study, the researcher made decisions on the study's parameters, known as delimitations. The delimitations of this study included choosing participants from school districts to which the researcher could readily travel within an hour due to the initial plan for in-person interviews. Additionally, despite the criteria for participation in the semi-structured interviews based on a high percentage of Hispanic students, no data was reviewed on the rate of diverse staff per district to potentially access a higher number of culturally and linguistically diverse participants.

Also, studies have some expected and unexpected limitations. The limitations of this study included the small number of participants, although the researcher met her goal of recruiting at least 10 participants. The unexpected COVID-10 worldwide pandemic led to interviews being capped at 60-75 minutes due to concerns about obtaining participants if they felt the demands of being interviewed were too great in this stressful period for educators and therapists. It was also not possible to arrange for second interviews as the practitioners had already started the next school year during the ongoing pandemic, with multiple expectations and stressors added to their educational practices.

Another limitation of this study is that the recruited practitioners identified as mostly monolingual majority culture (9/10) for the Boston area of Massachusetts. The practitioners' experiences, language use, and knowledge of cultural differences were unknown to the researcher before the interviews. Therefore, this study lacked data from a range of "multiple realities from multiple perspectives" (Bloomberg & Volpe, 2012, p. 29). Additional limitations are described in the Chapter 5 discussion.

Summary

This chapter included the research design, the participant recruitment process, practitioner profiles, and the data collection and analysis steps. The data collected via the semi-structured interviews on Zoom provided rich information about the participants' lived experiences working with dual-language preschoolers with autism in public school settings. Through ongoing reflecting and making connections within the data from the interviews, reviewing journal entries on the steps and researcher's thought processes, and revisiting the related research literature, concepts and themes were generated, leading to seven main findings shared in Chapter 4.

CHAPTER 4: Findings

This chapter describes the findings of this qualitative research study with the purpose of understanding, via semi-structured interviews, the perspectives and practices of 10 professionals who worked with dual-language preschoolers with moderate to severe autism and their families in public school settings during the school year 2019-2020. The researcher was especially interested in the development of social communication skills across the settings of school, home, and community. The 2019-2020 school year started as a typical school year; then, due to the COVID-19 pandemic, teaching switched to a virtual format in March 2020, leading to the added fourth research question and an extra finding. The following research questions guided this study:

The following research questions guided this study:

1. How do practitioners provide education and therapy to dual-language preschoolers with autism in Boston-area, Massachusetts, public school districts? What is happening in the day-to-day experience of interacting with and providing education for these children and their families, as described by these practitioners?
2. In these practitioners' experiences, what may be different or additional when teaching dual-language (as compared to monolingual) preschoolers with autism and collaborating with their families? What decisions are made regarding the language of instruction and educational strategies when the preschool child with autism lives with non- or limited-English-speaking families?
3. How are the social communication needs of dual-language preschoolers with autism from culturally and linguistically diverse (CLD) dual-language families considered and supported across the school, home, and communities?

4. What happened to teaching and therapy for dual-language preschoolers with autism and their families when educational services switched to a virtual format due to the COVID-19 pandemic?[2]

The seven findings highlighted the challenges of working with CLD dual-language preschoolers with autism in public school districts outside Boston, Massachusetts. The findings, when considered in the context of prior research analyzed in Chapter 2, led to the Chapter 5 discussion and recommendations for policy, practice, and future research to appropriately address the complex learning needs of dual-language preschoolers with moderate to severe autism. Students with autism are protected by civil rights, IDEA (2004), and ESSA (2015) interacting laws. The findings also added to the limited research about providing evidence-based practices for an interdisciplinary approach across early childhood, special, and dual-language education domains.

The Participants and Settings

The findings emerged from the researcher's analysis of responses from 10 practitioners who engaged in the semi-structured interview process, with the audio portion recorded. Given the challenges of teaching due to the COVID-19 pandemic, interviews were conducted via Zoom with a predetermined limit of 60-75 minutes. The practitioners included seven preschool teachers, four who taught in substantially separate settings (children with disabilities only) and three who taught in integrated classrooms (with non-disabled children *and* children who qualified for special education services under a disability category of autism or developmental delay); two speech-language therapists (SLPs; with one of them self-identified as bilingual

[2] Unexpectedly, due to the COVID-19 global pandemic, schools closed in March 2020 and moved to a virtual format, leading to a fourth research question.

Spanish-English); one board certified behavior analyst (BCBA; self-identified as a native Spanish-speaker and English as a second language). See Table 1 in Chapter 3 and Appendix A for additional details on the practitioners.

These educators and therapists worked with preschoolers who lived with families who communicated in their home language instead of or in addition to English. Although the verbal abilities of the students were not analyzed, all practitioners stated they worked with one or more students whom they described as having limited spoken language (in English as a second language or both English *and* their home language). The practitioners who worked with children in substantially separate classroom settings explained that, in their perception, often the students' limited verbal abilities were due to the severity of their disabilities. The children in integrated settings were described by the practitioners as having limited verbal skills due to their unmet dual-language needs, their quiet personalities while learning to engage in a preschool setting, or because their higher level of disability was not evident during the assessment process.

The practitioners reported both positive and frustrating experiences in the field while working to have strong connections with their students and families. Examples of their enthusiasm for their work came from Tessa and Mary, the bilingual SLP and sub-separate classroom teacher, respectively. Tessa stated, "Bilingualism is my area of passion (…). I know the challenges that these families go through first-hand because the parents tell me in their own language." Mary discussed strategies about "how you build up from [an early language] foundation and how you teach (…) when you have kids that don't speak English. [You use] lots of visuals, lots of props [and] I have no problem making a fool of myself in the classroom or in front of the kids [to get concepts across]."

Data Collection and Analysis

The practitioners engaged in conversation to answer the researcher's questions from the developed interview tool (see Appendix B) and the additional probing questions during the semi-structured interview process. The data was collected from audio recording leading to printed transcriptions and the researcher's journal entries. The researcher did not gather any information via direct observations of specific practices but relied on the practitioners' self-reporting of their thoughts, experiences, and strategies. Although the findings reflected the perspectives of this small group of 10 professionals, the information gathered was rich and informative. For the data analysis process, recordings were transcribed by the researcher; then, the printed text was coded and organized into emerging categories, concepts, and themes.

Transcribing

According Seidman (2019), transcribing can be the first step in data analysis, which was the case with this study. The transcribing process from the audio recordings by the researcher led to her increased familiarity with the practitioners' descriptions of their perspectives and practices. Transcripts were developed into verbatim documents of the questions from the interview tool (see Appendix B), and the additional questions asked as part of the semi-structured process. The practitioners' responses and the researcher's interjections, encouragement, and comments were also transcribed. The researcher attempted to increase rapport and gain access to deeper levels of responses from these practitioners by sharing some carefully selected examples from her own experiences, following recommendations for qualitative interview studies as described by Quinney et al. (2016).

Coding

The coding process included highlighting sections on the printed transcripts to retrieve information relevant to answering the research questions; jotting information on sticky notes to develop a basic profile of each interviewee, including pseudonym, age, job title, school district, and any other languages spoken in addition to English; and using a journal throughout all steps. Judgment was exercised in deciding what data was relevant and meaningful (Seidman, 2019) during the coding process and when choosing quotes to illustrate the emerging concepts. The criteria included coding words, phrases, and sentences about specific experiences and perspectives that directly connected to the tool questions and the framework of research-supported practices for working with dual-language preschoolers with moderate to severe autism and their families. Similarities and differences among the participants' responses were noted and compared. Other data pulled from the transcript text included any conflicts and challenges mentioned by participants, hopes and frustrations as they did the hard work of engaging with their young students with autism, and any reported triumphs or learning in the field and through this interview process. Additionally, any reported barriers to appropriate teaching and therapy with descriptions of problems and possible solutions were deemed important. During the researcher's transcribing process, notes were taken in the journal regarding the differences in the practitioners' style of sharing their experiences.

Analysis

An analysis was conducted to determine if there were differences in the researcher's interview style between previously known and unknown (before interviews) educators and therapists. This process included counting types of comments and interjections and making comparisons. The researcher concluded that the interview style was similar with all practitioners,

regardless of whether they were known to the researcher or not before she began this study. Several iterations were required to organize and pare down the themes into the important findings to answer the four research questions. The journal helped to support the process with notes taken on the steps completed and the evolving analysis. The final step in the analysis included physically cutting apart quotes, sorting them into tables by categories, and then choosing quotes to illustrate each finding with the practitioner's own words.

Presentation of Findings

The seven main findings that resulted from the analysis of the transcripts are listed in Table 2. The practitioners were encouraged to respond to questions with what *they* felt was important to share regarding their perspectives and practices from their most recent school year (2019-2020), with some references to prior years. The findings are explained in narrative format under each related research question with quotes from the participants to illustrate categories in their own words. The discussion of implications and recommendations based on findings are included in Chapter 5.

Table 2
Q=Question; F=Finding

Research Question Number	Findings Number	Findings
Q1	F1	Assessment procedures for special education eligibility determination, monitoring progress, or 3-year-reevaluations did not address the required practice of assessment in the home language.
Q1	F2	Instructional practices described included early childhood and monolingual special education with little mention of cultural and language factors.
Q2	F3	Barriers to dual-language instruction were highlighted, leading to the use of primarily monolingual practices in special education and related services.
Q2	F4	Challenges identified included accessing competent interpreters, the limited availability of early childhood bilingual special education professional development, and rare support from English as a second language (ESL) teachers.

Q2	F5	Parents' language barriers impacted their understanding of the special education process for their children and led to a delayed start of evidence-based autism services.
Q3	F6	Priorities for language instruction did not address the social communication needs of dual-language students with autism across settings.
Q4	F7	Additional barriers were identified regarding student access to appropriate online education and therapy for dual-language preschoolers during the COVID-19 pandemic.

Research Question 1: Assessing and Teaching; Findings 1 and 2

Two findings answered the first research question regarding assessment and teaching practices used with dual-language preschoolers with autism. Research Question 1 was the following:

> How do practitioners provide education and therapy to dual-language preschoolers with autism in Boston-area, Massachusetts, public school districts? What is happening in the day-to-day experience of interacting with and providing education for these children and their families, as described by these practitioners?

Finding 1 indicated that the assessment procedures used by the practitioners for special education eligibility determination, monitoring progress, or 3-year-reevaluations did not address the required practice of assessment in the home language. Finding 2 indicated that the instructional practices described by the practitioners included early childhood and monolingual special education with little mention of cultural and language factors.

Finding Q1F1: Assessment procedures for special education eligibility determination, monitoring progress, or 3-year-reevaluations did not address the required practice of assessment in the home language.

The varied assessment practices reported included which practitioners were part of the assessment process and how they carried out the steps. The initial assessment is required to

determine eligibility for special education and related services for children suspected of having disabilities at age three and older (IDEA, 2004). Often these children have received early intervention services under Part C of IDEA. Six of nine practitioners stated they were part of the assessment process as children transitioned from early intervention into public school education. Three teachers who were not part of the assessment process (Angie, Chad, and Izzy; teachers in sub-separate classrooms from three different school districts) taught children five days a week. Angie and Izzy explained that evaluations were completed by preschool staff who had children with mild to moderate disabilities in inclusion settings only four days a week rather than the teachers for children with more severe learning needs who attended school five days. The integrated classroom teachers had a day available for assessment, while the substantially separate classroom teachers did not. Izzy stated that if the child being assessed presented with limited communication abilities and seemed a likely candidate for the more intensive preschool classrooms, an observation might be arranged for a staff member from the substantially separate classroom team to observe. Chad was unsure who in the special education office or which special educators completed the assessments prior to students being placed in his classroom.

Of the six participants who completed assessments, two were speech and language therapists (SLPs), and one was a board-certified behavior analyst (BCBA). These specialists are usually a part of the assessment process if a young child demonstrates apparent delays in communication and has an autism diagnosis. For example, Tessa, the bilingual SLP, detailed her process of balancing informal and formal assessments, along with parent conversation:

> I always ask (…) as one of my first questions, what other languages are they exposed to, even if it's just like with a grandma that they spend time with on the weekends or whatever (…). So, I'll base the assessments that I choose on that. If it is

> Spanish, then we do have assessments that are normed on bilingual populations. If it's another language, unfortunately, I don't have expertise in that, but I do try to look up (…) what the sounds are in that language and things like that and get an interpreter if I need to. Usually [I use] a mixture of formal and informal types of play assessments (if they're verbal, I will do an articulation assessment) just to kind of see where they're at language-wise, play-wise, if they're making eye contact or if they have that joint attention type of skill (…). I (…) informally see where they're at [through play and observation], [and] that informs where I should start my testing or if I should even attempt the standardized testing 'cause they might not even go for it. So, based on [informal] and standardized testing [and parent interview], (…) I use (…) all three of those things to formulate my goals.

Faye, the other SLP (fluency in Hebrew not utilized in her current role), shared the different ways she uses an interpreter based on the individual child and family needs, along with the limited value of attempting formal assessments for children with severe disabilities and limited communication skills, as follows:

> It's usually me, the parent (often the mother), the interpreter, and the child. [Sometimes] we're talking about a kid who's not gonna do your sort of formal testing, (…) [and] that's not actually information that's gonna help me formulate goals and objectives. [So] (…) the interpreters generally interpret everything I'm saying to the child. If it's a kid who seems to have some ability to engage, I make sure it's the interpreter who's primarily interacting with the child, not me, so I can feed the interpreter what I want them to be saying and asking, but that it happens more in their first language. [Then] there are kids who come, particularly kids who have had [English-based] ABA services sort of

> intensively in the home who have more English than their home language, so then I'm primarily interacting with the child in English, and the interpreter is often interpreting my instructions to the child or the parent (…). I do spend a lot of time interviewing the parent about what [the child's] day is like, how do they communicate and how do you know when he feels sick and how do you know when whatever, to try and get some of that functional communication profile filled out.

The native Spanish-speaking BCBA, Elena, conveyed the similarities and differences in her process when the child is from a Spanish-speaking family versus a family using another non-English language that she does not speak:

> If the kid speaks Spanish, I oftentimes try to speak Spanish as well to see if they're listening to any word in English or Spanish; [for example] if there's a non-verbal kid, and I'm gonna show him or her a book, let's say, and I'm saying "touch the book" and they're not understanding that, then I will switch to Spanish just to see if there is a difference there in terms of them identifying the book (…). I also ask questions to parents, like do you speak to them in Spanish or English or what do you speak to them, and how often or if there's a family member like a grandmother that speaks to them in Spanish, just so I can get a clearer picture of what's going on at home in terms of what the language is [that the child] hear[s], but I use a lot of non-verbal cues as well. I try to do the same thing in terms of, [when] I'm not able to speak [the native language]. (…) I'll ask parents how often they hear this language, or how often they speak to them in a different language, so that I can sort of get an idea of how much that language is heard, and with kids that I can't communicate within their native language or the other language that the family speaks, then I continue to use more non-verbal cues to kind of see if they

> can pick up on that. I've also heard from parents themselves, "oh they are saying that in Russian" (…) or [I] try to look up that word in Russian so I can (…) get an idea of [what] they're saying (…) but it is very hard as you know, trying to figure that out.

Aspects Described Regarding the Complex Assessment Process. Four practitioners mentioned that a parent was generally present with their child for the assessment. Tessa, the bilingual SLP, said, "sometimes it's tough to have the parent in the room, but I feel like the pros outweigh the cons." Faye, an SLP, described using a parent interview in her comments quoted above. Elena, the native Spanish-speaking BCBA, also utilized a parent interview, and Karen, an integrated classroom teacher, used a family checklist and a parent interview. However, Izzy, a sub-separate classroom teacher, said that the parent was not generally present unless the child had difficulty separating from their caregiver per Izzy's district's policy. It was unclear from the interview how Izzy obtained information from the parents. She said the following:

> If the family does not speak English, there is an interpreter in there with them during the assessment, and the parents leave, they don't stay in the room, unless the child has separation issues that they will not do anything without the parent there. And as far as meeting the family, I meet them when the parent accepts placement to our program, like we meet them on the first day of school pretty much, so whenever they come to my classroom, the parents come in, and they meet me, and we have a school adjustment counselor that helps translate for us if they're Spanish speaking.

The challenges of determining whether the child's delays could be attributed to a disability, possibly autism, or English language learning needs and communication barriers were discussed by several practitioners. Mary, a sub-separate classroom teacher, stated that children often access an Individualized Education Program (IEP) under the disability category of

developmental delay until if they have not yet received an autism diagnosis. Both Sandra and Karen, integrated classroom teachers, discussed the challenges of sorting out if the child's reduced communication and learning skills were related to a disability or English language learner needs in the form of language barriers or cultural differences. Assessment for English-language learner needs is addressed under Question 2, Finding 4.

Different initial assessment processes appeared to exist within and between districts. According to East district teachers, observations might occur in the home setting or at an early intervention site. Tessa and Faye, SLPs in different districts, addressed the decision-making process for using formal and informal assessments with this population of students. The quotes included illustrated the efforts to utilize the languages known by the assessor and interpreters in to evaluate non-English speaking children new to the public school settings. These descriptions of varied practices across districts and professional roles for the initial assessment process indicated no consistent procedure to assess the dual-language preschoolers with autism in their home languages.

Finding Q1F2: Instructional practices described included early childhood and monolingual special education with little mention of cultural and language factors.

Finding 2 indicated that the practitioners reported regular use of early childhood teaching practices, their investment in getting to know each child and family, and the implementation of special education strategies (augmentative and alternative communication [AAC] strategies and applied behavior analysis [ABA] at school and for home services. Only three practitioners reported the use of multicultural materials or practices in response to the first general interview tool request to "walk [the researcher] through the process" for how [the practitioner] communicated with and taught their dual-language preschoolers with autism.

Reported Use of General Early Childhood Practices. All practitioners reported their use of early childhood education practices and discussed some or all of the following: visuals, gestures, props, animated demeanor, and other ways of keeping young children engaged. As Debbie, an integrated classroom teacher explained:

> It's interesting, a lot of the strategies are really just good practice for early childhood in general (…). We are using pictures anyway, and use real, concrete [materials and concepts, which] make sense for most kids that are four and five, so a lot of the strategies we already use, like pre-teaching, showing them things beforehand, we've taken a lot of classes about it.

Sandra, an integrated classroom teacher, talked about how she enhanced these early childhood practices in a 1:1 environment to make a connection with a young dual-language student.

> [This little student] wasn't understanding me, and he's in a large group where everyone is participating, he's not understanding me, I'm assuming. He wasn't interacting with children, he was in his own world, I finally stopped him being in a large group, and a small group, and I took him alone. I was determined with him, and I remember, I sat down, I don't remember the story we did, but I had the props, and the characters to it and I believe it was animals and when I was holding them up and I was being really animated he started making the sounds of them, and he was answering my questions (…). All of a sudden, I had eye contact. Once I was completely silly and on his level of something [he] could understand, I had eye contact, he was responding to me, he was wanting a turn to try to do what I did, 'cause it was funny and it was silly. He wasn't in this other world that I viewed him in with the larger group and even in a small group.

Sandra continued the conversation with details of her strategies for supporting the emerging English language of this student with one other peer, then in a small group, and then back to the classroom group with success; she said:

> You have to think out of the box, you're not always going to be successful, but you have to try different things, even different kids in the classroom, you know, who you're gonna pick to pair with this child, when you're playing group games and they're holding hands or doing some kind of silly dance thing. You make sure you're gonna pick the right child who's gonna be kind. You gotta make sure he's with someone he feels safe with.

Only three of 10 participants (Karen, Chad, and Debbie) described the use of multicultural materials or practices, making it hard to determine if the other seven professionals prioritized sharing other information or had not fully considered these cultural needs in their classrooms. In response to the question of what happens when one teaches preschoolers with autism and who hear a non-English language at home, Karen, an integrated classroom teacher, described her room as follows:

> So, I have printed out millions of pictures, and they're on Velcro on my cabinet, the doors, so I can pull [a picture] any time, what I need, they're everywhere all over my room, but they're all organized in the areas. If I'm at circle time and I need a picture of the sun or something, it's right there [or] if I need, you know, the blocks, but if I'm over by the lunch area, there's all different kinds of foods, there's rice, there's everything, there's shrimp, soup, pasta, everything is there so…yah, we're always [using symbols], even with the social-emotional chart I use, it's all multicultural.

Chad, a sub-separate classroom teacher, described the children's communication materials as follows:

> I use Boardmaker, and I use Google images (…). I like to use the actual wrapper of the food itself. (…) If it's [a food wrapper] you can only get at a Dominican store (…)[I use] the actual bag.

Debbie, an integrated classroom teacher, said, "We try to send home books in different languages," She told the families that if it's not the language they know or are most comfortable with, they can make up words to go with the pictures.

Valuing the Importance of Getting to Know Each Child/Family. All practitioners mentioned the importance of getting to know each child individually. Mary, sub-separate classroom teacher, stated:

> [It's important for the children] to get their basic needs met. I ask (…) their developmental teachers at the early intervention program when I go (…) and I also ask [the parents] that after I give my little evaluation spiel. [For example, I ask] 'when they want something to drink, what do they do?' [and a parent might respond with] 'oh they take my hand and walk me to the fridge' or 'they only like water, they don't like anything else and they want a sippy cup.' [We tell parents to] send in favorite snacks, send in their favorite cup, (…) we'll send them back, back and forth, or you know if they want to send in, some send in a case of food (…) a package of peanut butter crackers or whatever it is [that the child likes].

Tessa, the bilingual SLP, described respecting the individuality of each child during her initial assessment process as follows: "I'll try to play with them with whatever they are interested in at the time (…). It looks different for every kid." Elena, the native bilingual BCBA, described observing each child and said:

> We all have to be sensitive in terms of what is going on in this child's life, that is beyond what we have experienced (…). You just have to, I go in the mindset of meeting a kid, I just (…) go along with what the kid does. I try not to, like I'm observing *the kid* first. I'm kind of just seeing what he or she does and how *they* communicate themselves, especially with (…) non-verbal kids, even taking the cultural part aside, you can see some kids pulling something and that's their way of asking or looking at something (…) so I try to just go with what the kid is doing.

All practitioners discussed the importance of getting to know each child's family and how that process can evolve. It often began during the assessment steps and IEP meetings and continued with open houses, family nights, and inviting families into the classroom. Angie, a sub-separate classroom teacher, said:

> I think at first (…) the most important part is building that trust between the staff and the families where they feel comfortable enough to continue to ask questions and feel as though they can email in any language, and I can translate it, using Google translate if I had to. So I think building the relationships is really the biggest part of [successfully working with these children and families]. (…) it's almost more important to build a strong relationship with the family even before you build that wonderful relationship with the child, I just think that we all need to work together and it's just a crucial part [of teaching practice].

Karen, an integrated classroom teacher, described her thoughts as follows:

> I am huge on family engagement, I always had a parent of the day [prior to the pandemic and I] always welcome parents into the room, if they wanted to offer anything, [I support a] big cultural piece in my room as [part of my teaching practice], where we

> always did a big family culture week or month (…) where families would just participate by sending in something from their culture, or food, or I'd even have them come in.

Faye, an SLP, talked about her high caseload being a barrier to getting to know each family. She reported that she depended on families to reach out to her to communicate, as she did not have time to initiate the interactions. In the section below on the use of interpreters, Faye described using her time with an interpreter in meetings with families to capitalize on as much conversation as possible to share information and answer parent questions.

Reported Use of Special Education Practices. Preschool classrooms in public school settings often include children with and without disabilities in integrated classroom settings. When students' have severe disabilities, they may be educated in a substantially separate setting with inclusion opportunities provided as deemed appropriate by the student's IEP team. Mary, a teacher in a sub-separate classroom that offered half-day inclusion for her students with severe autism, described her special education practices as follows:

> Well, typically for special education, from my perspective, when they are that young and have not been exposed to an American classroom, [the basic things] are the daily visual routine. And we've got different little schedules that interchange, at all different levels with all different icons for whatever that child needs, whether they need it posted over their cubby: arrival, departure routines, toileting, gaining, basically, gaining their own independence and sense of self, then learning how to play alongside somebody and then, you know, with somebody, and just being able to regulate their bodies and respond to visual timers. It's very structured in the day, what the times are, what the routines are, like the warnings [of upcoming transitions], we have 'one more minute' and color-coded timers.

Chad, a sub-separate classroom teacher, discussed parts of his teaching practices and said: "When I first meet with the family, I share with them the (…) school-based routines and explain what the school day will look like (…). I like to pair my directions and my routines with sign language (…), especially as transition cues."

The researcher asked specific questions about augmentative or alternative communication (AAC) practices. Many practitioners described their use of AAC tools with their preschoolers. The researcher only asked about general teaching strategies for this population of students, not specifically about Applied Behavior Analysis (ABA), which is considered an evidence-based instruction and therapy technique for individuals with autism (National Autism Center, 2021). ABA was mentioned by six of 10 participants. Time restrictions for the interviews due to the did not allow for additional questions about the details of providing educational and therapeutic interventions under IDEA (2004).

AAC Practices. Eight of 10 participants reported the use of high and low technology supports. The two professionals who did not mention the use of AAC support, Karen and Debbie, were the two integrated classroom teachers who also described their students as higher functioning. Seven of the eight practitioners who reported using AAC practices used PECS at least some of the time for low technology supports. Two of the eight practitioners used core [basic symbols for everyday communication] boards and fringe [topic-specific symbols] boards, and two of the eight used sign language. The following quotes add insight into their specific processes.

> When I start working with a kid, PECS is one of my go-to things if they are not using a lot of verbal language when they first start. I'll (…) start introducing picture icons and pairing [a picture] with the item (…), and I will say it in English and/or Spanish if that is

> the language that they speak, but if it's a different language I just use English. (…) I'll pair the picture with the object (…) every time that we are working together, so even if they weren't previously exposed to that English word, they can see the object right next to it. With PECS, they hand me the picture, and then they get that item, so they're really reinforcing that vocabulary word. (Tessa, bilingual Spanish SLP)
>
> [We have the children use] the picture exchange communication system. I had four students this past year with PECS books (…) individualized and updated by our speech pathologist. [The students were using the] 'I want' [symbol], or they'd kind of do the sign language of 'I want' and putting the picture on that strip and handing it to one of us. So, they carried it, they had their little shoulder straps, it went back and forth to speech class with them, and whenever there was an update or extension, the speech pathologist would [say] 'oh, I put some more icons.' (Mary, sub-separate teacher)

It was unclear from the given responses how each practitioner decided which types of AAC supports to utilize or their level of experience or training they had received. No one mentioned an assistive technology assessment process. Several practitioners described using a combination of approaches to support expressive communication:

> I start communication with Picture Exchange [and] I will look to see to what extent they can navigate iPad (…) because we use Touch Chat [communication devices] quite a bit as well (…). I like to have as many of my students using pictures, even if they're somewhat verbal, because then I'll use sentence frames [to expand utterances]. (Chad, sub-separate classroom teacher)
>
> We don't have many kids who come in with AAC, either low tech or high tech, and we try and get them started at least on the low tech (…) as fast as we can, whether that's

> modified PECS, [but], I prefer to get the kid pointing to the picture rather than handing something over because it transfers better to the more complex core vocab based systems. We use a lot of combination of core boards plus fringe words with our non-verbal or minimally verbal students, [and] all of that's predicated on an ability to point or to sort of visually focus and then take a picture and hand it to someone. We don't have many high-tech users at my school. Most of our kids are somewhat verbal and are able to use the low tech core plus fringe stuff to sort of support their production of longer utterances. (Faye, SLP)

> We do try and teach all of our students the basic ASL signs for 'help,' 'more,' 'all done,' and 'bathroom' [and] we use PECS for some students. We use AAC devices if they have them, which is rare in preschool, high tech AAC devices like a Touch Chat or things like that (…). [We use something called a core board (…). The core board is like the basic functional [pictures] and then [there are] pages on top of it like the core board is on the bottom and then (…) there's smaller pages on the top (…), those are called fringe [vocabulary]. (Izzy, sub-separate teacher)

Five of the eight practitioners who reported using assistive technology discussed the limited use of high technology devices (Touch Chat, iPad or Android tablet, Novachat) for preschool-age children. Faye, a speech and language therapist, stated, "We do have some kids who I think should be high-tech users, but there's a decently heavy burden of proof on us to show that the child benefits from high tech" that includes taking baseline and proving increased communication with high technology device after a short period. Mary, sub-separate PreK teacher, voiced her frustration by discussing a student who had a high technology device, and "after all the work we did [teaching student to use it and collecting data], the insurance

[company] was saying they were not going to approve it (…). This is ridiculous, this is his voice, and [the student] was so proud to have [it]".

Applied Behavior Analysis Practices. More than half of the practitioners (6/10) mentioned ABA practices as part of the school program or as a home service, but without details. Two practitioners (Mary and Izzy, both sub-separate classroom teachers) mentioned school ABA. Five practitioners talked about home ABA as a service some students received. In four of the five situations, the students received these services through their insurance; in one instance, the school provided the home services. The need for interdisciplinary training, experience, and practice is discussed in Chapter 5. The languages in which the home services were provided will be discussed further under Research Question 2.

Research Question 2: What's Different and Additional; Findings 3, 4, and 5

The data analysis led the researcher to arrive at three major findings to answer Research Question 2. Research Question 2 is the following:

> In these practitioners' experiences, what may be different or additional when teaching dual-language (as compared to monolingual) preschoolers with autism and collaborating with their families? What decisions are made regarding the language of instruction and educational strategies when the preschool child with autism lives with non- or limited-English-speaking families?

According to the practitioners' perspectives and practices, this question focused on understanding what may be different or additional when working with young bilingual children (compared to monolingual children) with autism in public school settings. The data led to three findings as follows. Barriers to dual-language instruction were highlighted, leading to the use of primarily monolingual practices in special education and related services. Challenges identified

included accessing competent interpreters, the limited availability of early childhood bilingual special education professional development, and rare support from English as a second language (ESL) teachers. Parents' language barriers impacted their understanding of the special education process for their children and led to a delayed start of evidence-based autism services. The researcher did not have a way to measure the disability levels of students in each practitioner's classroom or on their therapy caseload. The researcher determined that the three findings applied to bilingual students with autism and their families regardless of the severity of a disability, with a few notable differences explained further next.

Finding Q2F3: Barriers to dual-language instruction were highlighted, leading to the use of primarily monolingual practices in special education and related services.

The main themes in Finding 3 are the following: instruction was primarily in English with limited use of the child's home language for teaching and therapy at school, in ABA therapy at home, and in AAC devices and services; language recommendations made to families generally promoted the continuation of home language use; and some cultural aspects were described related to instruction and AAC use.

Use of Languages in Instruction and Therapy. The researcher asked specific questions about using languages other than English in classroom instruction and therapy (See Appendix B for interview tool). Additionally, probing questions clarified if non-English languages were used in home ABA services and for AAC supports.

English as the Language of Instruction with Differences in Home Language Use. All practitioners stated that they used non-English at least some of the time. Still, no one described a system for quantifying the use of any student's non-English home language, and many reported that the use of the student's home language was minimal. All practitioners said they sometimes

used languages in addition to English in school settings, but the two practitioners fluent in Spanish did not use a dual-language approach. No one ruled out the use of the home language if they could learn some words, find support from co-workers (such as bilingual teaching assistants), and gather information from parents.

Angie, a sub-separate classroom teacher who described herself as a monolingual English speaker, said, "I try and pick up some simple words, kind of like toddler talk (…) in other languages." Other examples of using the child's home language came from Debbie and Izzy, integrated and sub-separate classroom teachers, respectively. Debbie said:

> I know a few Spanish words, [for] 'hot', 'cold', 'bathroom,' you know, so we have a few books, so I do sometimes use words to help kids feel more comfortable or using pictures or just showing them, like actually saying the word and showing the object, and showing actual objects (…) to help them understand.

Izzy had a similar response but was concerned about her ineptitude in Spanish confusing her students. She also stated that the child might receive additional support in their home language from colleagues, but it depended on the current staff's language abilities. Izzy stated:

> I wouldn't say it was planned that way but if a child isn't understanding a direction, we sometimes for bathroom say 'bano'. I'm not sure how [good] my Spanish is, though, so I hope I don't confuse them (…). We do always try English first, but if we notice it's not [understood] and someone does have the language in the classroom for it [we may try it].

Even when fluent in the home language, as Tessa, the bilingual SLP, and Elena, the native Spanish-speaking BCBA, were, they were deterred from using a dual-language approach for several reasons. Elena described the barriers to using the child's home language. She said there are not enough bilingual staff, so even if she had permission from her administrators to

utilize Spanish herself, her BCBA role was primarily to consult with English-speaking staff. Elena clarified by saying, "Unfortunately, that's when you can't decide [to use a dual language approach] because most of the staff speaks English, so (…) you kind of speak English for the kid, too; you're teaching in English (…). We are not a dual-language program or anything like that."

Another barrier was described by Tessa who asked administrators if she could or should use Spanish in instruction. She was told, "only if it helps the child to learn English." She had previously worked in another state where a dual-language approach was used, at least sometimes. Tessa elaborated as follows:

> I used to do therapy in Spanish when I lived in [another state]. They allow that, and it seems like in Massachusetts, they don't want you to do that, at least, that's the message I have received (…). That was what my director had told me. When I first started there, there were a couple students, not students with autism I don't think, but, you know, language-delayed, and I said am I supposed to be doing therapy in Spanish with these kids or no, and the director spoke to, I don't know, probably the special ed director at the time or somebody, and they got back to me and said 'no, you can use your Spanish to help them (…) to make connections to English', or things like that but we don't want you to be, you know, just doing the whole lesson in Spanish.

In response to a question about how the practitioners understood their students if they spoke a language other than English at school, Karen, an integrated classroom teacher, said: "I will talk to the parents, and usually they'll give me a list. I'll ask them to write down for me, so I know what they're saying." Debbie, an integrated classroom teacher, who stated she goes out of

her way to communicate with all her families and uses visuals and modeling to support student understanding, reported the following:

> Some kids come into school, and they speak Spanish to me for four months even though I only speak like five [Spanish] words back to them (…). Eventually, they start speaking [English] (…). They slowly switch into English as they get more comfortable, and the year goes on (…). We just listen to them and nod and try to figure out what they are saying.

Of note, based on the comments from practitioners, it appeared that children from Spanish-speaking homes were likely to access more communication in their home language at school than children in homes in which the families used other non-English languages. Two of the 10 participants were fluent Spanish speakers. Five other participants reported some knowledge of Spanish from beginner to advanced levels. No one reported using a non-English language other than Spanish with their students, other than Angie, a sub-separate classroom teacher who said she tried to learn a few words at the toddler level but without saying which languages.

Despite not having consistent skills or resources to utilize the home language, several practitioners described how their use of Spanish increased connections with parents:

> [Where I find my limited Spanish] most useful is relationship-building with my parents, it's not something I would do to really communicate and feel comfortable where I would understand everything they were saying, but by using some Spanish, I feel like it goes far with building relationships. (Chad, sub-separate teacher)
>
> Back when I was a para [prior to becoming an SLP], parents that would never call [the school] when their child was gonna be out sick, once they knew that I worked there and

> there was gonna be someone, if they called and [asked for me], I would come to the phone, and they would consistently call to say that their kid was gonna be sick or had a doctor's appointment or other things like that. So I feel it definitely helps [Spanish-speaking the parents] feel like somebody is on their team and there's somebody they can reach that they know they're gonna be able to talk to and it takes away some of the anxiety for them. And it's nice for [my current colleagues] too because before they wouldn't really have a way to communicate that well. (Tessa, bilingual SLP).

Mary, s sub-separate classroom teacher, stated that they assigned the bilingual SLP, Tessa, from her school to Spanish-speaking families, even if the parents declined an interpreter. Mary, Elena (the native bilingual BCBA), and Karen (an integrated classroom teacher) mentioned that some families pushed for "English only" at school for their children, even when the parents were not proficient in English. This finding highlighted the variability in approaches and abilities of the practitioners and that the parents made decisions to ask for English instruction without knowledge of the evidence-based benefits of bilingualism.

Language Use in Home ABA Services. As discussed in Finding 2 above, six of 10 practitioners mentioned that some students received ABA services at home. Only two of these participants stated that these services were delivered in the home language of Spanish. Chad, a sub-separate classroom teacher, said that the school-provided home services could be offered in Spanish but not in other non-English languages. Izzy, a sub-separate classroom teacher, when asked if she felt that having Spanish providers could provide a bridge between home and school, agreed and said, "I have a great bridge with the families I have that have ABA services at home. Their providers speak English and Spanish, and they'll ask me questions (…), and it's such a great way to get into 'the head' of the home, know what's happening and [find out] how I can

[support at school]". Faye, an SLP, said that when she assessed students aging into public school at age three, the children who had intensive ABA often spoke more English than their parents because sessions have been provided in English only.

Language Use in AAC. According to the eight practitioners who used AAC with their students, languages other than English were infrequently utilized in assistive technology. Tessa, the bilingual SLP, responded as follows to illustrate her process:

> I usually put [the printed word] on [low technology visuals] in English unless the parent has given me the word for it [in their home language] (…) although [I had one child] (…) I made like a Core board type of thing for him, and I did do [the printed word] in Spanish and English with that.

And Tessa also said:

> A couple of my kids do have (…) a [high tech] Novachat system that they use, and (…) the one that is bilingual that has [a Novachat] does not (…) speak [the home non-Spanish] language, but I know that he hears it at home [but] I don't think [the system has] an option for that language, maybe it does? Either way (…), the parents are both fluent in English, so they have just opted to use the system in English rather than bilingual (…). I have another kiddo who the family speaks pretty much only Spanish, dad knows some English, but mom is too kind of nervous to use English in front of people so (…) we picked a system for them that just goes back and forth [between languages] with one click so the buttons can be in Spanish or English.

The other seven practitioners who used AAC said they do not use the child's home language in their AAC practice, either with a printed word or voice output. Mary, a sub-separate classroom teacher, and Sandra, an integrated classroom teacher, both mentioned a student who had moved

from Mary's class to Sandra's class. This little boy's parents spoke English well, along with several other languages, and they used a high-tech voice output device in English only with him. These practitioners' comments about language use in home ABA and AAC technology indicated that, like in verbal instruction, English was the primary mode of communication, and students from Spanish-speaking families had the most likelihood of practitioners using the home language at times in their education and therapy practices.

Language Recommendations to Families. Practitioners were asked if they or their colleagues recommended that families use an English-only approach with their students with autism, as had been this researcher's experience and reported in the literature review (Chapter 2). None of the practitioners stated that families should use only English at home with their young child with autism. Two participants were also aware of the research on the benefits of bilingualism for children with disabilities. One practitioner reported speaking with colleagues to find answers on best practices. A sub-separate classroom teacher, Chad, stated he had heard the SLP who worked with his students say to use an English-only approach when the student had intellectual delays or severe autism. In summary, three of 10 practitioners said they tell the families to use either their strongest language or the language they are most comfortable with when communicating with their child. Five of 10 practitioners clearly articulated to families that they should continue their native language. More than half (6/10) felt it was ideal for families to use both the home language and English. The following are examples of their thoughts:

> [For] higher functioning verbal kids, we encourage families to speak in their native language as much as possible (…) especially at home. I believe a lot of literature says that kids will actually learn English better if they have a better understanding of their native language, so we encourage that. I also usually try to ask families, 'How do you

> count to 10 in your home language?', and we try to incorporate that (…) in the classroom when we're counting. Sometimes we count in Spanish, sometimes we count in, you know, Chinese or whatever, so we try to validate different languages, and I tell the parents to speak to them in their home languages and when we send home books, we try to send home books in different languages and when they are not in their language we say just make up the story in your own language". (Debbie, integrated teacher)
>
> In my reports, I have recommendations at the end of them. Usually, the first one, especially when it's a bilingual child or bilingual family, is continue to provide strong language models in whichever languages you feel comfortable using. I say use the strongest for you, because obviously if they are speaking broken English, you know, very minimal English, and not correct grammar, and that's the only thing they're doing just because they think English is what they should be using for school or whatever, then that's NOT a strong language model. (Tessa, bilingual SLP)

Elena, the native-Spanish speaking BCBA, felt like progress had been made in colleagues not making inappropriate statements to families to use English-only with their child. She said:

> There's been a (…) shift [away from recommending English-only]. I think back to when I first started working in 2010; actually, I do remember hearing from parents asking, 'oh is it ok if I speak Spanish to my kids?' and I remember hearing from other people, 'oh they have a communication deficit, it's probably best to stick with one language,' and I always felt that wasn't right.

Karen, an integrated classroom teacher, said she liked asking the parents their thoughts about language use. She said:

> So that's a tricky question because you don't want to impede on who they are, where they're from, so we never say in school we're gonna speak English all the time to your child, it's not true, so we sometimes [ask them] what would you like us to do, what do you feel?

Then Karen conveyed that there was some level of school expectation for the families to use English at home and said:

> We try to have them carry over what we are doing in school, and we [tell the parents] we understand Spanish is where your child is at, and this is what he or she needs, and this is the program we are recommending and show them what we do and maybe carry it over at home and (…) with other family members (…) in English because we are teaching (…) in English at school.

Izzy stated:

> I personally feel that might be a family preference on when or how they want to teach language to their kid (…). I do have parents that are multilingual, but they're only teaching their child English (…), but for me, I feel that's not my place to [make those types of recommendations].

Chad, the sub-separate classroom teacher who was unsure what to recommend to families, said:

> I have speech therapists that I know who would definitely feel that just speaking English at home would be the way to go, at least for our cognitively low students (…). So it kind of depends on cognitive ability of the child, if the student is cognitively very low, we might recommend having the parents try to give the one-word direction they want the child to do or say in English and in Spanish.

Several practitioners seemed unsure about what the home languages were. Debbie stated she does not know what she would do if she taught students in a sub-separate setting, but maybe she would learn "a few commands" in the students' home languages to support them.

Participant Consideration of Culture. Responses about cultural considerations were analyzed, focusing on how practitioners learned about their students' cultures and any cultural considerations related to augmentative and alternative communication (AAC). As noted under Finding 2, only three practitioners mentioned using multicultural materials.

Learning About the Culture of Families. All 10 practitioners discussed the importance of getting to know each student and their family, which likely included gathering cultural information even though there were limited explicit descriptions of this process. Three practitioners (Tessa, the bilingual SLP; Faye, an SLP; and Angie, a sub-separate classroom teacher) gave information about how they obtained cultural information during the assessment process or when first finding out a student from a bilingual family would be placed in the classroom or on their caseload. Tessa stated, "Parents can give background of [the child's] personality of what they are like at home and activities they like to do, and what are the things that they do as a family, so I get some cultural information that way." Tessa also responded that she did not have a good process for obtaining cultural information, and that was the one area in her interview where she felt she needed to learn more. Faye described her process of jotting down notes regarding the family members' and the interpreter's communication styles, observing their eye contact and physical posture as possible clues to cultural aspects of non-verbal language. Angie, a sub-separate classroom teacher, said that she researched the culture of new families being placed in her classroom along with conversing with colleagues to gather information. Angie also mentioned she was surprised, knowing when she accepted her current

teaching position that she would have a diverse group of students in her classroom, to find out that all but one student were from bilingual families. When asked about the BCBA who supported her students, she said she did not remember the BCBA ever bringing up the culture of her students in any conversations.

Mary, a sub-separate classroom teacher, discussed "Americanized assumptions" for young students with disabilities and their families newly relocated to the U.S. She said that these children and their families required additional support to acclimate to the classroom and the expected processes. She stated that the bilingual Spanish-speaking school adjustment counselor (SAC) helped families fill out paperwork for emergency contact information, neuropsychological assessments, and the transition process to kindergarten, despite the administration stating that was not part of the SAC's role. Karen, an integrated classroom teacher, said she liked to get involved with her students' families and describing herself as a "people person." She also reported that the early childhood center in her district did not have a family engagement professional as the older grades do, and that it was often necessary to support families in additional ways, even though the administration discouraged that.

When getting to know each child and family, the teachers often learned about the cultures of their preschoolers and their families informally or via a questionnaire by asking if the parents had anything they wanted to share with the class during the school year. Debbie and Karen, both integrated classroom teachers, tried to get to know the families of current students by including the families' cultural celebrations when the parents requested. In general, the practitioners reported that they exhibited no judgment toward family differences. They accepted specific parenting strategies and preferences regardless if related to cultural differences as long as the practitioners had good communication with families. A sub-separate classroom teacher, Chad,

when asked if he noticed any cultural differences in parenting or advocacy in diverse families, said:

> Some cultural differences, some (…) [families from other cultures] might do co-sleeping longer than what we [Americans] would consider generally normal and what not (…). I don't worry about that very much. I don't try to change that in any way unless [the parents] ask me about it, I just say that's interesting (…) and that's it (…). When other aspects of (…) developing independence come about, whether they are cultural or not, I'll try to help the parents to see that it's so important to start building independence at an early age.

Elena, the native Spanish-speaking BCBA, talked about colleagues overly attributing student and family behaviors to culture. She said this practice seemed more evident in New England than in her previous job location in the western part of the U.S. Elena described how she had conversations with parents about child-rearing decisions and concerns without making their choices about culture. Sub-separate teacher Izzy felt that the parents of her students had similar questions and concerns regardless of cultural backgrounds or whether monolingual English, bilingual, or non-English speaking only. In Izzy's experience, all parents of preschool-age children wanted to know about the progression of the developmental stages of their young children, such as sleep patterns, toilet learning, and giving up the bottle. Chad described his preschool parents as more communicative and inquisitive than he found parents to be when he worked with older students.

One practitioner reported that she needed to educate some colleagues about cultural information to remove bias in their perspectives. Tessa, a bilingual SLP, became fluent while abroad in Spain and clarified that she does not have all the answers for Spanish-speaking

families from Mexico or Puerto Rico, despite some colleagues assuming she does. Tessa described an example of correcting an administrator's recommendations to a parent not to use "Spanglish" and told her director that put unnecessary pressure on a family learning English who may switch between languages as part of the language-learning process.

Three practitioners reported they learned from their families and CLD colleagues. Mary, a sub-separate classroom teacher, said her Portuguese-speaking families clarified that they are from Brazil, not Portugal, taking pride in their Brazilian heritage. Sandra, an integrated PreK teacher, described her process of meeting the needs of each child and reported that she was surprised to find out from a family that they had avoided following through on testing for a possible autism diagnosis because her extended family would shun her. Sandra was also unsure of this child's cultural background and said, "I should know this." Karen, an integrated PreK teacher, explained that many young Hispanic families are coached in their communities to say "autismo" to get more services, not realizing they must follow the special education process. Karen said she had learned this information from a former long-term native Spanish-speaking paraprofessional in her class who told her that families from her home country were used to being provided with food and clothing in addition to education. These examples demonstrated the importance of listening to and learning from those who are knowledgeable about the preschool students' cultures.

Cultural Considerations in AAC. Eight of 10 participants reported using AAC as part of their teaching and therapy practices. The researcher asked how cultural considerations were included when choosing visuals for AAC strategies. Six of the 10 practitioners reported they chose visuals with appropriate skin tone and foods or items of relevance or importance for each child, for example, 'church' if it was a regular experience or bread shaped like 'naan' rather than

a loaf. Mary said, “Some of [the visuals are] so biased. I do ask the parents, and a lot of them are willing, with all the technology, to send me pictures from home, like what their home routines are, like where do they sit for dinner, what’s their toothbrush, (…) like the basic daily living kind of ideas.” Tessa and Faye, both SLPs, also stated they asked parents to send pictures from home for AAC tools. Chad, a sub-separate classroom teacher, who reported his use of the actual food wrappers of items the students may want to request, described, “[I consider skin color] on symbols (…) and [put printed words] on the picture of what I would want the child to vocalize (…) like ‘Mami’ or ‘Papi’, rather than ‘Mom’ and ‘Dad’.” Faye, another SLP, said she chose pictures important to the child and family, giving church as an example.

According to the practitioners, most parents of bilingual children seemed to accept AAC strategies without notable differences compared to monolingual families. Elena, the native Spanish-speaking BCBA, said, “Most parents want their kids to communicate (…). They want them to speak, but we tell them we are going to use PECS, that’s something new for them, that’s not even like a cultural difference, that’s just new [to them].” Tessa, the bilingual SLP, described her communication with families as follows:

> So, I do see a lot of families [both monolingual and bilingual] that have [reservations about use of high or low technology] in the beginning. Usually, that comes up at the IEP meeting if I’m talking about their goals (…). It’ll usually come up at the initial IEP meeting, I start talking about ‘oh, I’m going to use a total communication approach’, that can be anything from signs, gestures, pointing to pictures, includes verbal language, which I always kind of highlight because I don’t want them to think we’re just completely giving up on [speech], ‘cause we’re not. But I try to explain to them how I kind of integrate all those approaches like, even if we are doing PECS, I’m always

> modeling the verbal word for [items] and things like that. And I just kind of tell them that I understand their concerns, that I'm introducing the AAC, but that the research around AAC in the last however long, 5 or 10 years, shows that it actually does promote verbal language, and it's not meant as a replacement for that.

Mary, a sub-separate classroom teacher, said she had noticed that some families preferred a high-tech device as it could be challenging to keep track of the multiple pictures used in low tech systems in the home setting. Potential cultural differences regarding parents' abilities to advocate for their children are included under Finding 5 later in this chapter.

Finding Q2F4: Challenges identified included accessing competent interpreters, the limited availability of early childhood bilingual special education professional development, and rare support from English as a second language (ESL) teachers.

Finding 4 indicated that additional personnel and resources were required for working with dual-language preschoolers with autism. However, the appropriate staffing and resources were not consistently available or the practitioners were unsure what else might increase their research-based practices. As a result, the practitioners were unprepared to use an interdisciplinary approach to include dual-language practices with their early childhood special education approaches.

Use of Interpreters. All practitioners reported their experience in working with interpreters for communication with families. Although the practitioners did not differentiate whether the interpreters were trained or not, as required by civil rights, IDEA (2004), and ESSA (2015) laws, it appeared that a formal interpretation process was used for scheduled meetings and translated documents arranged by their school district. Chad said he was not sure how his district accessed interpreters, but he thought they were "outsourced." Other practitioners

described access to in-person or phone interpreters and their knowledge of the appropriate use of interpreters.

For Meetings and for Documents. Every practitioner had experienced using interpreters at meetings, most often in person and sometimes on the phone (3/10) for less common languages.

> We've also had some situations where we're at the IEP meetings, [with] our team, our intervention team, and (…) if we can't get someone in to translate personally [for less common languages in the area], we have about maybe like 8 or 9 families coming [to the city] you know with very young children, and they are very recent immigrants to the city, like within the past 5-7 years, [speaking] a unique language, so we've had [interpretation] over the phone, you know so it's done via the phone. (Mary, sub-separate teacher)

Faye, an SLP living closer to Boston, said she and her colleagues had no difficulty finding interpreters in all languages, a benefit of being closer to Boston. Hence, she never needed to utilize a phone interpreter.

Chad, a sub-separate classroom teacher, Debbie, an integrated classroom teacher, and Tessa and Faye, SLPs, mentioned looking at the referral form information or a checked box on an IEP to determine if a family wanted an interpreter at evaluations and meetings and for translated documents. Tessa said she goes beyond just looking at the forms since she wondered if some parents thought they were supposed to write English as the primary home language spoken. Tessa felt the parents were not necessarily forthcoming about home languages spoken or a need for interpreter support due to the perceived prioritization of English language learning. Tessa also described her insistence on accessing an interpreter when administrators asked if a family

could manage without one. One practitioner said that some bilingual parents did not want an interpreter because they could speak some English to communicate at meetings. At the same time, other parents were reportedly too nervous to depend on their newly learned English.

Spanish-speaking SLP Tessa sometimes utilized her Spanish language skills to help other staff and in her own students' meetings as she described:

> I have been asked on the fly, unfortunately, to interpret for meetings, sometimes not even my own [students'] meetings, but I have set better boundaries for myself in this job than in my previous job. (…) I would say probably 75% of the time if the parent speaks Spanish, I will do at least my part of the report in Spanish because I feel like that is helpful [because] it saves time, and it's me using the words I want to use, and I think it helps the rapport with the family.

Tessa was also knowledgeable in the appropriate use of an interpreter. She said:

> I think for me personally, I'm just aware the interpreter is interpreting, but I still speak to the parent, so I try to (…) not speak for long periods of time. I cut myself off so that the interpreter can speak to the parent, and I just try to always look at the parent when I'm speaking.

Chad, sub-separate classroom teacher, described interpreter protocols as follows, "I would say in general the interpreters that we use are very good, and (…) if people forget, they insist that the adults, the teacher, and the staff, are directing everything towards the parents and not towards them." Contrary to this, one practitioner mentioned colleagues who did not use interpreters appropriately, for example, they did not orient toward the parents, and they looked at the interpreter while saying, "tell the parent…".

More than half of the practitioners reported that meetings often took longer (7/10) and could feel rushed. Izzy, a sub-separate classroom teacher, allowed for this extra time by scheduling meetings for 30 minutes longer in advance than the meetings for monolingual English families. Chad, a sub-separate classroom teacher, reported he always continued meetings longer but allowed specialists (SLP, BCBA, for example) to leave before the meeting ended if the parents agreed. Three practitioners reported that they felt passionate that the families received all the information they requested and at the same level as monolingual English families, regardless of time needed to complete meetings, and with differences described about whether leadership staff allowed the additional time, as described below:

> [Rushed meetings do] frustrate me (…) because obviously, I think that everything that everyone says is important and the parents have a right to hear everything that we would have said if they spoke English [and even if the team chair says to keep it brief]. I'm gonna tell them pretty much everything I want to say. (Tessa, bilingual SLP)
>
> I can tell you something that bothers me (…) [is that] people who aren't as fluent in English need more explained to them and the meetings are longer, they need the interpreter (…). I find (…) that the person running the meeting, because it will go longer, doesn't go through everything as much and explain everything as [a monolingual family] would get because it takes longer (…). This parent is entitled to understand [what is shared with monolingual families], and it really bothers me [when it's not]. (Sandra, integrated teacher)

Chad, a sub-separate classroom teacher, who prioritized families getting the information they need, said:

> I actually sometimes get teased. We have to run our own meetings, and my meetings do go a little bit on the longer side, but I feel like I have parents that this might be their first school experience so it's kind of important to take more time. But I do feel a tension between not having meetings go too long but while at the same time trying to give the time necessary for everything to come out and it definitely takes, it does take longer with an interpreter.

However, the native Spanish-speaking BCBA, Elena, said she did not notice any stress or frustration from co-workers regarding longer meetings but also wondered if it could be related to her dual-language status:

> [The administrative staff] don't try to rush [the meetings] because there's an interpreter (…). I've never even …well, maybe they haven't said it to me, but I've never heard that kind of annoyance of an IEP [meeting] having an interpreter (…), so I've seen them just get all the information out there and be kind about it.

Elena also said:

> My experience has been positive so far in terms of collaboration with different professionals in terms of assessing [students] with another language. I mean, there's obviously barriers, but I think a lot of the teachers at the school currently and the [bilingual] speech therapist very much are aware of that difficulty and promote 'oh, let's see if the parent needs a translator [or other supports].

Karen, an integrated classroom teacher, in contradiction to the practitioners who stated they provided more time or were frustrated when meetings were rushed, said that only an hour was allotted for meetings with no mention of other options as being necessary.

Five of 10 practitioners reported that parents could have access to translated reports when requested. Two of the five said the turnaround time for getting documents translated could take several weeks, with one saying that there was only one translator for the entire school district and that the administrators needed to improve on providing timely access to interpreters and translated documents. Two practitioners described the translations as "summaries only."

For Regular Communication With Parents. All practitioners reported that they had strategies to support day-to-day communication with families. Based on their descriptions, they did not appear to often use trained interpreters outside of meetings and for translated formal reports except when using a phone interpreter service. The two fluent Spanish speakers stated they could support communication with Spanish-speaking families readily. Half (5/10) said they use some of their knowledge of Spanish with Spanish-speaking families. However, families speaking neither English nor Spanish could not get the same level of home language support from these bilingual practitioners. Tessa, the Spanish-speaking SLP, said, "I haven't had too many families that don't speak any English, but when I do, I try to have an interpreter call with me [if it's not a Spanish-speaking family] or (…) sometimes parents have a friend that speaks English [although] that's not necessarily the best way."

Eight of the 10 practitioners said they utilized bilingual staff such as administrators, paraprofessionals, specialty staff (SLP; SAC), or the school nurse. Two practitioners reported using technology to support translating emails or notes (Google translate; Class Dojo). A couple of practitioners said the following regarding this process below:

> If I don't speak the same language as a parent, I find whoever I can to help me so whether it's [a] para or vice principal, [since] we have a vice principal now who speaks Spanish, or (…) they will get interpreters for us, (…) so we try to go out of our way to make sure

> we can [communicate with parents] or at least I do to try to make sure I can communicate with all my families. (Debbie, integrated teacher)
>
> Of course it's easier to pick up the phone with a person that speaks English (…) as opposed to scheduling something with the school adjustment counselor [to translate] (…). I use an app for the classroom called the Class Dojo, [and it] translates for me. So it had every language that my parents needed over the past couple years, so that's the best form if (…) I have something urgent that I need to talk to a parent about (…). I've been fortunate that these families have had the technology to be able to [use it]. (Izzy, sub-separate teacher)

Two practitioners utilized a picture-based system where they could circle what the child had engaged in that day for therapies and activities, and regarding each child's meals and toileting schedule, as non-verbal children cannot go home and tell their parents about their school day.

> I send home a home-school report every day, and so sometimes I have Spanish versions where I can just circle the words so I don't need a translator. Other times, like when I do a monthly newsletter, [another staff will] translate the whole thing [and] I'll have it in English on one side and Spanish on the other. (Chad, sub-separate teacher)

No Regular English Language Learner (English as a Second Language/ESL) Services Until Kindergarten. Most practitioners (8/10) stated that English Language (EL) learner services did not begin until kindergarten. Four of the 10 practitioners said EL services were available if requested and advocated for by staff or "if there was time." Two of those four practitioners mentioned a language screening process at the start of preschool at age three but

were not sure what it was called, and it might have been dependent on parent indication of a non-English language in the home. Debbie, an integrated classroom teacher, described her experience as follows:

> We do have an ELL specialist in our building that we can utilize. There are some times that like halfway through the year, she will take kids in small groups. If she has enough room on her caseload, she'll pull some of (…) the preschool kids, but predominantly she works with the kindergarteners (…). All the kids have a language test at the beginning of--all kids whose parents write down that they have a second language at home--they are all tested for their English proficiency at the beginning of the year, so they do share with us their results, so we can see where they are, like a beginner level, you know, what level they are, so we can (…) know for teaching purposes.

Sandra, an integrated classroom teacher, described how her advocacy for one of her students helped put the mother at ease before he transitioned to kindergarten:

> Testing for English learners doesn't happen until kindergarten. [The EL specialists] don't come to preschool. I actually advocated for [a student] and had someone [from the EL department] come see him so that he would be followed when he went to kindergarten (with these services already in place). [The mother] felt so much better having him leave preschool (…) so that when he started kindergarten they were going to have [the necessary information to support this child] right from the start.

However, Karen, an integrated classroom teacher, said that she and her colleagues provided a "language-based program" (not an English language learner program or strategies) to their preschoolers, despite the lack of EL services. Sandra, an integrated teacher, stated that it was part

of their instructional practice at her preschool to recognize that all children learn differently. Therefore, Sandra utilized individualized instruction practices.

Two Practitioners Reported Training Not Geared Toward Early Childhood Level. Six of the seven teachers in this study reported completing mandatory trainings for an add-on teacher licensure requirement in the overlap of special education and English language learners (RETELL; Rethinking Equity and Teaching for English Language Learners; not a dual-language instructional approach). Mary, a sub-separate classroom teacher, and Sandra, an integrated classroom teacher, stated the RETELL coursework was not geared toward preschool level educators. Mary described it as follows:

> So that whole piece [related to training], it's hard to find classes that have the pre-kindergarten component to them. It's always the K-3 or the K-8, so our teacher who was an English language learner teacher for middle school or high school who taught the RETELL course in 2015, she was thrilled to [include us as preschool educators], there were like six of us taking the WIDA [World-Class Instructional Design and Assessment] class, the RETELL class with her, and she's like 'it's so nice to have this whole preschool perspective, and anything you get stuck on [in the training curriculum] let me help you with it'.

Izzy, a sub-separate classroom teacher, and Debbie, an integrated classroom teacher, talked about taking the course but could not remember what it was called. Izzy also completed training on the assessment process for students to transition from preschool to kindergarten. The four other practitioners did not take the RETELL training (not required for the three therapists and one teacher was newly certified in the past two years). Faye, an SLP, said she took a multilingualism

course in graduate school. Several participants from the East school reported taking graduate-level courses geared toward young EL learners, but that they were hard to find.

Faye also described receiving district training related to the overlap of children with disabilities and English language learning needs "but not for kids who are that minimally verbal." She also reported her thoughts on WIDA, intended as an assessment and not a process for teaching strategies (M. Serpa, personal communication, August 15, 2022). Faye believed WIDA guidelines did not necessarily transfer well as an evaluation process for determining the ESL needs of children with autism. She had mixed feelings about how young students with autism might benefit. Although Faye reported having worked closely with an EL provider with her kindergarten students, she explained:

> I think that a lot of her expertise didn't translate well to kids who are minimally verbal in their first [non-English] language [and] you know WIDA does weird stuff for kids with (…) [autism]. They either test higher 'cause they can sort of do that thing where they autistically rattle things off or they test really poorly because they are very context dependent, so I'm a little bit of two minds [about the relevance of EL supports from practitioners without experience working with dual-language preschoolers with severe autism].

How Practitioners Responded to Question About Additional Resources. Practitioners were asked what they felt could be provided by their districts to help them teach young bilingual learners with autism. Three practitioners indicated nothing was missing or appeared unsure. Izzy, a sub-separate teacher who felt that her district and colleagues were very supportive, said, "I truly do feel so lucky with the school and the resources I have." Izzy also said she would love to learn Spanish but did not feel the district should be responsible for providing it. Debbie said she

had not felt she was missing any needed resources. However, Debbie said that she might feel differently if she had students with severe disabilities and with families who spoke no English.

Only three practitioners reported that they would like more training on dual-language special education practices at the early childhood level. Tessa, the bilingual SLP, said that administrators needed to understand and follow the laws on the mandatory provision of interpreters for families. She also described that more training in using an interpreter effectively was necessary for colleagues. She said:

> I wish that there was training for everyone about how to work with interpreters, 'cause I see that a lot [of] people don't know how to participate in a meeting with an interpreter. Either they're only looking at the interpreter, or they are saying things (…) not talking from the right point of view, like saying 'ask mom' (…). They should be saying everything they would say if it was a monolingual English-speaking family, so I think there should be more training on that and for team chairs [administrators] and anybody that's participating in the meetings knowing that an interpreter is mandatory, like if the parent forgets to check the box [for interpreter] on the referral [form, they just assume the] parent didn't want an interpreter.

Tessa would also like more professional development on her students' cultures, and Angie, a sub-separate classroom teacher, would like more training on teaching her diverse student population rather than more trainings on virtual instruction during the pandemic, a topic on which they have completed multiple sessions. Three practitioners expressed interest in learning more about the topic of addressing social communication skills of their dual-language preschoolers with autism across school and home settings, as they felt the interview process had stimulated their thinking.

Six of 10 practitioners discussed the need for more diverse staff: three specifically reported needing an EL provider or coach at the early childhood level (one teacher reported her knowledge about the mandates for identification of EL learners and monitoring upon entering preschool), and four practitioners reported the importance of their district hiring colleagues that reflected the student population culturally and linguistically. Chad felt that home providers are needed for all young children, regardless of monolingual English, bilingual, or non-English status, along with readily available translators on staff, would be important to implement for students that at the preschool level when families required the highest level of supports to understand the special education processes.

Finding Q2F5: Parents' language barriers impacted their understanding of the special education process for their children and led to a delayed start of evidence-based autism services.

Finding 5 highlighted that language barriers impacted dual-language parents' understanding of the special education process and related services, leading to a later start of autism-based services than for monolingual children. The practitioners reported the varied levels of parents' knowledge regarding their children's special education needs. In addition, the practitioners felt that the IEP process could be more difficult for CLD parents to navigate than it was for monolingual English parents who reported being challenged by it.

IEP Process More Difficult for Bilingual and Non-English Speaking Families. Four of 10 practitioners reported aspects that made the IEP process more difficult for families that were not proficient in English. Mary, a sub-separate classroom teacher, reported that using the family's home language eased stress for Spanish-speaking parents during the assessment process. She stated:

> Our Spanish speaking speech pathologist is typically assigned to those families because she can go back and forth in the [home] language and (…) it helps give us more of a picture of what the parents' needs are. I think it eases the parents' anxiety too, because sometimes the children are only two and a half [when they are evaluated].

Debbie, an integrated classroom teacher, said that parent knowledge of the IEP process and how to complete multiple forms was new and confusing to monolingual families and even more so to bilingual and non-English speaking families. She explained it this way:

> I do know that, like in general, I had a kid over the summer once who was on an IEP, he didn't have autism, but he was on an IEP, and I really needed to utilize my assistant who spoke Spanish to really explain to the mom about what she needed to do to get what she needed for her kid. Because I knew that [the mom] couldn't, wouldn't know [how] to read the information…I mean, it's hard for most parents to figure out special ed, and if you don't speak English, it's even harder, right? So, I definitely know there's a gap there.

Mary, a sub-separate classroom teacher, also commented on the challenges of completing required public school paperwork and how the school adjustment counselor (SAC) at her school spent time helping bilingual families with this process. Angie, a sub-separate classroom teacher, noticed that her bilingual families were less likely to have home ABA services when starting school on an IEP at age three than her monolingual English families. Angie said she explained home services options to families and checked in regularly to see if the parents wanted more information on accessing these services. Faye, an SLP, said:

> My perception is that the biggest cultural difference is [the parents'] understanding of what [an autism] diagnosis will provide for them. I think that families who have a good relationship with their early intervention workers, with their primary care [doctors], who

> can understand (…) [how] to jump through all these hoops [to] get an [ASD] diagnosis [to] access all these services (…). It seems to me that more English-speaking families can connect with their [child's medical] providers in that way and understand that information and have access (…) than speakers of other languages, but I've also had plenty of families who speak non-English languages who are very proactive in seeking a diagnosis and pursuing services.

High tech devices were also less obtainable to bilingual children, according to Izzy, a sub-separate classroom teacher, who said the following:

> I have not had a (…) bilingual student have a (…) high tech voice [device] (…). Usually, if the speech pathologist is trying to get a high-tech device (…), it doesn't happen until kindergarten, I feel like, unless the family is providing it (…) [or] something is providing it from the outside, just with grants and stuff.

Izzy shared her experiences that families required strong English-language skills to access the AAC information and services.

What Participants Think Parents Want for Their Children. Three of 10 practitioners reported that parents wanted to ensure their children could get their wants and needs met at school. Monolingual parents of children with significant communication delays were reported to have similar concerns but without needing to worry about the additional challenges related to dual-language learning needs. The issue was significantly more complicated when the child spoke a language the teacher did not understand. Angie, a sub-separate classroom teacher, said her students' parents wanted their children to progress across goal areas, again a concern shared with monolingual families. Three practitioners stated that parents wanted to prioritize their children learning to speak, including saying a version of "mom" and "dad". Izzy, a sub-separate

classroom teacher, said most early childhood families have questions about child development. Three practitioners described their thoughts as follows:

> [Parents' priority goals for their child vary] depending where the child is at, like if the child is not talking at all usually they want the child to be able to say like 'mom' or 'dad' (…) either in English or their language and to be able to get wants and needs met (…) 'cause a lot of times they have no clue what the child wants if they are upset or tantruming. [Parents don't know what [their children] need [when they are very upset]. [Maybe] the child brings the parent to what they want, but [the parents] want the child to be able to just say what [they want or need], 'cause you know they're walking around their house guessing what the kid wants. That seems to be the biggest thing, and from a speech and language perspective, that would be the first thing I would want them to be able to do, too, to be able to tell us what they want and have it not get to that point where they're upset. (Tessa, bilingual SLP)

Mary said, "They're worried that their child won't fit in and that they won't be able to tell us if they are hungry or need the bathroom. Those are the two first concerns (…) that typically come up." Chad said:

> Most of my families just want any language; if they could get any language they will take it, but ideally they would want both [English and the home] languages, because (…) many times there's multigenerational people living in the house, and so the grandparents are only able to speak the native language."

Also, two practitioners mentioned that some parents requested that their child be spoken to in English at school, even when the parents were still learning English themselves.

Differences in Advocacy. All 10 practitioners reported varied comfort levels and differences in how families advocated for their child's needs. Four practitioners felt this variability occurred because of the cultural and language differences between the families. An example was provided by Chad, a sub-separate classroom teacher, who said:

> Immigrant families generally see me and communicate to me more that I am the expert and that they see me as the expert and want me to tell them whatever I think would be best to help their child, and I get that sense definitely more from immigrant families than families that have been in the United States for generations.

Conversely, Debbie, an integrated classroom teacher, reported no noticeable variations in advocacy abilities or styles from families related to cultural differences. She said:

> We get some families that [say] 'you're the teacher and whatever you say,' and other families [that]… I think it crosses like all sorts of like different cultures and socio-economic backgrounds, it's not the same, it's different for everybody, so I just have to try to every year to just, I just try to really get to know people and see what kind of feel them out and try to help connect them the best I can based on, you know, what their comfort level is, and it's just different for everybody.

Two practitioners were unsure how much the families' cultural or language differences were a factor in advocacy styles. Izzy, a sub-separate classroom teacher, said:

> I would say that advocacy, there might not be the same comfort level or the parents that I've had that do not speak English, I don't know if it's [differences in] advocacy [abilities] or if they're just really happy with how things are going (…). I get a lot of questions more than demands or things like that. They (…) wanna know what is normal, what is average.

Elena, the native Spanish-speaking BCBA, said:

> I'm not sure if [not advocating for a child] is necessarily cultural factors or also maybe just intimidation over a language (…). It's hard enough to go to an IEP [meeting] when you speak the language versus now that you don't speak the language. It just makes it 10 times more difficult. [And] like you go to the doctor, and you have an English-speaking doctor [and it's] intimidating (native-Spanish speaking BCBA).

It appeared that the practitioners were invested in good communication and rapport with families and collaborating on goals despite the reported language barriers.

Research Question 3: Social Communication Considerations; Finding 6

Question 3 addressed gaining data to understand if or how the social communication needs of dual-language preschoolers with autism were supported in teaching and therapy. Research Question 3 was the following:

> How are the social communication needs of dual-language preschoolers with autism from culturally and linguistically diverse (CLD) dual-language families considered and supported across the school, home, and communities?

Finding Q3F6: Priorities for language instruction did not address the social communication needs of dual-language students with autism across settings.

Information regarding the social communication needs of the dual-language preschoolers with moderate to severe autism was only mentioned a few times by practitioners during the interviews, and mostly in response to the researcher sharing some specific concepts and the research on this topic when the time allowed. Mary said, "the number one thing is [that the parents] want their kids to be able to communicate, not only to express their needs but to develop

friendships, have that whole social communication piece, they want them to be able to talk and play with friends."

The researcher described an ethnographic study by Yu (2016) to half the participants when the time or trajectory of each interview allowed. Yu's study highlighted what happened when a bilingual family planned to use English-only with their young child with autism. At the dinner table, family conversations occurred in Chinese in the presence of the child with autism; parents used English-only directions to communicate with their child without attempts to scaffold or simplify family conversation to support including the child in conversations in the home language. However, the more meaningful interactions documented by Yu between a family member and the child were those using the family's home language. Yu concluded that an English-only process excludes children from family interactions and reduces social communication opportunities. After listening to the description of this research, Chad, a sub-separate classroom teacher, said, "That's an interesting topic. To be honest (…) I've never really thought about the other language in the house". Izzy, a sub-separate classroom teacher, acknowledged her increased awareness of the significance of supporting her students' home languages for their social communication interactions with family members.

Elena, the native Spanish-speaking BCBA, said, "I think that as Americans, as an American society, we can visit any country, and most likely you'll find an English speaker (…) because English is [global, especially in tourist locations so] I just don't think a lot of English speakers experience (…) that feeling of not knowing what people are saying". This finding highlighted that these practitioners lacked the perspective-taking and knowledge to best support their dual-language preschoolers with autism in ongoing development of social communication skills at school, home, and in the community.

Research Question 4: Impact of COVID-19 Pandemic and Virtual Teaching; Finding 7

Schools unexpectedly shut down in March 2020 due to the COVID-19 pandemic, and teaching and therapy moved to an online format. The researcher added a fourth question to this study to find out what happened, according to these practitioners, when teaching and therapy switched to a virtual format, especially for their culturally and linguistically diverse students and families. The fourth research question was as follows:

> What happened to teaching and therapy for dual-language preschoolers with autism and their families when educational services switched to a virtual format due to the COVID-19 pandemic?[1]

Finding Q4F7: Additional barriers were identified regarding student access to appropriate online education and therapy for dual-language preschoolers during the COVID-19 pandemic.

This finding indicated that both challenges and positive outcomes occurred but that dual-language preschoolers with moderate to severe autism were further marginalized compared to monolingual English students during the pandemic.

Challenges of Remote Teaching. The primary finding from the practitioners' responses to this question highlighted that the COVID-19 pandemic and subsequent remote teaching practices impacted dual-language preschoolers with autism more negatively than those from monolingual English families. The reported challenges included the following. Practitioners were forced to teach in a passive format, without hands-on interactions and materials, on a virtual platform in primarily English. Resources were limited for providing culturally and linguistically

[1] Unexpectedly, due to the COVID-19 global pandemic, schools closed in March 2020 and moved to a virtual format and led to a fourth research question.

responsive access to services and information in the students' and families' home languages. Initially, the students did not have their low technology communication books with symbols and photos or high technology communication devices at home. Some families worked in essential jobs during the pandemic for long hours, with limited time left to log onto learning or therapy sessions. Technology challenges included learning to use a device provided by school with information and instruction often not accessible in the home language.

All 10 practitioners reported multiple challenges from their experiences. Debbie, an integrated classroom teacher, described her initial primary goal was to stay connected to her students' families and make sure everyone was safe. She also discussed the overwhelmed families and the difficulty of engaging preschoolers in a virtual format who required parental support for some level of learning success. Debbie said:

> We didn't really know what was gonna happen, so we wanted them to still know who we were and make sure that everybody was, you know, safe and doing ok, and just sort of keep the kids connected, but teaching was really hard (…). We put out tons of ideas for the kids to do, but really the families have to do it with the kids because they were little, not like 'watch this video and answer these questions about whatever and send me the google doc' because they can't do that. So, I had to have parents take pictures of the things kids did, so we would send a ton of ideas, but knowing that families were really overwhelmed, we said [only] do whatever you can.

Mary and Chad, both sub-separate classroom teachers, discussed how exhausting it was to keep their students' attention and the missing pieces from not having access to in-person teaching with their students. Mary said the following:

> It was such a struggle to even stay as animated as I could on a Zoom screen. I found anything musical, repetitive musical, where I could pause something, whether it was a story or a poem. (…) I had to break down my activities into smaller segments. We were supposed to do a whole group [activity] for up to 30 minutes, and I'm like, 'well, I don't do that [length of time] in my own classroom, why would I do it on the computer?' You know, breaking it down to 5, 10, or 15 [minutes], and explaining to the parents 'if you need to leave [the virtual session], it's not a failure.' You can't really engage them because it's passive. Some moms and dads were right there, and they were prompting them, getting them focused, (…) so those parents made such a difference.

Chad said:

> I would say the biggest challenge relates to how much in special ed PreK, especially with children with autism, that I use non-verbal communication to build relationships and to help the learning [such as] tickling and massaging, just kind of playing with the kid physically, [and] through the computer you just can't do that.

Karen, an integrated classroom teacher, discussed the loss of in-person connections with families during school closures. Two practitioners explained that their students did not have their low-tech communication books, which they subsequently dropped off to families along with some learning materials. A learner who used a high tech AAC device struggled to engage virtually and increased his aggression toward his mother due to his frustration with this teaching format.

Debbie, an integrated classroom teacher, noticed variations between monolingual and bilingual families' abilities to connect in virtual education. Faye, an SLP, described the overlap between families that could not participate in virtual sessions and students who had cognitive

delays and struggled to engage in person, so she was not sure how much the lack of participation related to language barriers versus the difficulties these students had in sitting in front of a computer. Debbie said:

> My (…) kids who are English language learners, you know it varied. I had one family, I could not, we could not get in touch with the family. They never came on [a virtual session] ever. We were able to go to the house and drop off things a few times and like a brother or sister would take the stuff, but we never could connect with the parents who didn't speak a lot of English, even though (…) [the Spanish-speaking] vice principal called. But then I had other Spanish families who were on [the virtual sessions] every day, like would come onto all the meetings and they were learning English with their kids, like they were very engaged, because I think they had the time. The other families they were just working or whatever, they didn't have the time to be on the computer with me.

Faye, an SLP, said:

> I think there's such an overlap for me between non-English speaking families and kids who really can't engage over the internet [so] that it's hard to sort out what is sort of the pragmatic cognitive stuff and what is the language stuff, but the vast majority of families that I was able to get online at sessions were English-speaking families. (Faye)

Other practitioners stated that remote teaching during COVID-19 magnified the challenges and barriers of working with and supporting dual-language preschoolers with autism and their families. Several practitioners said that their bilingual families worked long days in essential jobs and did not have the time to join virtual sessions, often leaving their children with non-English speaking extended family or neighbors while at work. These quotes illustrate the

difficulties of connecting with families, completing virtual teaching sessions and meetings, and getting interpreters:

> I had some [bilingual] families [that] just couldn't engage, and I had (…) one family [that] didn't show up at all, two that had opted out for any online meetings, so I'd just call them via my google or text or both and send them emails and like videos, activities, like music, whatever that piece to focus on the child's IEP goals just to maintain what they knew from their IEPs and their progress reports (…). We had to send home weekly lesson plans (…) and I would always send a list of coordinating videos that the kids would really enjoy to dance to [related to English language, science, and math]. (Mary, sub-separate teacher)

> I think everything has just gotten more challenging overall, but especially with the bilingual families, because at IEP meetings on Zoom, so it takes longer anyway and then with an interpreter, it just seems like it's hours and hours at times, and it's been tougher to get a hold of families, especially bilingual families." (Tessa, the bilingual Spanish SLP)

> [It was] a challenge for sure getting an interpreter [during COVID] other than our three [most common] languages, Haitian, Spanish, and Portuguese (…). I had two new students that I had never met before joining my [virtual] class and one family did not speak English (…) and it was really challenging, I used Google translate because I couldn't get in contact with an interpreter (…). But I mean, for the rest of my students, the families were very understanding, and we had built positive relationships [prior to the pandemic], so I feel like they felt comfortable with whatever was happening. We did live sessions,

> and I mean, really, it went well. I was impressed with how well it went. I think that it was because the kids knew who I was. (Angie, sub-separate teacher)

Mary and Angie, both sub-separate classroom teachers, said it was an especially tough start for new families with children just entering public education at three years of age. Angie described the process:

> My annual [IEP meetings] went ok because (…) we knew each other well, but I did join a few initial [IEP meetings], and those were actually very challenging because (…) it was like the first time that the families interacted with the public schools. The kids weren't even evaluated. It was a crazy situation (…) [and] I felt like it was difficult having an interpreter [on virtual] meetings 'cause we didn't really know who was who.

Other difficulties the practitioners reported included some families' lack of ability to access or understand the required technology. Karen, an integrated classroom teacher, described one parent who was not able to pick up the Chrome book that the district was providing for families to access online learning and was not sure if it was a result of the mother's fear of how she would manage the process. Some families said the virtual class was too early as the families were still sleeping. Karen also talked about her surprise that some families could get to pick-up locations to get free breakfasts and lunches that had previously been provided in schools but that they skipped right over the learning packets put together. She was not clear about the languages used in the learning packets. Despite these multiple challenges, many practitioners described a few benefits of virtual teaching.

Positive Outcomes From Remote Teaching. Eight participants described the benefits of virtual teaching. Debbie, an integrated preschool teacher, said: "I felt [the parents and I] connected more. I understood the families better because we connected more (…) [when] the

kids were there in the Zoom, and the parents were nearby." And Faye, SLP, said: "It has been nice to see, especially the kids who take the bus during normal times, it's been nice to actually see the family [in the online sessions]." Sandra and Karen, both integrated classroom teachers, talked about how happy their students were to show off their homes and families during virtual sessions. Practitioners felt that their rapport developed prior to the pandemic with their students' parents helped with the successes of online instruction. Practitioners reported that the parents made a big difference in the success of teaching and therapy. There were also opportunities to coach the parents on working with their children and some of the parents were able to make connections with each other during group online meetings.

Chad, a sub-separate classroom teacher, discussed the value of Zoom and other technologies for increased opportunities for parent consults within this online format. Chad also stated that making videos supported the families' knowledge of how to work with their children, and that he planned to continue these practices when in-person teaching resumed. According to Izzy, a sub-separate classroom teacher, the Spanish-speaking home ABA providers for some of her students were instrumental in supporting virtual instruction and removing language barriers with the families. Izzy said that for the "Spanish-speaking students, their home BCBAs were with them" and that virtual teaching "was very seamless" because of these bilingual therapists.

Summary of Findings

This chapter presented the seven main findings of this qualitative study. The researcher retrieved relevant important information via the data analysis of the 10 practitioners' responses. Finding 1 highlighted the fact that the assessment procedures for initial special education eligibility determination, for monitoring students' progress, and for three-year reevaluations did not include assessment in the home languages of the dual-language preschoolers with moderate

to severe autism. In addition, not all students had received a necessary autism diagnosis before the age of three when starting public school education. Students with limited verbal abilities were reported to have moderate to severe autism and were also adjusting to a primarily English instructional setting. Finding 2 detailed the practitioners' limited mention of multicultural materials but that the practitioners discussed their use of early childhood special education strategies.

Findings 3, 4, and 5 addressed what the practitioners described as different and additional when providing education and therapy to dual-language preschoolers with autism compared to monolingual English learners. Finding 3 indicated that instruction and therapy were provided mainly in English with only limited use of the students' home languages. A higher amount of home language use was possible for students from Spanish-speaking families with the availability of the Spanish-speaking professionals; no bilingual speakers of English and other non-English home languages were described. No practitioner was opposed to using the home language during the school day. Most stated they were willing to utilize their varied levels of non-English language abilities in the classroom and therapy settings when necessary. Home language use in-home services and AAC tools were either not available or limited. No one recommended English-only use to families, but one practitioner did state the SLP's recommendation that an English-only approach might be best for his students with severe disabilities. Practices related to cultural considerations were discussed, but with no consistent approaches for determining cultural considerations described.

Finding 4 indicated the need for additional staff and resources, including interpreters at meetings and for translation of full documents and dual-language learner services for the students. Differences between trained and untrained interpreters were not explicitly described.

Still, it appeared that trained interpreters were likely to be used for formal meetings and transcribing summaries or reports but not for regular communication with families. For ongoing daily communication with families, these practitioners relied on available bilingual staff, often pulling them from other roles at the school. The practitioners also used some of their bilingual language abilities or expected the families to utilize their English when they felt the families had enough fluency in English. No regular English-language learner services were provided at the preschool level. These practices began in kindergarten unless a teacher advocated for services for a student or the EL provider had additional time, as described by several practitioners. Training and practices addressing the provision of special education *and* English-language learning were limited at the early childhood level.

Finding 5 pointed to variables in parent knowledge and language ability to access services for their children. The IEP process was generally more challenging for bilingual and non-English speaking families, and the practitioners described some differences regarding the parents' ability to advocate for their child. In addition, parents did not always ask for an interpreter when one was needed, often required support in completing paperwork for the IEP process or transitioning to kindergarten, and might not have yet accessed ABA home services or did not understand the special education process.

Finding 6 indicated that there were no overt or common descriptions from practitioners for planned instruction to address the social communication needs of their dual-language preschoolers with autism. When the available research and a discussion on the topic of the social communication needs of these students were shared by this researcher, the practitioners expressed interest in learning more. Finding 7 was that the virtual educational practices during the COVID-19 pandemic led to additional challenges for dual-language preschoolers with

autism, often more so than for monolingual English families, despite some unexpected positive outcomes with increased family connections for those who could support their children in online instruction. Chapter 5 discusses the implications of these seven findings, this study's limitations, and the researcher's recommendations for policy, practice, and future research to support dual-language preschoolers with moderate to severe autism.

CHAPTER FIVE: Discussion of Findings, Limitations, and Recommendations

The researcher sought to explore the perspectives and practices of educators and therapists who worked in Boston-area, Massachusetts, public school settings with dual-language preschoolers with moderate to severe autism. The purpose of this research study was to investigate how these practitioners supported these young learners and their families within the overlapping fields of special and dual-language education. The 10 practitioners engaged in semi-structured interviews via Zoom regarding their experiences providing in-person and virtual instruction and therapy during the 2019-2020 school year. These educators and therapists reported they taught one or more students who lived with family members who spoke either a non-English home language or a combination of their home language and English. The family members' English language abilities were described as lying across a continuum of levels from no English to bilingual fluency in English and the home language.

Educators and therapists who work with dual-language preschoolers with autism must be qualified to provide evidence-based specialized instruction using the following: developmental-behavioral approaches, such as early intensive behavioral interventions (EIBI), applied behavior analysis (ABA), or other evidence-based special education practices (EBPs); knowledge of the stages of bilingual language development and effective practice for providing language learning education (in both English as a Second Language [ESL] and the child's home language) in a culturally and linguistically responsive approach; early childhood education core academic and functional skills curricula; and, for students with moderate to severe autism, the use of augmentative and alternative communication (AAC) devices in both the home language and English.

The following research questions guided this study:

1. How do practitioners provide education and therapy to dual-language preschoolers with autism in Boston-area, Massachusetts, public school districts? What is happening in the day-to-day experience of interacting with and providing education for these children and their families, as described by these practitioners?
2. In these practitioners' experiences, what may be different or additional when teaching dual-language (as compared to monolingual) preschoolers with autism and collaborating with their families? What decisions are made regarding the language of instruction and educational strategies when the preschool child with autism lives with non- or limited-English-speaking families?
3. How are the social communication needs of dual-language preschoolers with autism from culturally and linguistically diverse (CLD) dual-language families considered and supported across the school, home, and communities?
4. What happened to teaching and therapy for dual-language preschoolers with autism and their families when educational services switched to a virtual format due to the COVID-19 pandemic?[2]

This chapter includes a discussion of the seven main findings and the limitations of this dissertation study. Recommendations are made for policy, educational practice, and future research. The chapter ends with a final summary and the researcher's reflection.

[2] Unexpectedly, due to the COVID-19 global pandemic, schools closed in March 2020 and moved to a virtual format, leading to a fourth research question.

Discussion of Findings

The data collected and analyzed led the researcher to arrive at seven main findings from the semi-structured interview data on the perspectives and practices of the 10 interviewed practitioners. The seven findings are as follows: (1) assessment procedures for special education eligibility determination, monitoring progress, or three-year-reevaluations did not address the required practice of assessment in the home language; (2) instructional practices described included early childhood and monolingual special education with little mention of cultural and language factors; (3) barriers to dual-language instruction were highlighted, leading to the use of primarily monolingual practices in special education and related services; (4) challenges identified included accessing competent interpreters, the limited availability of early childhood bilingual special education professional development, and rare support from English as a second language (ESL) teachers; (5) parents' language barriers impacted their understanding the special education process for their children and led to a delayed start of evidence-based autism services; (6) priorities for language instruction did not address the social communication needs of dual-language preschoolers with autism across settings; and (7) additional barriers were identified regarding student access to appropriate online education and therapy for dual-language preschoolers during the COVID-19 pandemic.

This researcher gathered information in the practitioners' own words about how they addressed the overlapping education disciplines of early childhood, special, and bilingual education. As explained in the Chapter 2 review of the literature, children with moderate to severe autism, likely requiring specialized instruction to address their delayed language and social skills, were often taught in the school language without using the home language. This chapter discussion includes children with moderate to severe disabilities who may be accessing

special education under the disability category of autism. The literature reviewed the rarely included intersecting factors focused on in this study for learners with autism (preschool age, dual-language, moderate to severe disabilities). Inequities existed in timely access to an autism diagnosis for dual-language learners. Therefore, some preschoolers, who may later receive an autism diagnosis, initially access special education services under the IEP disability category of developmental delay and must be considered in the context of this study's findings.[3] For example, the literature on augmentative and alternative communication (AAC) strategies was found to be primarily from a monolingual English perspective. In this reviewed literature, related to dual-language children with disabilities and AAC use, the focus was on severe disabilities and not autism. Thus, this discussion includes the consideration of evidence-based practices across learning skills for preschoolers with moderate to severe autism, *and* those who will likely later access an autism diagnosis beyond the age of three years as reported by the service providers. Aylward et al. (2021) reviewed the research and discussed the inequities in access to an autism diagnosis based on ethnic, cultural, and sociodemographic disparities. The seven main findings of this study provide important information in the context of the reviewed literature that lead to the researcher's recommendations for policy, practice for current and future educators and therapists, and further research for dual-language preschoolers with moderate to severe autism (or preschoolers with delays who may later access an autism diagnosis).

[3] See this link for definitions of disability categories: https://www.doe.mass.edu/sped/definitions.html

Finding 1: Assessment procedures for special education eligibility determination, monitoring progress, or three-year-reevaluations did not address the required assessment practice in the home language.

Six of the nine practitioners discussed assessment in their responses and reported involvement in the initial special education eligibility evaluations for students turning three. In three of the four districts, the teachers who worked in substantially separate classrooms did not generally participate in the initial evaluations. For those educators and therapists who assessed students entering the public schools at age three, differences were noticed in how the practitioners reported their use of interpreters and investigated their students' home languages. Ortiz (2021) addressed the missing research regarding equitable assessment practices for CLD preschoolers and the challenges for educators to develop consistent assessment practices. From the analysis of the practitioners' responses and despite their stated intentions to address their dual-language students' complex learning needs, there was no indication of thorough assessments completed in the home language as required.

No Assessment in Home Language During Special Education Eligibility Determination, Progress Monitoring, or Three-Year Reevaluations

Variations were reported among the practitioners across the four districts in the following areas: allowing parents to be present in the room with their child during the assessments, completing assessment-based parent interviews and observations with students, and gathering cultural information from the family. The practitioners who completed initial special education eligibility evaluations reported not having access to appropriate non-English assessment tools. Administrative guidelines resulted in barriers to parent participation in one district. However, the practitioners reported that they felt that with young nonverbal children with autism, they could

gather more important data via child observations and parent interviews than using standardized assessment tools. In this study, not all practitioners could interview the parents or observe their potential future students. The practitioners either wrote or received individualized education programs (IEPs) and evaluation reports without complete information on the children's home language use.

Therefore, the students in these practitioners' classrooms were not being assessed by educators and therapists in all languages used in home and school settings as recommended in research-based models and mandated by the interacting laws for dual-language children with autism[4]. This concurs with previous research findings carried out by Aylward et al. (2021), Castro and Artiles (2021), Norbury and Sparks (2013), Pieretti and Roseberry-McKibbon (2016), and Sloan-Pena (2015). This finding also indicated that progress monitoring and 3-year-reevaluations did not include thorough assessment of the home language use of the preschoolers with autism. This incomplete process resulted in gaps in the developed communication profile on which to base the IEP's goals for each dual-language preschooler with autism, increasing the likelihood of the loss of the home language.

Inequities in Access to an Autism Diagnosis

Adding to the challenges for public school educators and therapists during the school-based assessment process for initial eligibility determination for special education services, the

[4] IDEA, 2004: https://www.doe.mass.edu/sped/idea2004/#:~:text=The%20Individuals%20with%20Disabilities%20Education,education%20for%20children%20with%20disabilities
ESSA, 2015: https://www.ed.gov/essa?src=rn
Kangas, S., 2018: https://www.sarakangas.com/uploads/3/0/1/0/30101275/kangas__2018__tq.pdf
Serpa, M., 2011: https://scholarworks.umb.edu/cgi/vnt.cgi?article=1151&context=gaston_pubs

practitioners reported that some students had already received an autism diagnosis before age three and others had not. To access effective early intervention, young children required equitable access to an early autism diagnosis leading to specialty early intervention services starting before age three, according to Zwaigenbaum et al. (2015) in their review of the literature on monolingual practices.

First, CLD dual-language children and families have been limited in inclusion in the research (Lopez, O., 2015; Magana et al., 2013; Magana et al., 2012; Thomas et al., 2012; Castro & Artiles, 2021), and children with significant disabilities have often been excluded as well (Ohashi et al., 2012; Reetzke et al., 2015). When the education research has substantial gaps due to limited inclusion of preschool-age children across class, race, ethnicity, dual-language status, and severity of disability, challenges occur in using the research to improve effective practices. Successful strategies for majority culture monolingual school-age children with mild disabilities and their families cannot be assumed to work for dual-language preschoolers with moderate to severe autism.

Second, white middle- and upper-class students have been more likely to receive an autism diagnosis at a younger age than dual-language and low SES-status children (Aylward et al., 2021; CDC, 2021; Mandell et al., 2007; Mandell et al., 2009), leading to earlier access to evidence-based autism services. Subtle biases by medical practitioners have led to later diagnoses for dual-language children (Begeer et al., 2009; Bernier et al., 2010). Moreover, parents' lack of knowledge of autism and additional disabilities due to language barriers has impacted early access to appropriate assessment for an autism diagnosis (Ijalba, 2016).

Third, when dual-language children are evaluated for potential diagnoses, with the reduced access to appropriate diagnostic evaluations for autism, inappropriate assessment

practices have led to misdiagnoses and missed diagnoses (Kangas, 2017; Serpa, 2011; Sloan-Pena, 2015; Williams et al., 2009). The use of a monolingual assessment approach discussed in multiple studies, with findings reported by Castro and Artiles (2021), Huerta and Lord (2012), Kimple et al. (2014), Norbury and Sparks (2013), Sloan-Pena (2015), and Windham et al. (2014), does not lead to appropriate assessment processes and results. Therefore, from the literature reviewed that addressed these barriers to appropriate assessment for an autism diagnosis and Finding 1 of this study, the practitioners were unprepared to utilize culturally and linguistically responsive thorough assessment procedures to develop a complete communication profile of dual-language preschoolers with moderate to severe autism. Also, these preschoolers arrived for their initial eligibility for special education assessments at age three having accessed varied levels of appropriate early intervention services or, in some cases, no services, mandated under IDEA Part C (2004).

No Ongoing Assessments in Home Languages

The dual-language preschoolers with autism entered the substantially separate classrooms of the practitioners in this study with these educators and therapists likely underprepared to meet their students' overlapping special education and language learning needs in both English and the home language. Additionally, the practitioners in these preschool classrooms appeared to lack the needed colleagues and resources to provide research-based interdisciplinary services for dual-language assessment and instruction. The practitioners also did not report using assessment practices for monitoring the dual-language preschoolers' home language for progress reports and 3-year-reevaluations.

IDEA (2004) requires the evaluation of dual-language preschoolers with autism in English as Second Language and their home language for eligibility to receive special education

and related services. Chapter 6 from the Toolkit (U.S. Department of Education; 2021) provides published guidance that requires that general, special, and ESL teachers work together to assess these students. Per Chapter 6 guidelines, the evaluation summaries for bilingual children with disabilities are expected to include written descriptions of the assessment processes utilized and the results across the students' languages and settings, a practice this study's participants did not yet report using.

In addition, only four practitioners mentioned the required English-proficiency language assessment for children entering public schools, including parent participation in decision-making regarding district-offered dual-language learning programs. The mandated evaluation practices were not being carried out for children with limited verbal expressive language and likely moderate to severe autism. Per Chapter 6 guidelines (U.S. Department of Education; 2021) developed to support the implementation of interacting laws in special and language learning education, the text includes a statement that says, local education agencies (LEAs) "must provide and administer special education evaluations in the child's native language, unless it is clearly not feasible to do so, to ensure that a student's language needs can be distinguished from a student's disability-related needs." (Chapter 6, p. 1). This researcher questions the wording of "unless clearly not feasible to do so" because all children can and must be assessed utilizing modified and appropriate evaluation practices. Assessment in the home language is essential to compliance with the IDEA (2004) law; practitioners are not excused from doing what is ethical, appropriate and necessary for special education eligibility (M. Serpa, personal communication, August 28, 2022).

The ongoing barriers to following appropriate dual-language assessment policies were determined to lie in several areas. First, the reviewed research rarely included dual-language

preschoolers with moderate to severe autism who require substantial accommodations and modifications for learning in both English and the home language (Drysdale et al., 2015; Ennis-Cole et al., 2013; Kay-Raining Bird et al., 2012; Lund et al., 2017; Raj, 2015; Rivera et al., 2021; Tek & Landa, 2012; West et al., 2016). Second, the inequities for dual-language children having accessed an autism diagnosis and early intervention services before entering public schools at age three were compounded during these students' initial assessments without using a dual-language approach. Third, the practitioners' responses indicated they were not equipped to utilize an interdisciplinary process across special and dual language learning education. This aligned with the findings regarding practitioners' inabilities to utilize special education services while addressing the home languages in de Valenzuela's (2016) study with educators and therapists working with students with autism and other disabilities; in Lund et al.'s (2017) systematic review of autism studies; and in Rivera et al.'s (2021) discussion article of the overlooked needs of dual-language learners with severe disabilities. The assessment practices of the practitioners in this study resulted in the continued pattern of missing or delayed dual-language education and related services for these preschoolers.

Finding 2: Instructional practices described included early childhood and monolingual special education with little mention of cultural and language factors.

The educators and therapists described their practices, including early childhood and special education strategies, but only three practitioners discussed a few multicultural factors. The practitioners did not discuss the IDEA (2004) and ESSA (2015) laws or the published guidelines for public school districts for assessment and education practices (Chapter 6 of the Tool Kit for English Learners, ESSA, 2015; Guidance for Supporting English Learners with Disabilities; and the Massachusetts Vision and Blueprint for English Learner Success,

Massachusetts Department of Education, 2021). The findings indicated that these practitioners were invested in using their training and experience in early childhood special education, whether newer to the field or with years of practice, in working with their preschool students. However, the practitioners did not refer to the research-supported interdisciplinary approaches from the guidelines based on IDEA (2004) and ESSA (2015) applied to dual-language preschoolers with autism.

Practitioners Used Early Childhood and Special Education Practices

All practitioners mentioned the use of monolingual early childhood evidence-based practices. Six of 10 practitioners mentioned applied behavior analysis (ABA), a special education instructional approach found to be moderately to highly effective when implemented with monolingual children with autism, as discussed in Makrygianni et al.'s (2018) research. Culturally responsive practices and dual-language approaches in ABA have been reported as emerging in the research (Brodhead et al., 2014). Early access to services with a behavioral-developmental approach was described in Zwaigenbaum et al.'s (2015) review of autism education literature as offering the best outcomes for children with autism. Of note, some children have not responded to ABA interventions (Vivanti et al., 2014); other methodologies are also available but beyond the scope of this study.

Eight practitioners in this study reported using augmentative and alternative communication (AAC) strategies to support their preschool students' language development with language use decisions discussed in Finding 3. These practitioners described using both low and high-technology communication books and devices. However, the practitioners reported that it was rare for therapists or families of preschool students to obtain access to high technology devices at the early childhood level. Since there have been robust findings that indicate children

with disabilities need to rely on multiple modes within one language (Light & Drager, 2007; Logan et al., 2017), dual-language preschoolers require access to multiple modes to communicate across their environments with early access to all appropriate AAC tools with consideration of both languages. However, the research on AAC was either from a monolingual perspective (Logan et al., 2017), or AAC was investigated with dual-language learners with severe disabilities but without a focus on autism. AAC services were provided to dual-language students with moderate to severe disabilities who were the least likely to have access to a bilingual instructional approach.

Three Practitioners Described Multicultural Materials

Only three participants described the use of multicultural materials. It was not until the researcher later asked specific questions about the differences in strategies for dual-language preschoolers as opposed to monolingual English learners that more information was shared, as discussed in Finding 3.

The practitioners described their commitment to their dual-language students and families. However, the practitioners' districts lacked appropriate training and resources for staff related to appropriate dual-language instructional approaches. The expectations for early childhood in the NAEYC position statement (2022) and the laws are very clear that a monolingual English approach is not acceptable for dual-language preschoolers with autism. As discussed in Finding 3, next, the guidelines based on the laws have not addressed the needs of early childhood learners or steps to support collaboration among special and language learner educators for students with moderate to severe disabilities.

Finding 3: Barriers to dual-language instruction were highlighted, leading to the use of primarily monolingual English practices in special education and related services.

Barriers to dual-language instruction led to a primarily monolingual approach by these practitioners in providing education and therapy to their dual-language preschoolers with autism. The practitioners described limited use of their young students' non-English home languages in instruction or therapy at school, in home services, or with AAC tools. The practitioners likely did not mention dual-language learning supports because monolingual English special education instruction and related services for students with moderate to severe disabilities have been more the norm than the exception, as reported in multiple findings from studies with similar implications completed by Castro and Artiles (2021), Fong & Tanaka (2013), and Kangas (2018). Previous research has addressed this issue and agreed on recommendations for a dual-language approach for several decades, as discussed in several reviews (Baker et al., 2016; Barac & Bialystok, 2014). The 2019 International Literacy Association (ILA; 2019) research report reviewed three decades of research that provided hard evidence that a dual-language instructional approach in education provided the best outcomes for all dual-language learners, including those with disabilities and from lower SES backgrounds. Yet barriers to using a dual-language instructional approach continue to exist, as described by these practitioners.

Primarily Monolingual English Language Practices in the Classroom

The two practitioners self-described as fluent in Spanish were told by their administrators to use their fluent Spanish only when it supported students to learn English but not to provide instruction in Spanish. Another reported barrier was that most teachers and paraprofessionals at the early childhood programs were monolingual English speakers, and they would not be able to follow dual-language guidelines from these bilingual specialists throughout the day with the

students. Some practitioners discussed their attempts to learn some words in the home languages to increase communication opportunities for their dual-language preschoolers. Spanish was the language most likely to be used in addition to English due to the predominance of Spanish speakers in the Boston, Massachusetts, area and the language knowledge of the practitioners.

These same barriers to a dual-language approach were reported in the research of Davis et al. (2021), Lund et al. (2017), and Marinova-Todd et al. (2016). Eight reviews of the research on bilingualism and children with autism (Beauchamp & MacLeod, 2017; Davis et al., 2021; Drysdale et al., 2015; Lim et al., 2019; Lund et al., 2017; Park, 2014; Takanishi & Le Menestrel, 2017; Wang et al., 2018) discussed findings that supported the continuation of bilingualism for all students. Using an additive bilingual approach in which the home language is continued while learning English is considered the best practice for children with autism.

Nine other studies, some of which were included in the research reviews, also supported a dual-language approach and highlighted the social-emotional, cognitive, and academic benefits of the continuation of the home language in instruction and therapy while partnering with parents (de Valenzuela, 2016; Carillo, 2013; Hambly & Fombonne, 2012; Howard, 2020; Kay-Raining Bird, 2012; Kitzhaber, 2014; Marinova-Todd, 2016; Padilla Dalmau et al., 2011; Reppond, 2015). However, these researchers used wording in their findings that portrayed a monolingual perspective of bilingualism to assuage the unfounded fears of professionals regarding the use of dual-language instruction, such as the following: There was no indication of harm or no negative impact on language and learning progress for young children with autism with the use of a bilingual approach and continuation of the home languages. The studies' findings highlighted the lack of expected confusion for dual-language children with disabilities based on outdated notions about bilingualism rather than the importance of supporting the children's home languages in

instruction as the children's civil rights and protected by interacting laws in special and language learning education. This researcher observed that many professionals across settings still follow the false notion that using English only is the best practice, also reported in Lund et al.'s (2017) study. This view of bilingualism as a risk factor has been based on misinformation and professionals' lack of awareness of research-based approaches, especially for children with moderate to severe disabilities (Castro & Artiles, 2021). Alexander (2015) also reported the false idea that supporting two languages could cause language confusion or delays in learning for young children with disabilities. Kitzhaber (2015) noted a practitioner's fear that a bilingual approach could result in no communication ability for the child. Those untrue beliefs have no evidence to support them. A child's disability is present in both languages (Kohnert & Medina, 2009). When instruction is provided in both languages, progress is made to support communication in both languages and across settings (Ebert et al., 2014).

Lack of Understanding the Trauma to Dual-Language Preschoolers with a Monolingual Approach

Without an instructional approach in English and the home language of students, dual-language preschoolers with autism are denied the benefits of bilingualism. These well-documented benefits in previous research (Alvarado et al., 2021; Silveira-Zaldivar et al., 2021) have included positive social-emotional outcomes, closer family bonds and child/family quality of life, more opportunities for rich language interactions at home, and growth in cognitive and academic skills. Replacing the home language with English has evidence that it is inappropriate and harmful to dual-language children with autism. A monolingual approach with no instruction that addresses the development of the home language was documented to result in trauma (Halle et al., 2014; Opitz & Degner, 2012, as cited in Davis et al., 2021), especially when young

children are immersed in an English language classroom with no means to communicate with the monolingual English teachers.

Hampton et al. (2017) interviewed parents about their perceptions of the pros and cons of supporting bilingualism with their children with autism. The parents in Hampton et al.'s study reported that the pros included maintaining close bonds and affectionate relationships with their children using the home language. In addition, several researchers shared that bilingualism was necessary for at-home communication for dual-language children with autism (Kay-Raining Bird et al., 2012). Even when the parents were fluent in English for work purposes, they reported they could express complex concepts and emotions more clearly in their native language (Yu, 2013).

The research indicated no language confusion *and* a positive impact on the skill development of children with autism when provided a dual-language approach education model (Kay-Raining Bird et al., 2012; Pieretti & Roseberry-McKibbon, 2016; Yu, 2013). As an example of the traumatic impact on a young child, one teacher in this dissertation study described the months that passed with some preschoolers using only Spanish, which was difficult for the monolingual English staff to understand. Over time, the children developed comfort with English in the classroom. The practitioners all described caring and supportive educational practices with these young learners. Still, one could wonder what the young children felt when they were suddenly immersed in an environment with a language they could not understand or use to communicate their basic needs.

No Bridging of Home and School Languages Despite Recommendations to Continue Home Language

The practitioners in this study stated that they supported the families' continued home language use with their children. Four practitioners reported their knowledge of the benefits of

bilingualism or that they value the home language as part of the family's identity. However, despite this recommendation, no practices were reported for bridging the home and school languages. In addition, one substantially separate classroom teacher seemed unsure of best practices for language-use recommendations to families if the child had a significant disability with limited spoken language. In collaboration with the speech-language practitioner (SLP), this special education teacher considered that an English-only approach might be best for these children, despite the evidence against this language recommendation to families. This teacher shared concerns during his interview aligned with the participants' reported concerns in prior studies regarding a dual-language approach resulting in language confusion for children with moderate to severe disabilities (de Valenzuela et al., 2016; Marinova-Todd et al., 2016). Although recommendations made by authors of multiple studies have advised against telling families to discontinue their home language (Drysdale et al., 2015; Park, 2014; Siyambalapitiya et al., 2021), there has continued to be a disconnect between professionals' ideas and their actual practices (Howard, 2020; Lim et al., 2019; Paradis, 2016; Pesco et al., 2016).

Language Use With AAC Tools and Home ABA Services

When this researcher asked about dual-language practices with AAC high and low technology tools, the practitioners reported that they chose pictures relevant to each student's home activities and foods; however, they did not often include the home language in their AAC planning or use. Accessing a high technology device for preschoolers was described as rare. One practitioner reported that a student had a device programmed in Spanish and English, with the flip of a switch changing the language in the voice output. However, no details were provided regarding parent training or a process to bridge the two languages on the device across home and school. Researchers of prior studies reported difficulties related to including parents in the

planning and decision-making processes regarding AAC technology, primarily due to language barriers and the different viewpoints of professionals and parents (Pickl, 2011; Soto & Yu, 2014). Five research studies on dual-language children with disabilities (Binger et al., 2008; Kulkarni & Palmer, 2017; Pickl, 2011; Soto & Yu, 2014; and Trembath et al., 2005) did not specifically address autism. A review of AAC use for children with autism was completed from a monolingual perspective with no mention of dual-language instruction (Logan et al., 2017).

This finding highlighted the lack of home language and cultural considerations in AAC supports with dual-language preschoolers with moderate to severe autism (and other severe disabilities). Students with moderate to severe autism have been excluded from the AAC research, and a monolingual English approach has been implemented for AAC planning and services. Soto and Yu (2014) suggested a sociocultural approach to AAC use, stating that success in language development was positively impacted by high levels of AAC support with quality of exposure to all languages of each child. AAC devices must support the continuation of the home language and learning English (Kulkarni & Parmar, 2017; Pickl, 2011) while working on a child's speech development in both languages. As in school-based instruction and therapy and use of AAC tools, home ABA services were described by practitioners in this study as implemented primarily in English. The two practitioners who reported that home ABA services were provided in the Spanish home language said they felt the home therapists were instrumental in increasing parent-teacher communication.

Therefore, Finding 3 pointed to the occasional use of the preschoolers' home languages in instruction and therapy, despite the practitioners' descriptions of their use of evidence-based early childhood and special education practices. Multiple barriers prevented a dual-language education, likely based on long-standing practices at the early childhood level as experienced by

this researcher in past roles in public school settings. The mandates from IDEA (2004) and ESSA (2015) were not being implemented regarding the use of dual-language instruction for preschoolers with moderate to severe autism[4]. Finding 4 further indicated challenges to utilizing a bilingual special education approach.

Finding 4: Challenges identified included accessing competent interpreters, the limited availability of early childhood bilingual special education professional development, and rare support from English as a second language (ESL) teachers.

The 10 practitioners described the missing experts in dual-language instruction and hard-to-access resources at the preschool level. Based on the data from the practitioners' responses, services and resources required for working with dual-language (as opposed to monolingual) preschoolers included the following: access to qualified interpreters; extra time for regular communication with families and in IEP meetings via interpreters to provide an equitable level of information; services from educators in dual-language instruction at the early-childhood level; appropriate professional development regarding culturally responsive dual-language practices at the early childhood level and for children with moderate to severe disabilities; and access to dual-language public school staff by addressing the staff shortages (Serpa, 2011), including hiring those with experience in the areas of family engagement and moderate to severe autism for dual-language children.

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[4] IDEA, 2004: https://www.doe.mass.edu/sped/idea2004/#:~:text=The%20Individuals%20with%20Disabilities%20Education,education%20for%20children%20with%20disabilities
ESSA, 2015: https://www.ed.gov/essa?src=rn
Kangas, S., 2018: https://www.sarakangas.com/uploads/3/0/1/0/30101275/kangas__2018__tq.pdf
Serpa, M., 2011: https://scholarworks.umb.edu/cgi/vnt.cgi?article=1151&context=gaston_pubs

Access to Qualified Interpreters

Practitioners reported challenges in accessing qualified interpreters. All educators and therapists described their experiences using interpreters for formal meetings and for accessing translations of documents for the parents of their dual-language preschoolers. An example was that the initial evaluation reports completed by educators and therapists were provided to parents of dual-language preschoolers as translated summaries rather than the complete reports given to monolingual English parents. In addition, one practitioner said that not all colleagues understood that interpreters were essential for parents who spoke their native non-English language or were bilingual with English as their second language to gain the best understanding of their child's education. According to this practitioner, some administrators questioned the need for interpreters, especially if the parents did not appropriately fill out referral and IEP forms to request interpretation at meetings. This practitioner stated that parents may not have understood how to complete the required forms. Two practitioners reported that some parents who were bilingual but not as fluent in their use of English as in their native language participated in meetings without an interpreter. One practitioner said she knew the parents understood her English during progress review meetings because they smiled, nodded, and used the thumbs-up gesture. This practitioner did not describe how the parents asked questions or gained a deeper understanding of complex special education processes. Two practitioners reported colleagues who oriented toward the interpreter rather than the parent, showing a lack of understanding of how to utilize an interpreter.

Therefore, although school districts generally provided qualified interpreters for scheduled meetings, the lack of access to competent interpreters for all communication opportunities was noted in the data from the practitioners in this study. Also indicated in the data

and aligned with this researcher's past experiences in public school settings, there was evidence of inequities between bilingual and monolingual families' access to the same levels of information in print. For dual-language parents to obtain equal levels of information as monolingual families do, parents require access to entire translated documents versus translated summary documents and sufficient time allowed in meetings with interpreters to ensure a complete understanding of the child's special education plan.

According to the data from the practitioners' responses in this study, access to qualified interpreters was generally unavailable for daily communication with families, contrary to IDEA (2004), ESSA (2015), and civil rights laws. These educators and therapists discussed that they often had to rely on colleagues in other roles, such as administrators, paraprofessionals, or the school nurse, to communicate with students' parents when needed on short notice. Pickl's (2011) study on AAC use for dual-language children with severe disabilities also addressed the lack of consistent access to qualified interpreters. Pickl reported that the communication barriers with dual-language parents of children with severe disabilities were barriers to appropriate assessment and planning for AAC supports. The practitioners in this dissertation study described their frustration connected to the obstacles to offering CLD dual-language families the same level of information and participation in their students' special education planning as they did for monolingual families.

Need for Access to Dual-Language Services

English as a second language (ESL) services were reported by practitioners as rare or missing for their dual-language preschoolers with autism. According to the data, these educators and therapists did not have access to appropriate collaborative dual-language professionals and resources to meet the needs of their students as mandated by interacting public laws and

published guidelines (ESSA, 2015; IDEA, 2004). As discussed in Finding 2, the recent research indicated that the special education needs of dual language preschoolers with autism generally took precedence over their language learning needs in English and their home language. ESL services were usually unavailable at the preschool level unless advocated for (reported by 3/10 practitioners) or at initial English-language screenings (reported by 4/10 practitioners). All practitioners stated that ESL services started in kindergarten, leaving a big gap between early intervention and kindergarten, with special education prioritization and no specific language learning education provided for dual-language preschoolers with autism. Based on the data in this study, these early childhood special educators were unprepared to support their dual-language students with autism in both English and their home languages.

As a reminder, researchers reviewed over 30 years of longitudinal data on program models to determine the best strategies for educational success for dual-language students (International Literacy Association [ILA], 2019). The researchers found that the provision of dual-language instruction for *all* children, regardless of each student's disability level or SES background, resulted in students' higher academic achievement and cognitive levels compared to children not accessing dual-language instruction. The students with special needs scored higher than the children with similar levels of disability who did not receive dual-language education. Therefore, based on the findings of this study considered in combination with prior research, students with disabilities have achieved the best outcomes in communication skills, learning skills across all areas of development, and in academics when included in a dual-language approach to instruction and therapy. Other recent studies added to the evidence of successes for dual-language preschoolers when their individual needs were accounted for with a bilingual approach to education and therapy. Students who received instructional support in both

languages were found to progress in both languages (Alexander, 2015). In three case studies completed by Lang et al. (2018), Lim & Charlop (2018), and Seung et al. (2006), findings indicated that the young participants made gains in communication and play skills and demonstrated a decrease in challenging behaviors. When completing behavior assessments, Rispoli et al. (2014), Padilla Dalmau et al. (2013), and Duran et al. (2013) used the data in their studies to determine when and how to use English versus the home language to best support increasing a student's appropriate learning behaviors in school.

Limited access to ESL services is especially concerning since many children are in preschool for two to three years. English as a second language (ESL) services should be provided by experts in dual-language instruction for young children with moderate to severe autism, supporting the development of English and the child's home language. The findings of this study and research by Carrillo (2015) and Pesco et al. (2016) indicated that, without an interdisciplinary approach between early childhood, special, and dual-language practitioners educating dual-language preschoolers with moderate to severe autism, these young students lost their home language. This impacted the parents' ability to effectively communicate with their children. As stated earlier, a monolingual approach also resulted in children missing out on the benefits of bilingualism and many missed opportunities at home for social communication development in the families' most robust language.

Practitioners did not Request All Resources Needed for ESL/CLD Instruction

Surprisingly, although this lack of ESL supports was described in this study, two of 10 practitioners stated they mostly felt well supported by their administrators and districts when asked what additional resources were necessary. Two of the 10 practitioners reported that they could not think of anything they needed. These four responses indicated that these practitioners

were unaware of the other supports that would help them do their job as mandated. Despite their confidence in their administrators and evident investment in their students, their responses highlighted that "they do not know what they do not know" (M. Serpa, personal communication, August 10, 2022) to address the additional linguistic and cultural needs of their dual-language students with moderate to severe autism.

Three of 10 practitioners stated that they wanted increased training regarding dual-language learning practices at the early childhood level with access to ESL teacher support. Six of 10 practitioners responded that they needed more dual-language providers. One of these practitioners discussed the need for a dual-language family engagement professional at the preschool level. Six of the seven teachers (for whom the RETELL training was required) reported that although they had completed it several years ago that it was focused on students in grades K-12. These practitioners said that required trainings and optional master's level classes in the overlapping disciplines of early childhood, special, and dual-language education were generally not geared toward preschool-age learners. These teachers would like more access to early childhood CLD dual-language professional development. One practitioner reported the need for training on the specific cultures of enrolled students and their families.

Therefore, this finding demonstrates that much work must be done to train and support current educators and therapists to follow the mandates of the interacting laws and determine appropriate accommodations and additions to the published guidelines for preschoolers with moderate to severe autism. The required services and resources that are different and additional when working with dual-language (as opposed to monolingual) preschoolers have not been consistently available. There is an urgent need to address these issues for practitioners' to immediately increase the use of research-supported practices. As discussed in the research, the

special education needs of these dual-language preschoolers were likely taking precedence over their language learner needs. Barriers must be addressed to increase collaboration among early childhood, special education, and dual-language teachers. Several studies in the literature discussed the challenges of scheduling special education and language learning services during the busy school day and the lack of time for collaborative meetings among professionals in different disciplines (Kay-Raining Bird, Genessee, and Verhoeven, 2016; Kay-Raining Bird, Trudeau, & Sutton, 2016; Marinova-Todd et al., 2016; Pierretti & Roseberry-McKibbon, 2016).

Finding 5: Parents' language barriers prevented their understanding of the special education process for their children, leading to a delayed start of evidence-based autism services.

Parents' language barriers impacted their ability to understand the public school special education process mandated by interacting laws (Serpa, 2011). The practitioners reported these hurdles must be addressed for the parents of their students to fully understand the ways to access autism-related school and home services. The practitioners described the IEP process as challenging for monolingual families but extra challenging for bilingual parents without English proficiency. Yet, as discussed in Finding 3, the administrators of these practitioners relied on whether families checked the appropriate boxes or wrote home languages other than English on the referral and IEP forms to determine parents' needs for qualified interpreters.

Parents' Understanding of Special Education and the Importance of Bilingualism

Based on the data from the 10 practitioners in this study, there was no systematic process in place for the families of dual-language preschoolers with autism to obtain equitable access to information as made available to monolingual parents of students with autism. Two practitioners, who indicated they could not speak their students' home language, reported that some bilingual

and non-English speaking parents requested them to speak English to their children at school. However, no one discussed whether the parents knew the benefits of bilingualism for their children with disabilities or the importance of continuing the home language when making those requests. Howard et al. (2021) and Yu (2013) reported similar findings that indicated that parents think school success means prioritizing English language instruction because the English language is considered by society to be more valuable than the home language. However, speaking English is not the same as providing research-based collaborative specialized instruction in English and the home languages for dual-language preschoolers with autism.

All practitioners described noticeable differences in the abilities of their students' parents to advocate for school- and home-based services for their children with autism. However, only four participants attributed the differences to cultural considerations. Research indicated differing advocacy styles based on culture (Trainor, 2010). Cultural capital such as time, knowledge, English-language proficiency, and financial resources were critical to accessing an advocate or serving as a parent advocate for a child with a disability. It appeared that even if a family had access to translated IEP information (including the Procedural Safeguards required to be given to and explained to families in their home languages), bilingual families, as confirmed by the practitioners in this research study, were uninformed due to the unfamiliar special education terms and the complicated processes that also overwhelm many monolingual families. In addition, the concept of advocacy is not familiar to parents in many cultures (M. Serpa, personal communication, August 28, 2022). In Ijalba's (2016) qualitative study of immigrant parents, the parents viewed the teachers as the experts, felt stigmatized as immigrants, and had different ideas about childhood developmental milestones.

Multiple studies reported better outcomes for children living in dual-language families when the parents were part of the education process (Jegatheesan, 2011; Kim, 2016; Kremer-Sadlik, 2005; Lopez, K., 2015). Per K. Lopez, with specific training in a language they understand, parents can increase their confidence in advocating for their children's needs and practicing skills in families' languages at home. The language and cultural barriers for families to better understand the importance of dual-language special education and how to be a valued participating team member in their child's IEP development and monitoring need to be corrected.

Language barriers to effective regular communication with parents, as described in Finding 4, have been a big part of the problem preventing CLD families from accessing the same level of engagement in their children's education as monolingual families. The process of removing barriers includes increased access to qualified interpreters, provision of parent coaching and training sessions, and support for current professionals to bridge the home, school, and community settings, as further discussed in the recommendations section. These practices would support social communication gains to provide a foundation for quality of life, academic success, and skill progress across all developmental domains, as discussed next.

Finding 6: Priorities for language instruction did not address the social communication needs of dual-language students with autism across settings.

The practitioners discussed their priorities and strategies for language instruction with their dual-language preschoolers with autism but did not explicitly address the need for social communication skill development across settings. This researcher sought to understand more about the processes for social communication skill development across languages and settings for these students. Social communication skills go beyond a focus on spoken language and are precursors to foundational readiness skills for young children with autism (Fuller & Kaiser,

2020). According to Silveira-Zaldivar et al. (2021), in a study in collaboration between the U.S. and Norway but without discussion of dual-language education, findings indicated that the educators and therapists required explicit guidance for teaching social communication skills to young children with autism. In Silveira-Zaldivar et al.'s results, the participants had not learned this necessary instructional strategy. Since social communication skills are often delayed in children with autism, practitioners and families must work together to provide continuous appropriate language experiences at home and school to support progress in these foundational skills (Sendilnathan & Chengapa, 2020). This finding indicated that supporting social communication skills across language settings with a dual-language education model was not a key consideration for the practitioners of this study.

The Importance of Social Communication Development

This researcher discussed the social communication needs of dual-language preschoolers with autism to effectively engage across the settings of school, home, and their communities. Although no practitioners reported strategies to address goals in social communication skills in English and their students' home languages, they expressed interest in learning more about this topic. This finding indicated that these practitioners did not yet know what research-based strategies they were not providing for their preschoolers. They had not yet accessed appropriate professional development to meet the needs of these young learners with autism with the use of a bilingual special education model.

Children with autism have demonstrated a unique developmental trajectory in early communication skills compared to students who are typically developing or with disabilities other than autism (Stronach & Wetherby, 2017; Wu & Chiang, 2013). Stronach and Wetherby described this varied trajectory consistent across children with autism regardless of language use,

ethnicity, or race. Douglas and Gerde (2019) and Fuller and Kaiser (2020) stressed the importance of implementing specialized instruction to teach crucial social communication skills to young children with autism, both by teachers and parents. More significant gains were documented with growth in skills when parents were a part of the process. Although both research teams (Douglas & Gerde; Fuller and Kaiser) did not address bilingualism education models in their studies, if explicit instruction with parent involvement leads to best progress, then the inclusion of the linguistic and cultural needs of all students must a part of methodologies to support social communication development. Dual-language preschoolers with autism and their families require access to these same evidence-based instructional opportunities as monolingual children. When public school professionals understand the communication patterns and behaviors at home for dual-language preschoolers and languages are viewed as more than spoken English words, the harm to the children and families with the loss of the home languages can be avoided (Jegatheesan, 2011; Park, 2014; Silveira-Zaldivar et al., 2021; Yu, 2016).

In a study with bilingual children with autism, Siyambalapitiya et al. (2021) reported that scant research had been completed on long-term social communication outcomes. Of note, Digard and team (2020), in their extensive study, described their results that adults with autism who were proficient in two or more languages reported higher self-ratings in their social quality of life. If, as stated in the Center on Disabilities, 91.2% of adults with disabilities are living at home in Massachusetts, those living in bilingual homes (data not found) required dual-language instructional models throughout their school years. As already discussed, supporting bilingualism for young learners leads to increased communication opportunities, self-esteem, and quality of life (Carrillo, 2013; Cheatham et al., 2007; Reetzke et al., 2015). When parents continued the home language, the children had more access to high-quality social interactions across school

and home (Sen & Geetha, 2011). The opposite was true when the family was advised to give up on their home language with their child with autism, often at the request of uninformed practitioners (Alvarado et al., 2021).

Therefore, it has been proven to be traumatic for a young child to participate in public school education in a primarily English environment without being able to communicate with or be understood by the teachers. Limited access to their home language at school and no ESL services to support learning English as a second language are harmful to the child. Professionals have lacked the awareness of the significance of this negative experience for these young students. Practitioners in this study did not discuss the significant stress put on children who do not understand the school language in a new environment. This is not equitable with the monolingual preschoolers' access to their home language in public school settings. The practitioners in this study did not describe bridging their dual-language preschoolers' home and school language need to support social communication development. Well-meaning and hard-working practitioners, such as those who made the time to participate in this study, indicated that they lacked the training and resources to eliminate this trauma and provide for *all* the needs of their young bilingual learners with autism.

Finding 7: Additional barriers were identified regarding student access to appropriate online education and therapy for dual-language preschoolers during the COVID-19 pandemic.

The timing of this research allowed the researcher to ask the practitioners about the challenges and unexpected positive outcomes of switching to online teaching in March 2020 due to the COVID-19 pandemic. It was found that dual-language preschoolers with autism were further marginalized during the virtual instruction process (Harris et al., 2021). Practitioners

reported that bilingual families struggled to access and use the necessary technology, were often burdened with long work shifts as essential workers in a pandemic while leaving their children with non-English speaking neighbors and relatives, and had limited time to access virtual instruction without available trained interpreters and in their home languages. These educators and therapists discussed issues with engaging their dual-language preschoolers with autism, particularly those with limited communication abilities and attention challenges, which required motivating hands-on materials, prompts, and reinforcement from their teachers, not possible with online instruction.

The Challenges of Online Instruction

It was reported that the students and families who could not participate in virtual instruction were denied access to these critical services as required, despite the investment of these educators and therapists. In a published commentary, Harris et al. (2021) discussed the wider gaps and inequities for bilingual and low-SES students accessing educational services and therapies during the pandemic. While most practitioners in this study expressed their initial primary concerns were the well-being and safety of their students and families, the extra resources and services required to teach dual-language preschoolers with moderate to severe autism were even more likely to be missing or intermittent, further marginalizing these young learners.

The 10 practitioners described their students' families as overworked, exhausted, and anxious about supporting their children in online education. One practitioner's comments included her frustration in trying to provide education when some families were sleeping and not available for early morning online school sessions. Some families managed to get to pick-up locations to access their children's school-provided free breakfast and lunch meals but skipped

picking up learning packets. However, without more information, it was unknown whether these parents had completed overnight work shifts and had a general routine to sleep while their children were in school, with the need to prioritize rest over online education. It was also unclear in what languages the learning packets available at meal pick-up locations were provided or if the families had the time or resources to support their children to complete this type of schoolwork while managing multiple challenges during the pandemic.

Positive Outcomes of Online Instruction

The practitioners in this study also reported that the online format for teaching led to some successes for the students who joined sessions with parent support. The ABA home providers that used the home language of Spanish supported the parent-teacher communication process for preschoolers with ABA services, as described by one practitioner. Also, this online teaching and therapy platform increased parent-teacher interaction instead of the rare communication when students were transported to school by bus before the pandemic. These regular connections with families increased the practitioners' understanding of their students' communication in the home setting and the parents' goals for their children.

Franquiz et al. (2021) discussed the losses for dual-language students and families who could not access online services during the pandemic, similar to this study's participants' concerns when families were unable to participate. Franquiz et al. also reported that the challenging and successful outcomes led to opportunities for a rebirth in CLD education. Franquiz et al. discussed the resilience of teachers and families and the chance to move beyond a reliance on standardized test scores for planning and instruction. This seventh finding of this study highlighted the challenges and successes reported by the participants regarding their dual-language preschool students and families.

Limitations

The limitations of this study included the following.

- Given the COVID-19 pandemic constraints, interviews for data collection via Zoom were limited to 60- to 75-minutes each with no possibility for follow-up.
- Interviews were conducted just prior to the start of a new school year, which may have impacted additional participants agreeing to engage in interviews at this busy time of year.
- The sample was limited to 10 practitioners who self-identified as White except for one of them who identified as Hispanic. Three of the 10 participants stated they were bilingual with two in Spanish. The practitioners included seven early childhood special education classroom teachers, two SLPs, and BCBA. No administrators, ESL teachers, or paraprofessionals responded to requests to participate.
- The data was drawn from what each practitioner chose to discuss in response to the questions. No observations were included in this study.
- Only a limited amount of information was accessed regarding practices to support social communication skills for dual-language preschoolers with moderate to severe autism across settings.
- The participants were all from the Boston area of Massachusetts and findings may not be generalizable to other geographical locations.

Recommendations

This researcher's recommendations include the essential next steps for immediate policy changes at the state and district levels to address the needs of dual-language preschoolers with moderate to severe autism. Systemic changes are needed to better prepare educators and

therapists to provide research-based instruction and therapy within an early childhood bilingual special education model. Recommendations are also detailed for future research to include young toddlers and preschoolers from CLD families with moderate to severe disabilities. Of note, these recommendations are significant for young learners with moderate to severe autism and limited social communication abilities in English or their home language who have often been overlooked in the research and policy guidelines.

Recommendations for Policy

At the State Level

1. Develop state standards for teacher education related to dual-language preschoolers with disabilities for all professionals and higher education programs.
2. Provide explicit guidance from the Massachusetts Department of Education (MADESE) regarding the education of dual-language (bilingual) preschoolers in alignment with IDEA (2004), ESSA (2015), and the NAEYC (2022) position statement (see quote at the start of this document).

At the District Level

1. Provide the necessary staffing, training, and resources to lead to accountable and consistent utilization of evidence-based practices in education and therapy for all dual-language preschoolers with autism, regardless of the severity level of the child's disability in their languages across settings. Stop the direct recommendation to CLD families to speak English when they are not proficient, irrespective of the severity level of the child's disability.

2. Determine consistent and thorough assessment guidance to make it feasible to evaluate all dual-language preschoolers with autism in their home language and English, regardless of the severity of the child's disability.
3. Provide dual-language early childhood and early learning instruction aligned with NAEYC (2022), enabling the research-based benefits of bilingualism. Provide dual-language education for all bilingual preschoolers with autism, regardless of the severity of the child's disability.

Recommendations for Current and Future Practitioners

Current Public School Administrators, Educators, and Therapists

1. Comply with the interacting laws for special education (IDEA, 2004) and language learning education (ESSA, 2015) in assessment and instruction practices. Assessment must include a young child's communication abilities in English and the home language in both expressive and receptive skills. A careful examination of verbal and non-verbal expressions, including gestures, signs, and AAC tool use, is the only option to provide a solid picture of a dual-language preschooler's communication profile. Implementation in the immediate future of dual-language assessment and instruction using research-based autism practices, including developmental-behavioral and AAC strategies, is essential.
2. Participate in adequate professional development at the early childhood level across educational roles, including skill development in dual-language special education practices and multicultural competence for communicating and interacting with CLD families in the district.
3. Promote equitable access to information on the special education processes and students' assessments and reports via qualified interpreters and fully translated documents for CLD

families as provided to monolingual families. This includes offering choices in information format (verbal versus printed in home language) to families to ensure their participation as a valuable member of their child's IEP team.

4. Expand understanding of the value of bilingualism and the importance of continuing the home language as the child learns English as a second language via training and discussions for practitioners and families. Remove the trauma by eliminating outdated recommendations to speak English only at home and move to a consistent dual-language model. Offer research-based guidance to monolingual English practitioners with an English-only mindset.
5. Create a district plan with follow-through to hire additional CLD staff in teacher, therapist, and administrator roles, not just for paraprofessional jobs. Bilingually diverse staff can help remove the current barriers to monolingual professionals using a dual-language approach with children and their families.
6. Learn from the COVID-19 pandemic online instruction to build on parent-staff collaboration and understand the life of the dual-language preschool student at home (Harris et al., 2021). This includes the removal of barriers for families of dual-language preschoolers with autism to access technology equitably via ongoing training and technological support or the offer of appropriate alternatives for families who choose not to use technology.
7. Promote equity in dual-language preschoolers and families access to health and education services by hiring bilingual family engagement counselors at the preschool level to support children and families across settings and agencies. Build a focus on a flexible education approach that considers the whole child in the family context while also

supporting housing, food, mental health, and learning needs for the student *and* the family (Franquiz et al., 2021).

Future Practitioners in Higher Education Teacher Preparation Programs[6]

1. Develop early childhood teacher education programs across the disciplines of special and dual-language education. A focus on culturally and linguistically responsive approaches to instruction can better prepare future practitioners to understand research-based practices for teaching and providing therapy to dual-language preschoolers with moderate to severe disabilities including autism.
2. Require practicums in interdisciplinary assessment and planning for dual-language preschoolers with autism. This would avoid misdiagnoses and missed diagnoses for students when it is hard to differentiate between their language learning and disability needs, an ongoing problem in the field (Restrepo & Castilla-Earls, 2021).
3. Provide learning experiences in selected courses that support higher-education students to explore their explicit and hidden biases regarding bilingual and dual-language programs for young learners with disabilities.
4. Recruit CLD students for higher education programs to increase diverse staff in all public school roles. The outcome of more diverse higher education students and future public school professionals across all roles would have positive implications for increased opportunities for dual-language preschoolers to be taught by educators and therapists who have similar linguistic and cultural backgrounds as their own.

[6] At the time of this writing, there is only one certificate teacher education program at Lasell University for bilingual special education in Massachusetts (M. Serpa, personal communication, August 28, 2022).

Recommendations for Future Research

1. Complete ongoing CLD dual-language research in the overlapping fields of early childhood, special, and dual-language education (also known as bilingual special education) to promote better understanding of research-based instructional practices for preschoolers with moderate to severe autism aligned with the interacting laws (ESSA, 2015; IDEA, 2004; Rivera et al., 2021; Takanishi & Le Menestrel, 2017).
2. Determine and utilize appropriate descriptors regarding research participants' cultural, linguistic, and disability factors per APA guidelines (American Psychological Association, 2021; Barac & Bialystock, 2014; Baker et al., 2016). Including precise understandable terminology leads to better analyses of research findings and recommendations for applying evidence-based approaches in the education field.
3. Support and follow up on the recommendations from the *Multicultural Behavior Analysis Standards* (Fong, & Tanaka, 2013) and the *Professional and Ethical Compliance Code for Behavior Analysts* (Behavior Analyst Certification Board, 2017) requiring that researchers develop cultural competence via self-assessment checklists and with expectations to follow guidelines before undertaking studies that involve dual-language CLD children and families.
4. Investigate dual-language strategies for supporting social communication skills across settings for young learners with moderate to severe autism.
5. Replicate this study with a larger pool and diverse practitioners across varied geographical settings. This would lead to additional data to make comparisons regarding the practices of public school professionals based on the following information: the impact of experience and specific training in the field; the possible differences among

monolingual and bilingual practitioners' teaching choices; and the perspectives of those in the roles of administrators, ESL teachers, and paraprofessionals. Include additional interview time to gather more data regarding strategies to increase social communication skills. Parent interviews and observations of dual-language preschoolers with autism would also provide additional data in future qualitative studies.

Final Summary

The purpose of this qualitative research study was to understand the perspectives and practices of educators and therapists who worked in public school settings during the school year 2019-2020 with dual-language preschoolers with moderate to severe autism and their families. This chapter discussed the implications of the seven main findings in relation to previous research for students with moderate to severe autism. It also included the limitations of the study and the researcher's recommendations. The practitioners in this study appeared to be very invested in supporting their students and families and utilized their training and experience to implement early childhood special education strategies. However, the practitioners reported obstacles to providing research-supported and mandated interdisciplinary practices for their dual-language preschoolers with autism. These early childhood special educators were unprepared to assess and instruct their dual-language students with autism in the home languages and English as a second language (ESL). The seven findings highlighted non-compliance with the interacting education laws for students with autism; inequities in levels of appropriate teacher-parent communication with CLD families as compared to monolingual families; reduced participation from CLD families in their child's education; limited family-child social communication opportunities with the loss of the home language; missed opportunities for the increased

cognitive, social-emotional, and academic benefits of bilingualism; and trauma to the child who could not communicate or understand the language of the school.

Recommendations were made for policy at the early childhood level in the overlapping disciplines of special and dual-language education (also known as bilingual early childhood special education); (2) for current and future practitioners, (2a) for public school educators, therapists, and administrators and, (2b) leaders in higher education teacher preparation programs; and, (3) for future research in the overlapping fields of early childhood, special, and dual-language education for preschoolers with moderate to severe autism. This researcher calls for systemic changes in public school districts to prepare and support their invested educators, like those in this study, to meet the needs of all preschoolers with research-based bilingual special education autism practices, regardless of the severity of each child's autism disability. Barriers to the consistent use of early childhood bilingual special education research-based models could be remedied by making available the training, resources, and experts to increase the following: practitioners' knowledge regarding culturally responsive dual-language instruction; culturally diverse dual-language staff in multiple public school roles; easy access to qualified interpreters; and collaboration with ESL and dual-language experts for education and therapy with dual-language children with moderate to severe autism. These students and their families require immediate opportunities to find success and joy in their social communication interactions in their home languages and in learning English as a second language, which are necessary skills foundational to all other areas of learning and the best quality of life.

Researcher's Final Reflection

"The path of least resistance and least trouble is a mental rut already made.

It requires troublesome work to undertake the alteration of old beliefs."

-John Dewey

Some years ago, when I worked with dual-language preschoolers with moderate to severe autism in public school settings, I did not understand why these young learners were taught using a monolingual English approach. I struggled to connect with the families because of my weak Spanish language skills. It seemed that the language of the home was vital for these children and their parents to continue to connect and communicate with each other. I felt the pressing need to learn more and suggest a better way. In the field of education with young children, both as a general and special educator, and as a Board-Certified Behavior Analysist (BCBA), I have held strongly to my work ethics and beliefs that every child is a unique individual with their own strengths and challenges. Parents are the child's first teachers and every CLD family comes with their own set of beliefs, hopes, and dreams for raising their children as do monolingual English families. When teaching to the whole child and honoring each unique individual within the context of their family and community, while supporting growing social communication skills and joyful interactions, as recommended in this study, one gets to the core of our essence as human beings and as teachers and learners. We are all valuable and all have the right to learn and communicate in the way which is best for us at any given moment in time.

Completing this study tested my own resilience in these busy times to continually forge ahead with a challenging project. I am grateful for the opportunities to make meaning of past experiences and extensive formal and informal learning, to follow this dissertation study path

and the trails that opened along the way, to learn from all with whom I have connected, and to formulate next steps in my career with young children and their families. It is my hope that this study makes an indelible impression on educators, further opening their minds and hearts, as they increase the use of evidence-based practices for young dual-language preschoolers with autism. Let's all encourage use of "the language of the heart" (M. Serpa, personal communication, August 15, 2022).

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Appendix A

Definitions of Educational Terms

Augmentative and Alternative Communication (AAC): AAC includes additional modes for communication besides speech (American Speech-Language-Hearing Association, 2021). Low-technology supports include gestures, sign language, drawing, writing, pointing to or exchanging pictures (see PECS). High-technology options include using an app on an iPad or using a computer with a voice, also referred to as a speech-generating device (SGD).

Applied Behavior Analysis (ABA): ABA is the science of applying principles of behavior analysis in a systematic fashion to improve socially significant behaviors (Cooper, Heron, & Heward, 2007). This scientifically valid treatment, used in education and therapy for children with autism, follows research-based principles to decrease maladaptive behaviors and increase necessary skills across areas of development to best support each child's increased functioning in a variety of settings.

Autism or Autism Spectrum Disorder: Also known as ASD. The DSM-5 (American Psychiatric Association [APA], 2013), updated in May 2013, labels this disability as autism spectrum disorder under the broader category of neurodevelopmental disorders. This is a change from the five separate subcategories listed under Pervasive Developmental Disorders previously used in DSM-IV. ASD now includes all levels of functioning on the spectrum, from high-functioning to those with limited functioning and cognitive delays. The two categories of ASD include social-communication deficits and restricted repetitive behaviors or interests. Centers for Disease Control (CDC; 2021) report autism as now occurring in one in 44 children in the U.S. ASD is also one of the Massachusetts disability categories for meeting criteria for special education services.

Bilingual: Someone who speaks two or more languages is considered bilingual (Linguistic Society of America, 2022). Children and adults may acquire languages simultaneously or consecutively and may be at different levels across the skills of speaking, listening, reading, and writing and among languages.

Board Certified Behavior Analyst (BCBA): An independent practitioner who has completed graduate level certification in behavior analysis (Behavior Analyst Certification Board, 2022). This professional is licensed to provide and supervise ABA and EIBI interventions (see ABA and EIBI).

Core Boards/Fringe Boards: An AAC approach to support receptive and expressive communication utilizing high- or low- technology (The Autism Helper, 2022). Core vocabulary includes common vocabulary that can be used across settings and conversations. Fringe vocabulary is topic-specific and used in conjunction with core vocabulary.

COVID-19 Pandemic: Also known as Coronavirus disease (World Health Organization, 2022). An infectious disease caused by the SARS-CoV-2 virus with symptoms of mild to severe respiratory disease. The pandemic began in early 2020 and caused school closure resulting in teaching moving to an online format beginning in March 2020.

Culturally and Linguistically Diverse (CLD): A term that includes individuals who speak a language or languages and have cultural values different from the majority language and culture of the geographical location (IGI Global, 2022).

Developmental Delay: A disability category under which students may access special education services (Massachusetts Department of Elementary and Secondary Education, 2022). A child exhibits significant delays in language learning, cognitive skills, adaptive functioning, and social, self-help, or physical areas of development.

Dual Language Program: A program utilizing an additive approach to teaching children in their home languages and learning English as a second language (Massachusetts Department of Elementary and Secondary Education, 2022). See Serpa (2011) for more information.

Dual Language Learner: Also known as English-language learner. Learners under the age of 5 who have at least one parent who speaks a home language other than English (National Conference of State Legislatures, 2022). The child is continuing to learn the home language while learning English.

Early Childhood Education: Any partial or full day group program at a school, center, daycare, or home setting for children from birth through age 8 (National Association for the Education of Young Children (NAEYC; 2022). These programs provide education across all domains of development for children with and without delays and disabilities.

Early Intensive Behavioral Intervention (EIBI): EIBI consists of comprehensive interventions proven effective as compared to no intervention controls or an autism-specific eclectic approach (Eldevik et al., 2009). Strategies may include programming defined as ABA or with behavioral components. EIBI also includes the following elements: programming is individualized to address all areas of a child's development; behavior analytic approaches are used for skill acquisition and reduction of interfering, problem behaviors; parents are co-therapists with highly skilled staff; intensive, structured year round programming is provided, started by the preschool years lasting at least 2 years; development of programming is based on developmental and child specific criteria; teaching occurs in 1:1 and natural settings, with programming for generalization and maintenance across settings.

Early Intervention: A program to support learners birth to age three with developmental delays or at risk for developmental delays (Centers for Disease Control and Prevention, 2022). Supports are offered for infants and toddlers. This program is mandated under IDEA (2004) Part C.

English as a Second Language (ESL): Also known as English learner (EL) education. Students who have at least one family member who speaks a non-English home language are considered to be learning English as a second or additional language as they continue to learn the home language (Massachusetts Department of Elementary and Secondary Education, 2022).

Individualized Education Program (IEP): An IEP is a legal document that follows special education law (IDEA, 2004) developed by a team consisting of school personnel and parents (and sometimes the child if age 14 or older; Massachusetts Department of Elementary and Secondary Education, 2022). This document is based on appropriate assessments and planning to address a child's unique educational needs as a result of a disability. The team determines appropriate school placement, instruction, and related services.

Integrated Classroom Setting: Also called an inclusion or mainstream setting. Public school classrooms that include children with and without disabilities.

Interpreter: Also called a translator, a person who supports communication between speakers of different languages in spoken and written communication.

Picture Exchange Communication System (PECS): PECS is a unique alternative/augmentative communication system developed by Andy Bondy, PhD, and Lori Frost, MS, CCC-SLP (Pyramid Educational Consultants, 2022). PECS is an AAC low-technology communication system to teach intentional communication across single to multiple word levels. Implementation strategies are based on B.F. Skinner's book, *Verbal Behavior,* and utilizes ABA methodologies.

Rethinking Equity and Teaching for English Language Learners (RETELL): An initiative to address the achievement gap in English language learners that required additional training and licensure for a Sheltered English Immersion (SEI) Endorsement (Massachusetts Department of Elementary and Secondary Education, [2022]; see Serpa [2022] for more information).

Social Communication Skills: Skills that include how and why language is used to communicate with other individuals across setting (American Speech-Language-Hearing Association, 2022). Includes verbal and non-verbal interactions. Can include AAC modalities. Social communication rules vary among groups by age, culture, circumstance, and other internal and external factors.

Speech and Language Pathologist (SLP): Professionals who work with people of all ages, babies through adults (American Speech-Language-Hearing Association, 2022). They are experts in communication and address communication delays with therapies that work to increase speech, language, social communication skills, and when needed, the use of AAC tools.

Substantially-Separate Classroom: Also called a self-contained classroom. Public school classroom settings with a majority of students with disabilities who require a small group and more intensive instruction.

WIDA: WIDA MODEL (Measure of Developing English Language) consists of English language proficiency assessments for grades K-12 across the domains of speaking, listening, reading, and writing (WIDA, 2022).

Appendix B

Interview Tool: Perspectives and Practices of Professionals Working with Multilingual Preschool-age English Learners in the Public Schools

Susan Davison, 2020

Introduction: I will state the following information to the Interviewee. *"As a special educator and a BCBA for many years, I have experienced first-hand some of the successes and challenges of working with children with autism. I have some idea of the demands of the job, the potential challenges and limitations with resources (including time and materials), and the process of juggling work with personal life. I am seeking to understand your thoughts and experiences without judgement and with an open mind for listening to your perspective. There are no right or wrong answers. Please be candid and know that I value your hard work in this field as do your families and colleagues."*

"The first part of this interview will be to gather your background information and help you feel comfortable in chatting with me. I'd like to remind you that you have signed the informed consent and can decline to answer any question or discontinue the interview at any time."

1. **Background information of interviewee**
    a. What is your current job title? Please briefly summarize your primary duties and responsibilities.
    b. How many years have you been working in the field of education for young children with autism? In what roles, present and past?
    c. Describe your experience working with multilingual preschool-age English learners with autism and their families. Have you received any training and support in this area? If so, please briefly describe.
    d. How do you identify regarding?
        i. Age
        ii. Gender
        iii. Race
        iv. Culture
        v. Ethnic background
    e. Do you speak any languages other than English? If yes, please describe your levels of proficiency in listening, speaking, reading, and writing. Briefly describe how and when you use each language.
    f. If English is not your first or only language, how do you feel about being interviewed in English only? Do you foresee any challenges in understanding the concepts in the interview questions and in giving detailed responses using English?

"The next part of this interview includes questions specifically related to your work prior to school building closures due to COVID-19. Please take the time you need to think back and answer questions to the best of your ability. I may ask you to repeat part or all of an answer for clarification. I may also ask additional questions to go deeper into your responses."

2. **Working with multilingual preschool-age English learners with autism**
    a. Think of one or two children with whom you have recently worked prior to school building closures. Walk me through the process for how you communicate with and teach this child. Do you have anything to add regarding assessments?…development of goals?…and collaboration with other professionals? Can you expand on your answer regarding (any areas above and/or something else that comes up in responses)?
    b. Would you categorize any of these children as having limited verbal abilities (including spoken language and AAC and in any language) and potential cognitive delays? Can you clarify what else you may need to do in this case pertaining to ….? (I will repeat areas as described above).
    c. Do you use augmentative and alternative communication systems (AAC)? If yes, do you use them in more than one language (de Valenzuela et al., 2016)? Explain more with a few specific examples.
    d. (If not mentioned already) do you use any languages other than English when providing services to these preschoolers and their families? Can you describe this more? Do you use an interpreter? Can you describe this more? How do you make the decision on language use and when?
    e. What have your experiences been prior to school closures, with communicating with parents when you perceive a language communication barrier? In sharing information? When encouraging parental involvement? Can you describe your process of considering and better understanding the cultural aspects in addition to language differences? How does your perceived or known level of home languages in native language and English use add to these decisions?
    f. Do your multilingual families seem comfortable with collaborating with school professionals and advocating for their child? If so, how is this process going? What are your thoughts on recommending to families how and when to use English vs. other home languages? What do you think is best and can you give me some specific examples?
    g. Now that things have turned upside down and we are in uncharted territories with remote teaching due to COVID-19, what challenges and changes can you share related to your current teaching process? How have your role and teaching practices changed? How are you managing your students' IEP needs along with any language learning needs if they have experience with languages other than English and the families may be at different levels of using and understanding English? How has your communication with the families changed?
3. Additional thoughts
    a. What would be most helpful for the district or anyone else in a supporting role to provide at this time to help with this challenging process of educating young multicultural children with autism?
    b. Anything else at all you would like to add?

"Thank you for your time. I ask you not to share these questions or your responses with anyone else you may have recommended for me to interview."

Appendix C

Table 1

	Age	**Race Ethnicity** (self-identified)	**+Fluency in languages other than English *Partial ability in languages other than English**	**Years' Experience Bilingual Autism**	**Current Job Title**
Angie ***North***	20s	White French Polish	None reported	2	Teacher Substantially Separate Classroom
Chad ***South***	40s	White	*Japanese *Spanish	14	Teacher Substantially Separate Classroom
Debbie ***North***	40s	White European	*German *Sign language	20+	Teacher Integrated PreK Classroom
Elena ***East*** **MA+**	30s	Hispanic Guatemalan	+ Native Spanish *ASL	10	BCBA
Faye ***North***	30s	White Ashkenazi Jewish	+Hebrew *Spanish *ASL *Portuguese	8	SLP
Izzy ***West*** **MA+**	30s	White	*Romanian *American Sign Language	9	Teacher Substantially Separate Classroom
Karen ***East*** Known	50s	White Irish Italian	*Spanish	20+	Teacher Integrated Classroom
Mary ***East*** Known	50s	White European Portuguese Spanish African	*American Sign Language *Spanish	20+	Teacher Substantially Separate Partially Integrated Classroom
Sandra ***East*** Known	50s	White Jewish	*Spanish	20+	Teacher Full-day Integrated Classroom
Tessa ***East*** **MA+**	30s	White German Polish Irish	+Spanish	6	SLP

MA+Experience in a state outside Massachusetts = 3 (Tessa, Elena, Izzy)

Table 2
Q=Question; F=Finding

Research Question Number	Findings Number	Findings
Q1	F1	Assessment procedures for special education eligibility determination, monitoring progress, or 3-year-reevaluations did not address the required practice of assessment in the home language.
Q1	F2	Instructional practices described included early childhood and monolingual special education with little mention of cultural and language factors.
Q2	F3	Barriers to dual-language instruction were highlighted, leading to the use of primarily monolingual practices in special education and related services.
Q2	F4	Challenges identified included accessing competent interpreters, the limited availability of early childhood bilingual special education professional development, and rare support from English as a second language (ESL) teachers.
Q2	F5	Parents' language barriers impacted their understanding of the special education process for their children and led to a delayed start of evidence-based autism services.
Q3	F6	Priorities for language instruction did not address the social communication needs of dual-language students with autism across settings.
Q4	F7	Additional barriers were identified regarding student access to appropriate online education and therapy for dual-language preschoolers during the COVID-19 pandemic.

Appendix D

Informed Consent:

You are invited to participate in the research project titled: A Study of Multilingual Preschool-age English Learners with Autism: Perspectives and Practices of Professionals in Boston-area Massachusetts School Districts. The intent of this research study is to understand the perspectives and practices of professionals in public school settings, who work with multilingual preschool-aged English learners with autism and their families when English is not the sole home language. You may have or have not continued to provide services at some level since school building closures due to Covid-19.

Your participation will entail participating in one interview for a duration of no more than 75 minutes, scheduled at your convenience outside your school day via your chosen virtual method (Zoom with audio and video or Zoom with audio only). By agreeing to participate in this study, the participant will receive a gift card ($50 toward teaching materials) prior to the beginning of data collection. The researcher (Susan Davison) will also share contact information if any interviewee wishes to learn more about the general research related to teaching multilingual preschool-age English learners with autism, her dissertation, and/or her work in the field after the interview process is completed.

In addition
•You are free to choose not to participate in the research and to discontinue your participation in the research at any time without facing negative consequences.
• No questions related to specific children or families will be asked. Questions will be asked about how each interviewee personally identifies according to race, culture, ethnicity, language use, level of experience, and role, but the interviewee can choose not to answer any question. The location of the program, school, and district and the identity of the interviewees will not be shared in any way. Any information that could lead to identification will not be included in transcriptions, coding, or my dissertation paper. Interviews will be audio recorded only (even if you choose option to include video process), and after transcriptions are completed, recordings will be removed from my laptop and placed on a flash drive to keep in secure area of my home office. Notes taken during the interviews and my journal will not include any identifying information and will also be kept in a secure area of my home office. Data in all forms is expected to be kept in this locked format for five years, then destroyed. Although I am not planning to use this data for any additional projects at this time, should this change, I will not use data for any future projects without a new full informed consent process with interviewees.
•Any of your questions will be answered at any time and you are free to consult with anyone (i.e., friend, family) about your decision to participate in the research and/or to discontinue your participation. <u>However, you are asked not to share the research questions and your answers to anyone that you may recommend to also participate until after they have completed their interview process.</u>
•Participation in this research poses no known risk to the participants. Participation in this process will allow the researcher to better understand the positives and challenges of teaching multilingual preschool-aged English learners with autism and may increase the interviewees' curiosity and desire to learn more about working with this population of students.

•If any problem in connection to the research arises, you can contact the researcher (Susan Davison, 508-932-2123/sdavison@lesley.edu or Lesley University sponsoring faculty (Marcia Bromfield, mbromfie@lesley.edu).
•The researcher may present the outcomes of this study for academic purposes (i.e., articles, teaching, conference presentations, supervision etc.).

I am 18 years of age or older. My consent to participate has been given of my own free will and indicates that I understand all that is stated above. (You may print, sign, and scan to me or send photo to me, keeping the original as your copy.) Or by typing my signature below, I indicate my consent to participate has been given of my own free will and that I understand all that is stated above. (Keep a copy for yourself.)
sdavison@lesley.edu; 508-932-2123

_____	_____	_____	_____
Participant's signature	Date	Researcher's signature	Date

There is a Standing Committee for Human Subjects in Research at Lesley University to which complaints or problems concerning any research project may, and should, be reported if they arise. Contact the Committee Chairpersons at irb@lesley.edu

Appendix E

July 2020

Email Letter to Potential Participants:

Hello, I am a PhD student at Lesley University and a special education teacher and BCBA. I am looking for professionals to interview in any of the following roles for my dissertation research: special education teachers, general education teachers, EL teachers, SLPs, BCBAs, SACs, and para professionals who work with bilingual or multilingual preschool-age English Learners with autism in a public-school setting in the Boston Massachusetts area.

The criteria for participation is that you must have worked at least some or all of the past school year, 2019-2020, in a public-school setting with multilingual preschool-age English learners with autism; you may or may not have continued work during the move to remote teaching and learning due to COVID-19.

The interview will be via Zoom (audio and video or audio only, per your choice for interview process, with only audio recorded) and last no more than 75 minutes. No identifying information about you, your students, or your school district will be shared. After we discuss the process further, and you agree to participate in this study, you will receive a $50 gift card toward teaching materials, prior to the start of data collection. I am also willing to share a summary of my findings and offer consultations. I'm hoping to schedule these interviews for late July and first half of August at your convenience.

Let me know if you or anyone you know might fit the criteria and be interested and we can chat further.

Many thanks.
Best,
Sue Davison, M.Ed., BCBA, LABA