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UNIVERSITY OF NORTHERN COLORADO

Graduate School

Greeley, Colorado

ELEMENTARY SPECIAL EDUCATION TEACHERS' PERCEPTIONS OF
USING THE BEST PRACTICES OF VIDEO MODELING, SOCIAL
STORIES, AND PEER MEDIATED INTERVENTIONS TO
TEACH SOCIAL SKILLS FOR INDIVIDUALS WITH
AUTISM SPECTRUM DISORDER

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

Naif Ahmed Aldawood

College of Education and Behavioral Sciences
School of Special Education

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This Dissertation by: Naif Ahmed Aldawood

Entitled: *Elementary Special Education Teachers' Perceptions of Using the Best Practices of Video Modeling, Social Stories, and Peer Mediated Interventions to Teach Social Skills for Individuals with Autism Spectrum Disorder*

has been approved as meeting the requirement for the Degree of Doctor of Philosophy in College of Education and Behavioral Sciences in the School of Special Education.

Accepted by the Doctoral Committee

Francie R. Murry, Ph.D., Research Advisor

Corey D. Pierce, Ph.D., Committee Member

Robin D. Brewer, Ed.D., Committee Member

Nancy J. Karlin, Ph.D., Faculty Representative

Date of Dissertation Defense: _____

Accepted by the Graduate School

Cindy Wesley, Ph.D.
Interim Associate Provost and Dean
Graduate School and International Admissions

ABSTRACT

Aldawood, Naif Ahmed. *Elementary Special Education Teachers' Perceptions of Using the Best Practices of Video Modeling, Social Stories, and Peer Mediated Interventions to Teach Social Skills for Individuals with Autism Spectrum Disorder*. Published Doctor of Philosophy dissertation, University of Northern Colorado, 2019.

Statistical data from the Centers for Disease Control (2018) indicated autism spectrum disorder (ASD) affects 1 out of 59 children in American schools. The purpose of this study was to explore the perceptions of special education teachers regarding teaching social skills for K-5 students with ASD; specifically, to see how teachers viewed the effective use of two promising practices (i.e., peer-mediated interventions and social stories) and one evidence-based intervention (i.e., video modeling). The experiences of special education teachers regarding teaching social skills to K-5 students with ASD were explored. Seven special education teachers from school districts in Colorado were interviewed and their responses were coded. After reading the transcripts and reviewing the responses to the questions as demonstrated above, the researcher found the following themes emerged from the contextual descriptions: collaboration, using pictures, using peers, equipment, training, and using social stories. For each core theme, there were sub-themes. A discussion of how the teachers implemented interventions revealed a possible lack of fidelity and understanding of how to use specific interventions as they had been defined.

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TABLE OF CONTENTS

CHAPTER I. INTRODUCTION.....	1
Teacher Preparation for Working with Students with Autism Spectrum Disorders.....	4
Statement of Purpose	5
Rationale for Study	7
Significance of the Study	10
Researcher Stance	10
Definition of Terms.....	11
Summary	12
Organization of the Research.....	13
CHAPTER II. REVIEW OF THE LITERATURE.....	14
Autism Spectrum Disorder	14
Prevalence and Characteristics of Autism Spectrum Disorder	15
Social Skills Deficits.....	18
Learning Theory.....	22
Social Skills Interventions for Children with Autism Spectrum Disorder	29
Evidence-Based Social Skills Interventions for Individuals with Autism Spectrum Disorder	32
Teacher Perceptions	49
Summary	50
CHAPTER III. METHODOLOGY	52
Research Design.....	52
Participant Selection	55
Data Collection	57
Data Analysis	59
Ethical Considerations	63
Researcher Bias.....	64
Summary	64
CHAPTER IV. RESULTS.....	66
Introduction.....	66
Participants.....	67
Interview and Data Analysis.....	69

Themes and Teacher Experiences.....	73
Summary	127
CHAPTER V. DISCUSSION.....	128
Discussion of the Core Themes	129
Limitations of the Study.....	138
Implications of the Study for Practice	139
Recommendations for Further Research.....	140
Conclusion	141
REFERENCES	143
APPENDIX A. INSTITUTIONAL REVIEW BOARD APPROVAL.....	159
APPENDIX B. EMAIL INVITATION	161
APPENDIX C. INFORMED CONSENT FOR PARTICIPATION IN RESEARCH	164
APPENDIX D. DEMOGRAPHIC QUESTIONS ON QUALTRICS SURVEY	167
APPENDIX E. SEMI-STRUCTURED INTERVIEW QUESTIONS.....	170
APPENDIX F. FOLLOW-UP INTERVIEW QUESTIONS	173

LIST OF TABLES

1.	Participant Demographics.....	68
2.	Interventions Used by Teachers.....	69
3.	Example of First Categories.....	70
4.	Summary of Core Themes Emerging from Descriptive Data.....	72

LIST OF FIGURES

1. Five phases in the methodology used in this study..... 54

CHAPTER I

INTRODUCTION

Statistical data from the Centers for Disease Control and Prevention (CDC, 2018) indicated that autism spectrum disorder (ASD) affects 1 out of 59 children in American schools. The definitions of ASD from the fifth edition of the *Statistical Manual of Mental Disorders* (DSM-V; American Psychiatric Association [APA], 2013) and the Colorado Department of Education (CDE, 2018) each identified primary criteria characteristics as persistent deficits in social communication and social interaction that impeded students' ability to perform academically and socially in school settings. Students with ASD often demonstrate impairments in their communication and social interaction skills from a young age (Radley, Jenson, Clark, Hood, & Nicholas, 2014). If students with ASD do not learn to use social skills, their future opportunities are restricted and most likely would face difficulty with academic achievement, interpersonal peer relationships, maintaining employment, and acquiring a quality-of-life (Boudreau & Harvey, 2013; Cook et al., 2008; Kemp, 2015). Radley et al. (2014) found a lack of social skills can lead to fewer interactions with peers, which can result in long-term adverse outcomes for employment, quality adult relationships, and social integration. In addition, these researchers claimed fewer interactions with same-age peers lead to fewer opportunities to develop language, which has a long-term influence on cognitive development.

Students with ASD often demonstrate challenging and disruptive behaviors in school settings and particularly when faced with novel situations (Banda & Grimmert, 2008). These disruptive behaviors are commonly associated with students' difficulties reading social cues given by peers and adults (Bauminger, Solomon, & Rogers, 2010). Students with social understandings and skills are more likely to be accepted and able to work in integrated settings (Scheuermann & Webber, 2002). Parents, teachers, and therapists who have recognized that social impairment is a debilitating core deficit have pursued a wide range of interventions to teach social skills to students with ASD and have been met with both frustration and promising methodologies (Watkins et al., 2015). Educators in the field are increasingly focused on helping students with ASD improve their communication and social skills through intervention methods that can be used in school settings and surrounding communities (Engbrecht, 2013; Laugeson, Ellingsen, Sanderson, Tucci, & Bates, 2014; Ziv, Hadad, & Khateeb, 2014). It is essential that the examination of interventions identified as promising are also identified as evidence-based for teaching social skills to students with ASD since the deficit of social impairment affects the majority of individuals with ASD (APA, 2013).

Over the past 25 years, much research has been conducted on the approaches and interventions used to teach social skills. A criterion to determine if interventions are evidence-based was established by the Council for Exceptional Children (CEC; Horner et al., 2005) Division for Research and the same quality indicators for single-case or group-design standards were also used by the What Works Clearinghouse (WWC). These criteria have been applied in many of the meta-analyses to identify evidence-based interventions for teaching social skills for students with ASD (Bellini & Akullian, 2007;

Bene, Banda, & Brown, 2014; Chang & Locke, 2016; Mason, Davis, Ayres, Davis, & Mason, 2016; Wang & Spillane, 2009; Wong et al., 2015). The same criteria were used with each of the meta-analyses established by the WWC for single-subject designs identified for teaching social skills to students with ASD (Institute of Education Sciences [IES], 2018). Three interventions were found throughout the meta-analyses to be most effective in reaching the desired goal of teaching social skills to students with ASD. The results of each meta-analysis consistently indicated peer-mediated interventions (PMI) (Bene et al., 2014; Chang & Locke, 2016; Zhang & Wheeler, 2011) and social stories (SS; Bozkurt & Vuran, 2014; Kokina & Kern, 2010; Test, Richter, Knight, & Spooner, 2011; Wang, Cui, & Parrila, 2011) met the criteria for being promising practices while video modeling (VM; Mason et al., 2016; Wang & Spillane, 2009) met the criteria for being evidence-based.

Common recommendations found throughout the meta-analyses were that social skills training sessions should be increased in frequency and intensity, the interventions should be implemented in the setting where the student would use the social skill, the social skill type taught should match the student's skill deficit, and interventions should be implemented with fidelity of design. Suggestions for future research were to examine the training by school personnel for implementation fidelity, social validity of social skills interventions, and to identify what factors led to successful social skill generalization for students with ASD. Teacher training, implementation fidelity, social validity, and generalization needs could be extracted from interviews with educators in the field who were using the identified effective social skills interventions for students with ASD.

Teacher Preparation for Working with Students with Autism Spectrum Disorders

The literature revealed many questions regarding the training and qualifications of educators of students with ASD. Camarata (2014) found the earlier identification and implementation of evidence-based practices occurred, the less gaps and weaknesses in social communication and social skills a student with ASD would experience throughout school. He also recommended stronger education personnel training be directed at and refined for the specific needs of social skills and social communication for students with ASD. Teacher training is important as well teachers' perceptions of the training and practical use in educational settings. A strong correlation exists between teachers' beliefs about intervention use and actual use (Hew & Brush, 2007). Learning about what teachers think and feel could help build a complete picture of the teaching experience and needs for implementation of evidence-based practices. Busby, Ingram, Bowron, Oliver, and Lyons (2012) correlated self-efficacy with variables such as support and training. They suggested teachers perceived the quality of their ability to teach students with ASD directly as a result of the training received with their university preparation program. By learning more about how teachers perceive their training as compared to the needs they face in the classroom, it is possible to improve and create future training for special education teachers who teach social skills to students with ASD. In addition, many researchers identified that when teachers are trained to implement interventions with fidelity, they are less likely to abandon the use of evidence-based practices and are able and more likely to collect data to judge intervention effectiveness (Alexander, Ayres, & Smith, 2015; Simonsen, Myers, & DeLuca, 2010; Stahmer et al., 2014).

Future research suggestions have focused on varied areas of teacher perceptions concerning teaching social skills to students with ASD. Included in these suggestions were the need for investigating how teachers thought they should teach social skills (e.g., directly or integrate them into other curricular skills), what they thought about the interventions they used to teach social skills, what they thought about using evidence-based practices (EBPs) to teach social skills, what they saw as challenges to using the interventions, and what kinds of training and support they thought they needed to use evidence-based interventions (Alexander et al., 2015; Morrier, Hess, & Heflin, 2011; Reichow & Volkmar, 2010; Wolfberg, 2003). Specifically suggested for future investigation was what teachers thought about the implementation of two promising practices (e.g., PMI and SS) and one evidence-based intervention (VM; Banda & Grimmert, 2008; Mason, et al., 2016; McConnell, 2008). Understanding how teachers view the implementation of such interventions is important because “research on interventions for individuals with ASD helps move the field, but if these interventions are not being applied in public schools with fidelity, the EBPs are pointless alone.” (Alexander et al., 2015, p. 24).

Statement of Purpose

The purpose of this study was to explore the perceptions of special education teachers regarding teaching social skills to K-5 students with ASD; specifically, to see how they viewed the effective use of two promising practices (i.e., peer-mediated interventions and social stories) and one evidence-based intervention (i.e., video modeling). The following primary research question guided this study:

Q1 How do elementary special education teachers describe their experience when using peer-mediated interventions, social stories, and/or video modeling to address social skills with students identified with ASD?

The following questions were used as the basis for the interviews to examine the phenomena associated with this question:

1. How do you make the decision about what social skills you work on first?
(prompts might include: Do you use any formal assessments?)
2. How do you teach social skills to students with ASD (prompts might include: Do you teach them directly—explain how you do that; do you integrate them into other curricular skills—explain how you do that?)
3. In the Qualtrics survey, you indicated you used (peer-mediated interventions, social stories, or video modeling). Tell me about how you use it/them (if the participant used more than one, ask questions for each intervention used).

For each intervention, ask about implementation:

- a) How do you define this intervention?
- b) What made you decide to use this intervention?
- c) Where did you learn this intervention?
- d) For video modeling: Do you use your own equipment?
- e) For social stories: Do you use packaged programs or make your own?
- f) For peer mediation: How do you choose peers? How do you train peers?

4. Do you use any other social skills interventions? (If yes, ask questions about implementation; and ask, Have you ever heard aboutname any of the 3 interventions they didn't use)
5. What do you see as challenges using any of the interventions you use with students with ASD?
6. Explain how you decide students are successful with (name intervention).
 - a) What data do you collect to show this success? (prompt can include: What does it look like?)
 - b) With whom do you share the data?
 - c) How do you use the data collected?
7. What kind of training do you have for teaching social skills) (Prompt includes: Ask specifically about the intervention they said used; about Autism certificate if they said they have, or other programs for students with ASD)
8. What other support or training would you like or need to receive to use these interventions more effectively?
9. Is there any other information that you want to share about the ways in which you teach social skills?

Rationale for Study

Social skills are essential for the success of students with ASD, both in school and in society. Deficits in social skills are one of the primary characteristics of students with ASD and are an impairment regardless of the intellectual or language ability of persons with ASD (Carter, Davis, Klin, & Volkmar, 2005). Having skills to communicate well

and engage socially with peers, adults and co-workers allowed individuals with ASD to perform better academically, interact with peers and adults in typically acceptable ways, improve the quality of interpersonal relationships, and promote their ability to work and live independently (Cook et al., 2008; Wang & Spillane, 2009).

Research studies and articles examined through meta-analyses included the use of numerous interventions focusing on teaching social skills to students with ASD.

However, many of the interventions used in the studies did not meet criteria of best practices, let alone evidence-based interventions (Bellini, Peters, Benner, & Hopf, 2007). Bellini et al. (2007) found in their meta-analysis that many of the studies for students with ASD focused on the remediation of challenging student behaviors rather than teaching social skills. Two of the only interventions identified as promising practices for teaching social skills to students with ASD were PMI and SS (Bellini et al., 2007). The only intervention identified as evidence-based for teaching social skills to students with ASD was VM (Banda & Grimmer, 2008; Bellini et al., 2007; Bene et al., 2014; Bozkurt & Vuran, 2014; Chang & Locke, 2016; Kokina & Kern, 2010; McConnell, 2008; Test et al., 2011; Wang et al., 2011; Zhang & Wheeler, 2011). However, despite the large amount of evidence provided in the research, not all special education teachers are using one of these three practices and many have had minimal training in teaching social skills directly to students with ASD (Hess, Morrier, Heflin, & Ivey, 2008; Morrier et al., 2011).

Since the legislative dictum was that teachers should receive and use practices based within research to improve and provide quality education for students, it is essential teacher educators know how special education teachers describe their experiences and needs in teaching social skills to students with ASD. Congress through

IDEA 2004 (cited in U.S. Department of Education, 2011), stated that the education of children with disabilities can be made more effective if all school personnel who work with children with disabilities receive

high quality, intensive...professional development and training to ensure that they have...the skills and knowledge necessary to improve the academic achievement and functional performance of children with disabilities, including the use of scientifically based instructional practices, to the maximum extent possible.

(Overview, para. 1)

Future research suggestions focused on various areas of teacher perceptions concerning teaching social skills to students with ASD. Included were investigating how teachers thought they should teach social skills (e.g., directly or integrate them into other curricular skills), what they thought about the interventions they used to teach social skills, what they thought about using evidence-based interventions to teach social skills, what they saw as challenges for using the interventions, and what kinds of training and support they thought they needed in order to use evidence-based interventions (Alexander et al., 2015; Morrier et al., 2011; Reichow & Volkmar, 2010; Wolfberg, 2003).

Specifically, what teachers thought about the implementation of the two promising practices (PMI and SS) and one evidence-based intervention (VM) have been suggested for future investigation (Banda & Grimmer, 2008; Mason, et al., 2016; McConnell, 2008).

Since evidence-based interventions for teaching social skills for students with ASD require a deeper understanding of effective use, it was useful to ask teachers in the field who were regularly using these interventions to share their experiences . This study

aimed to address the gap in the research by asking special educators to share their experiences and perceptions about using these interventions in their practice.

Significance of the Study

While there is a solid body of research into the efficacy and outcomes associated with specific interventions designed to teach social skills to students with ASD, far less is known about the experiences and perceptions of special educators tasked with providing social skills instruction. Understanding the experiences of special educators who teach social skills to their students with ASD could offer researchers insight into the challenges these teachers face in selecting and implementing social skills curricula and interventions. Through interviews, researchers could draw out information not observed directly (Wellington & Szczerbinski, 2007). Using interviews, investigators could learn about specific values, preconceptions, and practices teachers might have about teaching social skills, creating an effective collection of detailed information about participants' perceptions (Merriam, 2009; Patton, 2002). Thus, exploring teacher perceptions could provide a better understanding of reasons teachers selected specific interventions as well as their needs for ongoing training and support that allowed them to provide high-quality education for students with ASD. Additionally, the results of this study might provide teacher preparation programs with guidance on the need for training, equipment, support, and approaches when using these interventions to teach social skills to their students with ASD.

Researcher Stance

This researcher is from Saudi Arabia. Currently, in Saudi Arabia, there is a widespread lack of awareness and understanding about ASD and how evidence-based

interventions could be used to teach students with ASD. While using research-based educational practices is the preferred approach in the United States, this is an alien cultural approach in a country where religion guides educational practices and educational policy is determined by decree rather than by research. Thus, this researcher's experience with evidence-based practices in teaching social skills for students with ASD was limited; however, through my studies in the United States, this researcher became deeply interested in learning about promising practices and how teachers implemented these in their classrooms. This researcher expected to find the participants were using a range of different interventions and they similarly would have met a number of different challenges in using these because students with ASD are very heterogeneous group of individuals with different support needs.

Definition of Terms

Autism spectrum disorder. Defined by the Individuals with Disabilities Education Act, it is “a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three that adversely affects a child’s educational performance” (Autism, 2017, para. 1). Included in the federal definition were common characteristics associated with ASD, which included “engaging in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences” (Autism, 2017, para. 1).

Individuals with Disabilities Education Act. A federal law that required schools to serve the educational needs of eligible students with disabilities (U.S. Department of Education, 2011).

Peer mediation. A process by which students who have been trained in mediation skills and processes mediate the conflicts of other students in a way that is beneficial to both parties (Strawhun, Parnell, Peterson, & Palmon, 2014).

Social skills. Skills students need to learn through interaction in order to take part in their own education and succeed in school. Social skills included those skills that lead to interaction including appropriate communication and appropriate self-control of behavior (Cartledge & Milburn, 1978).

Social story. A story that describes a situation, skill, or concept in terms of relevant social cues, perspectives, and common responses in a specifically defined style and format (Gray, 2004).

Video modeling. A video using peers or adults who model appropriate social skills and behaviors, which is watched by a student with ASD. A video self-modeling is a video of the student with ASD performing tasks and using appropriate behaviors in specific situations. (Bellini & Akullian, 2007).

Summary

This chapter reviewed data about students with autism (ASD) who face challenges with learning social skills. Research has indicated the use of evidence-based interventions such as social stories (SS), video modeling (VM), or peer mediation could be effective in teaching social skills. Research has also demonstrated that special education teachers need to be prepared to use these interventions. There was also a brief description of the researcher's personal stance. The purpose of this study was to explore special education teachers' perceptions of how they had been prepared and how they used

social stories, video modeling, and/or peer mediation to teach social skills to students with ASD. This chapter included definitions of terms used within this study.

Organization of the Research

Following this introductory chapter is Chapter II, which provides a thorough review of the literature regarding the needs students with ASD have for social communication and social skills, three interventions to teach social skills identified as promising and evidence-based, and the need for specific teacher preparation in the area of social skills for students with ASD. Chapter III explains in detail the methodology and procedures utilized for the research. Chapter IV explores the data that were collected. Teacher's stories are told in their own voices to explore how they were trained to teach social skills and how they perceived using one of more of the three targeted interventions: SS, VM, or PM. Chapter V discusses the results and offers suggestions for future research.

CHAPTER II

REVIEW OF THE LITERATURE

In the following chapter, literature related to autism spectrum disorder (ASD) is presented, starting with a brief overview of the prevalence and characteristics of ASD among children in the United States. Literature related to the development of social skills among students with ASD is then reviewed. Included in the literature review is a description of social learning theory as a basis for framing one approach to how students with ASD could be promoted to face the challenge of learning social. This is followed by a presentation of literature regarding social skills interventions for individuals with ASD and the necessity for teacher preparation, specifically in the area of these interventions.

Autism Spectrum Disorder

Autism is defined in the Individuals with Disabilities Education Act of 2004 (as cited in U.S. Department of Education, 2011) as “a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three, that adversely affects a child's educational performance” (Overview, para. 2). The CDE (2019a) defined autism in the following way:

A child with an Autism Spectrum Disorder (ASD) is a child with a developmental disability significantly affecting verbal and non-verbal social communication and social interaction, generally evidenced by the age of three. Other characteristics often associated with ASD are engagement in repetitive activities and stereotyped movements, resistance

to environmental changes or changes in daily routines, and unusual responses to sensory experiences. (para. 1)

The CDE definition expanded upon the IDEA (U.S. Department of Education, 2011) definition of autism by including several of the key characteristics of autism, illustrating how this disability adversely affects learning.

Over the last 10 years, there have been changes in the way students with ASD have been identified. Changes in how students have been identified have the capability to add to the probability of early diagnosis and interventions. Autism spectrum disorder interferes with three basic areas of functioning in individuals: social interaction, communication, and behavior (Boudreau & Harvey, 2013). Other common characteristics include resistance to changes in daily routines, heightened sensitivity to sensory input, and stereotypical and repetitive behaviors. Challenges faced by students with ASD could also vary widely so a single intervention cannot meet the needs of all students with ASD (Simpson et al., 2005).

Prevalence and Characteristics of Autism Spectrum Disorder

Since 2000, the incidence of autism in the United States has been increasing. In 2000, the CDC (2018) found 1 in 150 children met the criteria for ASD. Between 2000 and 2012, the prevalence of ASD increased by nearly 120%. A 2018 report by the CDC estimated 1 in 59 children was identified with ASD. Among children in the United States, autism as a developmental disability has increased the most. There is also a clear difference between the prevalence of autism between genders. More than four times as many boys as girls were identified with ASD: 1 in 42 boys versus only 1 in 189 girls (CDC, 2018).

A 2015 study found an “estimated prevalence of ASD based on 2014 data was 2.24%, a significant increase from the estimated annualized prevalence of 1.25% based on 2011–2013 data” (Zablotsky, Black, Maenner, Schieve, & Blumberg, 2015, p. 1). The study questioned if some children who had previously been diagnosed as developmentally disabled (DD) were now being diagnosed as having autism, which pointed out that when definitions change, there may be changes in the numbers of cases diagnosed or “diagnostic substitution” (Zablotsky et al., 2015, p. 1). This is one reason it can be difficult to measure prevalence over time. Even if the numbers of students with ASD are not completely accurate, the increase in the number of students with ASD can be associated with an increase in the number of legal actions introduced by parents (Alexander et al., 2015). This is especially important since IDEA 2004 (U.S. Department of Education, 2011) required teachers use evidence-based practices for students with disabilities. Alexander et al. (2015) concluded school districts needed to do a better job training teachers on evidence-based practices and teachers also needed to know how to identify the characteristics of ASD and which interventions worked in a variety of settings.

Children with ASD often demonstrate deficits in social communication, verbal and nonverbal communication, and social interaction. Restricted or repetitive patterns of behavior are also typical. Many children with ASD have unusual responses to sensory input. They experience difficulty communicating with others, with socializing and understanding the intent or emotions of others, and with controlling their own behaviors. They frequently have difficulties following even minimal directions given by teachers and peers in an educational setting (Boudreau & Harvey, 2013; Radley et al., 2014). In

the following section, challenges with social communication skills, social interactions, and repetitive patterns of behavior are discussed in more detail.

Children with ASD who have characteristics that indicate a deficit in social interactions with their peers might often spend too much time alone and are unable to develop age-appropriate peer relationships. Play can be an important tool in peer-mediated interventions because play offers a good opportunity to learn many social roles. When students with ASD have an opportunity to play with their peers, it is a different experience than if an adult initiated play activities. Wolfberg (2003) designed a model for children who miss out on the experiences of playing with others called the integrated play groups (IPG) model. This model allows a trained adult to help with guided play in appropriate peer groups. An important part of the model is to teach peers in the group to be more accepting and to include children who relate and play in different ways. Wolfberg created a guidebook for IPG as a way of translating theory into effective and meaningful practice and as a guide for educators to build peer playgroups. This initiated an effective method of peer-mediated intervention.

Social Skills Deficits

Challenges in Social Communication Skills

A social communication disorder is one of the defining characteristics of ASD. Children with ASD often demonstrate delays in language development when they are young and ongoing challenges with both verbal and non-verbal communication as they grow older (Charman & Stone, 2008; Radley et al., 2014). These communication challenges range from a low desire to communicate socially with others to an inability to begin or carry on a conversation with others. When communication is indirect or has

multiple dimensions, meanings might be missed by children with ASD. Most children with ASD understand at a literal level and find it difficult to understand and process abstract concepts (Engbrecht, 2013; Kemp, 2015).

A study by Stone, Ousley, Yoder, Hogan, and Hepburn (1997) focused on nonverbal communication skills and investigated 14 children with ASD compared with 14 children with other forms of language impairment including developmental disability. Nonverbal communication relies on the ability to use complex behaviors to communicate with others such as pointing at objects, showing objects, or looking at specific objects. As Stone et al. described, these complex skills are usually developed early in a child's life. If children are unable to develop these skills, they are not able to communicate their own needs. They also have trouble understanding what others are trying to communicate.

Stone et al. (1997) found children with autism engaged in complex communication behaviors less frequently than children in the control group; they were less likely to point at objects, show objects, or make eye contact. In general, current research indicated that children with autism were less likely to use these nonverbal skills to communicate with others and were less likely to understand when others used these same skills (Kemp, 2015; Stone et al., 1997). Stone et al. also found children with autism were more likely to look at video clips rather than other people. The earlier these types of communication deficits are recognized the earlier parents and educators can develop and use appropriate interventions such as video modeling.

Communication skill deficits are usually recognized by parents early in their child's development (Radley et al., 2014). The age of first concern is important in diagnosing ASD and understanding what forms of intervention might work best. Mathis

and Trujillo (2016) conducted an analysis of over 1,200 children between the ages of 13 to 39 months who had been screened for ASD. Using two standardized screening methods, the results indicated the average age of first concern was just under 14 months (Mathis & Trujillo, 2016). The importance of this was in allowing parents and early childhood education professionals a way to predict when to begin using interventions specifically for communication skills deficits.

Challenges in Social Interaction— Social Skills

Social interactions are an important part of communication all children need to learn so they can take an active part in social settings such as school and play (Bellini et al., 2007). Children with ASD display difficulty learning how to respond during social interactions including nonverbal behaviors, peer relationships, and social-emotional reciprocity (Kemp, 2015). As Bellini et al. (2007) mentioned, challenges in learning social skills through social interaction could lead to limited opportunities and problems communicating and interacting with peers, especially in a school setting. Students with ASD who cannot read nonverbal cues from others are not able to use nonverbal cues to communicate. As a result, there is no real back and forth in communication (reciprocity) (Kemp, 2015).

Two-way communication is necessary for complex social situations that rely on being able to read nonverbal cues and understand what the other person is thinking (Kemp, 2015). Unless children with ASD learn how to take part in social interactions using appropriate social skills, they risk having continuing problems throughout their lives. As Stone et al. (1997) found, students with ASD are more willing to watch videos;

thus, using video modeling is one way to help students improve their communication and social interaction skills.

Challenges in Repetitive Patterns of Behavior

A major characteristic of ASD is the pattern of repetitive behavior (APA, 2013). One longitudinal study compared one hundred ninety 12 to 24-month-old children at high risk of autism with behaviors of 60 control group toddlers who were considered low risk (Wolff et al., 2014). Findings from the study revealed children as young as 12 months who demonstrated a variety of repetitive behaviors either developed or were later diagnosed with ASD. The same study revealed a correlation between repetitive behaviors and challenges in social skills (Wolff et al., 2014). Repetitive behaviors included being highly focused on specific subjects, repeated hand motions such as finger snapping or hand flapping, ritualized patterns, and repetitive questioning. These behaviors could be seen as disruptive behaviors in classroom settings.

Issues Related to Social Skills Difficulties Among Students with Autism Spectrum Disorder

According to Cotugno (2009), social skills can be defined as skills that facilitate communication and interaction with others. This definition includes the ability to communicate verbally and non-verbally with others. In order for students with disabilities, including ASD, to learn social skills, they need teachers who are knowledgeable about disabilities, communication strategies, and behavior management as well as competent to administer assessments and deliver appropriate instruction based on the needs of individual students. They also need structured opportunities to learn and practice their newly learned social skills.

Children who exhibit poor social skills are at high risk of problems throughout their lives. Difficulties could include the inability to express appropriate behavior or feelings in normal situations; difficulty adjusting in school, at work, or in social settings; and trouble building and maintaining appropriate interpersonal relationships with peers (Cook et al., 2008). When children and youth do not learn to adjust and improve social skills, long-term effects could include depression, social withdrawal, and other severe emotional issues. There is even the possibility that young people with social skills deficits are more likely to enter the juvenile justice system (Cook et al., 2008).

Social skills deficits are included in most descriptions of the characteristics of ASD (Wang & Spillane, 2009). Difficulties in social skills acquisition could interfere with all areas of life, even in students with high intellectual or language skills (Wang & Spillane, 2009). However, research clearly showed that when students are provided with effective interventions, their social skills improve while disruptive behavior decreases (Cotugno, 2009; Kasari & Patterson, 2012; Litras, Moore, & Anderson, 2010). Improved social skills allow individuals with ASD the opportunity to do better academically, improve their interpersonal relationships, respond appropriately, and even live more independently (Cook et al., 2008; Wang & Spillane, 2009).

Matson, Matson, and Rivet (2007) defined social skills “as interpersonal responses with specific operational definitions that allow the child to adapt to the environment through verbal and nonverbal communication” (p. 683). This definition implied communication skills are essential to developing social skills. The basis for social skills is the ability to communicate verbally and non-verbally with others. In order for students with disabilities, including ASD, to learn social skills, they need teachers

who are knowledgeable about disabilities, communication strategies, and behavior management as well as competent to provide assessment and appropriate instruction based on the needs of individual students. Unfortunately, despite research supporting social skills interventions, many general education teachers do not feel they are either responsible for or capable of teaching these skills. Understanding learning theories that explain how students learn could help teachers feel more competent about teaching skills. Social learning theory addresses teaching social skills (Cartledge & Milburn, 1978). Observational learning theory is a major part of social learning theory and is important to understanding how students learn by viewing others.

Learning Theory

Although educational institutions include teaching academic skills and social behaviors, they have historically been evaluated with less emphasis upon formal social skill instruction than academic achievement. The development of certain prerequisite social skills might be crucial to academic instruction (Cartledge & Milburn, 1978; Cook et al., 2008). It was thought learning social skills were essential for students to maintain accepted behaviors in general education academic classrooms (Cartledge & Milburn, 1978).

Some students with ASD appear to be socially skilled from birth, while others have other difficulties including social acknowledgment and implementation. Some children make friends effortlessly, while others struggle to get along in school environments. Many children with ASD have learned to control their emotions and reactions; others become furious rapidly and out of control (Radley et al., 2014). In the last decade, counselors and psychologists have increasingly become aware that social

skills must be taught. Not only is the movement to integrate the systematic teaching of social skills into the daily curriculum important for the elimination of such outbursts but it is also essential to the support of future employability. A theoretical framework providing an evidence-based foundation for teaching social skills came from the work of Albert Bandura in the 1970s. Bandura (1977) laid the groundwork for many proponents of teaching social skills in the schools with his social learning theory (SLT) and observational learning theory (OLT).

Social Learning Theory

Albert Bandura formulated SLT in 1977 based on concepts from his previous training in behaviorist learning theory and operant conditioning. Bandura added two concepts of social learning—observational learning and mediational processes through modeling. According to Ritter (2012), there are four distinct forms of modeling including how to connect behavior to theory: (a) implicit modeling, (b) explicit modeling, (c) explicit modeling and facilitating the translation to student teachers' practices, and (d) connecting exemplary behavior with theory. The most important of these forms is helping pre-service teachers understand how theory connects to and informs teaching behavior. Ritter discussed the need for pre-service teachers to connect learning theory to their understanding of how and why behaviors are modeled and learned. The connection between theory and application is often overlooked because people learn from watching others. Ritter suggested many pre-service teachers should revert to the way they were taught by their teachers. Children learn in the same way by observing the behavior of people around them, particularly their parents and siblings (Charlop-Christy, Le, & Freeman, 2000). Social learning theory helps explain how and

why modeling can be used to teach specific lessons such as social behavior. Bandura's (1977) SLT suggested modeling uses roles to introduce learning but learners get only symbolism and representations of the behavior being modeled rather than understanding what would cause the need for such behavior. Social learning is a process that allows the learner to at least have some idea of what should be done how and when before performing an action.

Bandura (1977) explained that theories must be able to predict behavior as well as explain the causes of behavior. Behaviorist learning theory has been used to explain how external influences shape behaviors. Although behaviorism is an important theory to understand, there is more to learning than simply external influence. Social learning includes being able to use self-regulation with behavioral modeling. In other words, SLT states both internal cognitive factors and external modeling factors are part of the learning process—we learn by observing and from experience. Modeling is one form of reinforcing learning (Ritter, 2012). Reinforcement is a necessary component in the social learning process. Reinforcement can be learned either as a consequence of an action or it can be predicted by observing what happens to others.

Bandura (1977) discussed the importance of the functions of reinforcement in learning. He said learning happens when experience or cognitive understanding are reinforced by either a positive or negative consequence. A simple example would be that there are two ways to know what will happen if a person touches a hot stove. If he/she is told that touching something hot will hurt, he/she might be able to predict what will happen if he/she touches any hot surface and therefore chooses not to touch a hot stove. He/she might also decide to find out for him/herself and touch the hot surface of the

stove, which would hurt and would reinforce what he/she had been told. If he/she could also see someone else touch a hot surface and experience pain, he/she would be less likely to try to touch a hot stove to discover for him/herself if it would hurt. Bandura (1986) discussed SLT by explaining that there are cognitive, motivational, affective, and selection processes humans go through to learn. The lesson of the hot stove demonstrates these four specific processes.

Observational Learning Theory

Observational learning theory (OLT) stems from the precepts of SLT (Bellini & Akullian, 2007). The three basic models of observational learning are as follows:

1. A live model, which involves an actual individual demonstrating or acting out the modeled behavior.
2. A verbal instructional model, which involves descriptions and explanations of the modeled behavior.
3. A symbolic model, which involves real or fictional characters displaying modeled behaviors in books, films, television programs, or online media.

Observational learning theory does not necessarily require watching another person engaging in an activity. Hearing verbal instructions, such as listening to a podcast, could lead to learning. We can also learn by reading, hearing, or watching the actions of characters in books and films. A symbolic model is conceptual. It becomes an internal model the student constructs based on feedback of proper responses to an intervention. The student constructs cognitive codes that have meaning. As the student responds correctly based on the internal coding of the symbolic model, the student might even

create new meaning, which reduces memory load and allows for easier recall (Carroll & Bandura, 1982).

Children who observe behaviors performed by others with a specific behavioral skill set often imitate those skills even if they have had no experience with specific behavioral skills. They can then learn to perform these skills in different settings. As observational theory explains, attention and motivation are essential. Learners will pay attention more to models that seem to be like them in some way and the models need to appear capable (Whalen & Schreibman, 2003).

Self-efficacy is an essential part of observational theory. According to Bellini and Akullian (2007), self-efficacy is gained when efforts are supported and when learners see their successes, which is how video modeling works. Learners are given videos to watch and then are expected to mimic the behavior they see in the video. Video modeling is one application of observational theory.

Observational learning theory includes perception taking, which is how learners understand how to understand their behaviors and the behaviors of others based on the understanding that their beliefs might be different than what is happening. By learning to understand the perceptions of others, learners have a better opportunity of learning why it is important to take turns and to share. This form of perception taking can teach empathy with others (LeBlanc et al., 2003). Individuals do not automatically observe the behavior of a model and imitate it. There is some thought before imitation and this consideration is called a mediational process (Othman, Suhaimi, Yusof, Yusof, & Mohamad, 2012). Mediational processes occur between observing the behavior (stimulus) and imitating it or not (response). Four mediational processes were proposed by Bandura (1977):

1. Attention: The extent to which we are exposed/notice the behavior. For a behavior to be imitated, it has to gain attention. We observe many behaviors on a daily basis and many of these are not noteworthy. Attention is, therefore, extremely important in whether behavior has the influence to get students to imitate it.
2. Retention: How well the behavior is remembered. The behavior might be noticed but it is not always remembered, which prevents imitation. It is important, therefore, that a memory of the behavior be performed later by the observer. Much of social learning is not immediate so this process is especially vital in those cases. Even if the behavior is reproduced shortly after seeing it, there needs to be a memory to reference.
3. Reproduction: This is the ability to perform the behavior the model just demonstrated. So much behavior is observed on a daily basis that we would like to be able to imitate but this not always possible. Physical ability limits us; for that reason, even if we wish to reproduce the behavior, we often may not be able to do so. These abilities influence our decisions as whether or not we try to imitate it. An example might be an elderly woman who struggles to walk and is watching *Dancing with the Stars*. She might appreciate that the skill is a desirable one but she will not attempt to imitate it because she physically cannot do it.
4. Motivation: The will to perform the behavior. The observer will consider the rewards and punishment that follow a behavior. If the perceived rewards outweigh the perceived costs (if there are any), then the behavior will be

more likely to be imitated by the observer. If the vicarious reinforcement is not seen to be important enough to the observer, then he/she will not imitate the behavior.

In summary, four specific parts help with the process of observational learning: attention, retention, production, and motivation (Corbett, 2003). As mentioned above, learners need to be able to pay attention to the modeling to observe the skills they are trying to learn. The learner needs to be able to retain the skills that are modeled. Observational theory explains that retention is due to the dual coding process of both verbal and visual memory processing (Clark & Paivio, 1991). Retention also implies the learner processes the modeled behavior by watching, thinking about the behavior or cognitive rehearsal, and by actually acting out the behavior. Production occurs when the learner correctly imitates the behavior. The motivation to learn is provided by external reinforcement of the skills the learner practices and reproduces (Corbett, 2003). Theories of modeled behavior explain how interventions work when modeling is applied.

Bandura (1977) realized information was processed using cognitive processes to produce thoughts about how the relationship between behavior and consequence occurred (Corbett, 2003). Observational learning could not occur unless cognitive processes were at work. These mental factors mediate (i.e., intervene) in the learning process to determine whether a new response is acquired (Corbett, 2003). Children with disabilities have some cognitive control over their behavior and the experiences they encounter in the social world creates reactions and meaning behind the reproduction of social behavior (Clark & Paivio, 1991). The cognitive processes Bandura recognized caused him to modify SLT and in 1986, he changed the name to social cognitive theory (SCT) as a

better description of how humans learn from social experiences. These theories are applied to various current interventions for children with ASD.

Social Skills Interventions for Children with Autism Spectrum Disorder

Numerous interventions for students with ASD address fundamental developmental challenges, which have shown promise in areas such as functional behavior and cognitive ability. The most common approach to social skills intervention has been modeled on the applied behavior analysis approach, which uses interventions that model expected social skills and provides reinforcement. Although applied behavior analysis has been successfully used to address behavior disorders among these students, social skills interventions have not shown the same clear effects on students' social interactions. While this approach has resulted in positive outcomes, the long-term effect and generalization of skills across settings have generally been less than could be expected (Kasari & Patterson, 2012; Matson et al., 2007). Kasari and Patterson (2012) stated, "Social impairment may be the most complex and impenetrable core challenge facing children with autism" (p. 713).

Early intervention is critical for children with ASD as it provides several benefits to students with social skills deficits. Effective early interventions are highly individualized and build on each child's strengths and needs to learn specific skills. Also, interventions that increase children's social skills often result in decreased frustration and, in turn, decrease challenging behaviors. Furthermore, early interventions provide parents and caregivers with information and resources so they too can address their child's challenges more effectively (Engbrecht, 2013). Families who receive early intervention services are encouraged to use successful interventions as often as possible,

especially for children with ASD. Early intervention in modeling social skills can also help children once they start school.

Researchers suggested that using social skills interventions early are promising to support shy children to be more outgoing, aggressive children to learn self-control, and children who tend to be social isolates learn how to make friends (Radley, Hanglein, & Arak, 2016; Ziv et al., 2014). In addition to the need to understand how to teach social skills, there is also the need to identify evidence-based best practices for teachers to use in the classroom to teach social skills (Laugeson et al., 2014). If teachers are to support children in learning these new social behaviors, they must learn and practice them in their preparation programs. If they do not receive this training in their programs, they must rely on workshops, conferences, or self-study to learn about what works in the classroom.

Current research concerning interventions indicates practices that have been found effective in teaching social skills to children and youth with ASD vary in design and scope. The majority of social skills intervention programs focus on social skills remediation and communication delays (Bellini et al., 2007). All these programs, in one way or another, have shown positive effects in enhancing independence in both social and communication skills when they are targeted for a specific skill level and cognitive ability. These components offer clinicians and school personnel specific and effective guidelines when selecting the most successful social skills training programs for students with ASD.

According to Ziv et al. (2014), no matter what method teachers use, they must use evidence-based programs. Before they introduce interventions, teachers need to

be aware of potentially inappropriate behaviors displayed by children with ASD.

There is variation in the behavioral and cognitive problems that interfere with social judgment and how these children function. Children with ASD often display problems with processing social cues and communicating with others (Ziv et al., 2014).

Inability to use socially appropriate communication skills is a major behavioral issue among children with ASD.

Students with ASD present unique challenges for educators in terms of both teacher training and the delivery of special education services. Teachers who work with students with ASD need to be familiar with a range of interventions so they are able to implement the best possible intervention for each student (Morrier et al., 2011).

It is important to understand how teachers are prepared to work with students with ASD and how they learn about available interventions.

Finding and using evidence-based social skills interventions could provide a higher chance of academic success for students with ASD (Schaeffer, Hamilton, & Johnson, 2016). For these reasons, research has focused on identifying and validating evidence-based interventions for social skills development among children with ASD (Radley et al., 2016; Wang & Spillane, 2009; Wong et al., 2015).

Evidence-Based Social Skills Interventions for Individuals with Autism Spectrum Disorder

Efforts to establish and validate evidence-based practices for teaching social skills to persons with ASD have yielded several critical reviews and meta-analyses. Bellini et al. (2007) completed a meta-analysis of 55 studies about social skills to determine the efficiency of school-based interventions targeted for children with ASD. The reason for the meta-analysis study was to determine if earlier studies that had shown how interventions were successful were accurate. According to Bellini et al., those earlier studies did not use a quantitative metric to measure success. These researchers included quantitative measures of a variety of variables. The three purposes of the Bellini et al. study included providing a quantitative analysis of single-subject research studies, reviewing the combined results of the studies, and completing a comparison of the effects of intervention and maintenance.

Each of the 55 studies Bellini et al. (2007) analyzed was through the use of 10 categories and each was coded by three individuals with an inter-rater agreement of 81%. The focus of the study was to determine discrete data points within each of the studies that had a baseline and a review of treatment stages to get quantitative data. The results of this meta-analysis showed no statistical significance in the effectiveness of any of the intervention strategies, which suggested social skills interventions introduced in the classroom were only slightly effective (Bellini et al., 2007).

Other studies have shown social skills interventions are successful (Banda & Grimmert, 2008; Delano, 2007; McConnell, 2008). McConnell (2008) conducted an empirical study of both social interaction and intervention methods. These studies showed successful interventions included the use of social stories, peer tutoring, joint

attention, and video modeling; all of these interventions relied on some form of modeling behavior. In support of these results, a later meta-analysis of 38 empirical studies indicated social stories, peer-mediated instruction, and video modeling met criteria for evidence-based practice but the only intervention that demonstrated adequate effectiveness was video modeling (Wang & Spillane, 2009).

According to Wong et al. (2015), teachers and educators might have difficulty searching through the many types of interventions made available and trying to find evidence-based practices that work well. Wong et al. assembled a team of experts who reviewed over 450 studies conducted between 1990 and 2011 of intervention practices designed for students with autism to determine the frequency with which intervention practices met criteria for evidence-based practice. For the purposes of review, evidence-based practices consisted of interventions that incorporated applied behavior analysis techniques (e.g., reinforcement, prompting), used assessment and analysis as the basis for intervention (e.g., functional behavior assessment, task analysis), and combined primarily behavioral practices in a systematic way in a replicable procedure (e.g., functional communication training).

Of the 456 studies that offered scientific evidence, 27 interventions met the criteria established for evidence-based practices (Wong et al., 2015). The results, which included studies that used video modeling, did not detail the effectiveness of the interventions, merely that the 27 practices included met the criteria for being considered evidence-based (Wong et al., 2015). Social skills interventions that met criteria for evidence-based practice included the following: functional communication training, modeling, peer-mediated instruction and intervention, social narrative, social skills

training, structured play group, and video modeling. One of the most common approaches to teaching social skills was using a form of modeling appropriate behavior. For this study, using social stories and video modeling approaches are reviewed in depth.

Peer Mediated Interventions

Peer mediated intervention is when the student with ASD receives social skills training from his or her peers (Kamps, Barbetta, Leonard, & Delquadri, 1994; Petursdottir, McComas, McMaster, & Horner, 2007). Peer mediation is more than typical students acting as role models or helping mentor academics for students with ASD. It is “a process in which students who have been trained in mediation skills and processes mediate the conflicts of other students in a way that is beneficial to both parties” (Strawhun et al., 2014, p. 1). There were meta-analyses on the effectiveness of using peer-mediated or peer-related interventions (Bene et al., 2014; Carter, Sisco, Chung, & Stanton-Chapman, 2010; Wang et al., 2011; Whalon, Conroy, Martinez, & Werch, 2015). One meta-analysis of 13 instructional arrangement studies was conducted with children with autism spectrum disorders to improve academic and social skills. Results across the studies indicated peer-mediated instructional arrangement is a robust method for teaching and improving various academic and other related communication and social skills (Bene et al., 2014). Several reasons might be possible for the success of this intervention. This method is based on peer modeling, praising, and providing feedback, which are fundamental principles of best practices in teaching and can increase skill acquisition in children with autism (Bene et al., 2014).

A more recent meta-analysis reviewed 37 studies that included 105 children with ASD (Whalon et al., 2015). All of the studies reviewed were single case experiments of

peer-related social skill interventions for children aged 3 to 12 done within school settings. The purpose of the meta-analysis was to determine what level of effectiveness had been found in the studies. One of the indicators for being included in the review was the fidelity of the experimental studies. Whalon et al. (2015) tested “the rigor of studies targeting individuals with ASD [and the] evidence it [peer related social skill intervention] is a reliable tool” (p. 1515). This kind of rigor is needed to understand if the intervention is effective and if it meets the criterion for being evidence-based. Six (16%) of the studies reviewed applied only peer-mediated interventions (Whalon et al., 2015, p. 1517). The majority of the studies concerned child-specific interventions that were adult-mediated, used social stories, video modeling, or a combination of these three forms. The results indicated “the reviewed interventions produced a moderate to strong effect, and quality ratings were generally in the acceptable to high range. Findings suggest that children with ASD can benefit from social skill interventions implemented with peers in school settings” (Whalon et al., 2015, p. 1514). A 2016 report (Chang & Locke) had a similar conclusion. Chang and Locke’s (2016) inclusion criteria were even more rigorous than those of Whalon et al. and they reviewed only six studies. The results of that review indicated PMI is a “promising practice” that helped students improve their social skills (Chang & Locke, 2016, p. 1).

Social learning theory, as explained by Bandura (1977), supports the effectiveness of peer-mediated instructional arrangements that involve the use of observational learning, imitation, or modeling. Specifically, the benefits of peer-mediated instructional arrangements and motivation in classrooms have been empirically demonstrated through several studies. Meta-analyses to date confirm Bandura’s conclusions.

Social Stories

Social stories play a significant part in teaching skills and behaviors to children with ASD who lack social skills (Bozkurt & Vuran, 2014). Social stories are another intervention designed to reduce social deficits of children with ASD (Sansosti, Powell-Smith, & Kincaid, 2004). The latest examinations of social stories used in research studies indicated the behaviors targeted included (a) general social aptitudes, (b) on-undertaking conduct, (c) suitable social and play practices, (d) social correspondence, (e) troublesome or tricky practices, and (f) wrong social practices. A social story describes a situation, skill, or concept in terms of relevant social cues, perspectives, and common responses in a specifically defined style and format (Gray, 2004).

The use of social stories is one intervention that has emerged as a very common practice for teaching social skills to individuals with ASD in school. Social stories are individualized brief tales that can be used to help persons with ASD in the interpretation and comprehension of confusing or challenging social circumstances (Sansosti et al., 2004). The objective of using social stories is to give a description of social situations in which a person might have a problem identifying a relevant social cue as well as comprehending the consequences of acting in specific ways (Ziv et al., 2014). This social skill intervention strategy offers information concerning what people in a given circumstance are thinking, feeling, or doing among other cues.

Sansosti et al. (2004) explained practices in creating and using social stories. The rationale for using social stories as an intervention was a social story intervention is based on the idea that children with ASD cannot read and comprehend social situations. Other challenges included the inability to see social situations from another person's

perceptions and to respond appropriately based on the social event. In other words, individuals with ASD exhibit significant difficulty in identifying beliefs, intentions, and behaviors of other people. Logically, social stories need to be created to target specific social and communication deficits so they can be used effectively. This step is essential before introducing an intervention (Sansosti et al., 2004).

According to Golzari, Hemati Alamdarloo, and Moradi (2015), the social stories procedure used as an intervention for children with ASD was invented by Carol Gray in 1998. In the Gray (2016) version of social stories and her later revisions of how to construct social stories, sentence structure, how the narrative was developed individually for the students to deal with social situations, and the sequence of use of the story were emphasized. Five types of sentences were needed to tell any story: descriptive, perceptions, directive, control, and affirmative (Golzari et al., 2015; Gray, 1998). One of the interventions presented by Gray and Garand (1993) to teach social skills for students with ASD how to understand social situations and identify appropriate social responses was a social story. Golzari et al. used the construction of social stories outlined by Gray to examine the issue of using social stories as an effective intervention for students with ASD in schools in Iran because no previous studies had been conducted in that specific country. Studying students in Iran limited the participants to only male students. For their study, 30 male students with ASD were chosen and randomly placed in either a control or experimental group. The authors used pretests and posttests of the social skills of both groups before applying the intervention.

For the intervention, the boys in the experimental group took part in 16 sessions in which social stories were used for social skills training (Golzari et al., 2015). The

control group did not receive any social skills training. Golzari et al. (2015) were testing hypotheses that social skills training using social stories would improve the social skills of male students with ASD in schools in Iran. An analysis of covariance (ANCOVA) was run to determine the changes in overall social skills in the experimental group. The results of the ANCOVA showed a statistically significant improvement in social skills in the experimental group compared to the control group. The covariance analyses testing of hypotheses showed a high level of improvement in every area for the experimental group, which indicated that using social stories helped learners understand how to perceive others' perceptions, how to initiate social interaction, and then how to maintain appropriate interactions (Golzari et al., 2015). The only area that did not show a significant effect was in the ability to assess how to respond to others. The study helped to validate the use of social stories as an effective intervention model for students with ASD. Video modeling interventions are similar to using social stories with the use of video technology.

Social learning theory suggests that when students see social behaviors modeled, either in person or through stories, they will replicate what they see and behave in the same way in their own environment. Bandura (1994) stated that individuals go through several cognitive processes when they observe a specific behavior and this contributes to the development of their own behaviors in similar situations. Bawazir and Jones (2017) argued that social learning theory, in particular—observational learning, is a useful lens through which to explain behavioral changes that occur in students who use social stories. They theorized it might be more important that students understand and

remember the social story rather than just read it repeatedly when the goal is to change student behavior.

Video Modeling

Video modeling has been defined as individualized video...and...may be accompanied by prompts (e.g., to attend to the video segment...), instructions (e.g., direct statements regarding the expected use of the depicted behavior), and/or reward systems, as appropriate, to facilitate learning. (Wilson, 2013, p. 106).

Different types of video modeling can be used as effective interventions: VM, video self-modeling (VSM), point-of-view modeling, and video prompting (LaCava, 2008; Wilson, 2013). Current research indicates using VM with students with ASD could help them to acquire the skills they need to develop appropriate behaviors that would improve social skills (Boudreau & Harvey, 2013).

Some research regarding VM (Alotaibi, 2017) indicated VM is not always used as a stand-alone intervention. It can be used with other interventions for individuals with ASD. There is a need to identify evidence-based practices for teachers to use VM in the classroom to teach social skills (Laugeson et al., 2014); this must be tested by further study. Other studies showed VM is evidence-based and demonstrated its effectiveness in teaching social skills (Banda & Grimmer, 2008; McConnell, 2008). Just a few teachers have been using it to teach social skills for students with ASD.

Video modeling is an intervention in which students watch short videos that demonstrate specific social skills in a variety of situations. The purpose of VM is to help students with ASD improve their social and communication skills (Delano, 2007; Gül,

2016; Maione & Mirenda, 2006). Using VM, students with ASD can acquire skills they need to develop appropriate behaviors that will help their social interaction and academic performance (Boudreau & Harvey, 2013).

According to Banda and Grimmer (2008), videos can be especially effective in modeling social skills, demonstrating appropriate behaviors, and teaching daily living skills. Their research suggested VM works for students with mental retardation as well as students with autism. Part of the intervention used by Banda and Grimmer was to create an activity schedule that showed daily routines in a specific order for the student to follow. One of the reasons this model is successful with students with autism is because students with autism generally are not able to process auditory information. Students with autism are also more likely to relate to objects rather than people. Daily routines and learning to relate to others are social skills necessary for successful functioning in the classroom.

Video modeling is a highly flexible approach that can be used as a stand-alone intervention to teach social skills or it can be combined with other interventions according to the individual needs of students. Kimball, Kinney, Taylor, and Stromer (2004) developed programs that could be used on computers in the classroom so students could practice these skills as part of their regular school day. In considering how to put these programs together, these researchers took into consideration that students with challenging behaviors, especially students with autism, did better when interventions were part of a regular schedule of activity. This particular activity schedule used PowerPoint® presentations with embedded videos. Results of this form of intervention

were positive. Participants in the study were able to improve their behaviors and maintain more regular schedules.

Video modeling can show students concrete examples of social and communication situations and provide explicit instruction in how to behave in these situations (Maione & Mirenda, 2006). It can be particularly effective when the video shows adults and peers who are familiar to the student (Maione & Mirenda, 2006). Video modeling offers students clear and specific examples of targeted behaviors and is often considered to be entertaining by students with ASD (Gül, 2016).

One major benefit of using VM has been a reduction in classroom disruptions. One of the reasons this model is successful for students with ASD is because they often are not able to process auditory information quickly. If this is difficult, they are more likely to relate to objects rather than people (Delano, 2007). In 2001, Corbett and Larson (cited in Corbett, 2003) conducted single-case studies concerning the benefits of using video modeling. The researchers tested if VM could “enhance receptive and expressive language skills, improve adaptive functioning, facilitate social responsiveness, and increase the duration and quality of play behavior” (cited Corbett, 2003, p. 369). The researchers had positive results in all areas studied, supporting the conclusion that VM is effective. One reason could be because of how visual processing works for many students with ASD.

Using video can be an advantage, especially for students with ASD who are visual thinkers (Buggey, 2007). Watching a video is much like watching television, which appeals to visual thinkers. Buggey (2007) also indicated that VM could be done with little disturbance to the regular school day using computer movie making software.

Because VM usually uses peers or siblings as models, children are more likely to pay attention and associate themselves with the model (Bellini & Akullian, 2007). This advantage is important as students watch others model behavior that is seen as competent and successful so the student watching the video is motivated to repeat that positive behavior.

Modeled behavior in videos can be used by many different students and for many different skills (Bellini & Akullian, 2007). It is not only new behaviors that can be taught. According to Charlop-Christy et al. (2000), students can learn how to maintain behaviors as well. Charlop-Christy et al. discussed other advantages for VM including allowing the teacher more control over the video process and what behavior is being modeled and that the video can be watched multiple times. This means the model does not need to be present each time the behavior is modeled as the video can be reused by other students and over time. Marcus and Wilder (2009) also referred to the advantages of VM because the video can be set up in natural settings and then can be shown at any time at school or at home. It is also less expensive than hiring a full-time therapist. An overall benefit of VM is students learn skills quicker than with other interventions and they maintain what they have learned for longer periods (Buggey, 2007; Charlop-Christy et al., 2000).

Video Self-Modeling

Video self-modeling (VSM) is a technology that has grown from the use of video modeling. Video modeling has been found to be effective for improving a variety of skills (Corbett, 2003; Delano, 2007; LeBlanc et al., 2003; Maione & Mirenda, 2006); thus, the next logical step in using video modeling is to use VSM to teach social skills to

students with ASD because the focus shifts away from a peer model to the student (Gelbar, Anderson, McCarthy, & Bugey, 2012). Video self-modeling methods include attributes similar to video modeling. Video modeling uses examples of positive behaviors and how to replace negative behaviors. Examples are acted out by peer models so the student sees someone who is like him/herself acting appropriately in particular situations. The important difference with VSM is the person in the video is no longer a peer model; it is the student him/herself.

To make a VSM, students are taped being prompted to replace negative behavior and following examples of positive behavior. Then, before the student watches the video of him/herself, all of the prompting and any errors on his/her part have been edited out so the video he/she sees is how he/she changes his/her own behavior. The video is an ideal model of what he/she has already demonstrated he/she can do. In this way, the VSM acts as a reinforcement of what the student has learned. This modeling leads to greater self-efficacy because the student knows he/she has done well on this step and the next step can be easier to accomplish (Bandura, 1977; Gelbar et al., 2012; Schaeffer et al., 2016).

Video self-modeling allows people to see themselves acting appropriately in various social situations. Individuals are acting as their own models, which encourages the individual to pay more attention to the video. This is the major difference between VM that uses models who are similar in age and gender performing appropriate behavior and VSM where the individual is the model and the focus of the video. The individual sees him/herself performing at a level that is not only desired but usually more advanced than an individual would usually experience in specific situations (Boudreau & Harvey, 2013).

This self-modeling intervention is a strengths-based model. The individual is able to see for him/herself that he/she can behave appropriately or acquire and perform specific skills that he/she might not have thought possible. In this way, VSM demonstrates its effectiveness as an intervention in reducing problem behaviors and increasing academic and social skills (Schaeffer et al., 2016). Other studies have also been conducted on the effectiveness of VSM (Alsalamah, 2017; Hitchcock, Dowrick, & Prater, 2003; Litras et al., 2010; Mason et al., 2016).

Alsalamah (2017) reviewed a number of meta-analyses that explored evidence on the effectiveness of using VSM. By reviewing the empirical evidence done in studies over time, the meta-analyses showed VSM is an evidence-based practice. Hitchcock et al. (2003) noted that over 200 studies using VSM had been conducted within a 30-year time span. Most of those studies had been done on individuals in tightly controlled situations to demonstrate functional control of targeted academic skills and behavior(s). Hitchcock et al. wanted to know more about the effectiveness of using VSM as an intervention in school-based settings, to determine if there was a difference, and if empirical evidence existed to maintain that VSM could be considered an evidence-based intervention that could be effectively used within schools.

Using specific criteria, including reviewing only studies done after 2001, Hitchcock et al. (2003) conducted a thorough review of the literature and were only able to find 18 studies that met the strict criteria. These 18 studies included 129 participants, ranging in age between 3 and 17, who were identified as either having a disability or being at risk, and were all studied within school settings. The results indicated that VSM used in classroom settings could effectively improve behavior and academic performance

(Hitchcock et al., 2003). The 18 studies reviewed each used VSM to teach speech naturalness (two studies), targeted improved classroom behavior (seven studies), language and verbal skills (three studies), and math skills (two studies). Four of the studies discussed issues of maintaining skills learned (Hitchcock et al., 2003).

A similar meta-analysis was conducted on the effectiveness of using VSM for preschool and elementary students (Mason et al., 2016). Mason et al. (2016) found 198 studies out of which 28 met selection criteria. However, only 14 studies met specific criteria for quality standards of empirical data. A total of 50 participants within the 14 single-case studies took part in empirical studies using the VSM method of intervention. The results of the meta-analysis demonstrated strong evidence of the effectiveness of VSM. The authors mentioned a gap in research when using VSM with older individuals, especially for improving independent living skills needed for transitioning from school to daily life. This lack of research indicated more research is needed to indicate if VSM is effective for older persons with autism (Mason et al., 2016). The majority of the studies in the meta-analyses conducted in the past decade continued to demonstrate that VSM is an effective evidence-based intervention that provides benefits for students with autism.

Results of studies indicated a variety of benefits from using VSM as an intervention method (Alsalamah, 2017; Litras et al., 2010; Mason et al., 2016; Schaeffer et al., 2016). Mason et al. (2016) suggested that in the long-term, the cost of VSM is less than other interventions. Video self-modeling has been used to improve reading comprehension and increase student performance (Alsalamah, 2017). Other research indicated VSM showed results for improving language and social skills, self-help skills such as general chores around the house and fixing meals, and also improved

verbalization and requesting help (Schaeffer et al., 2016). Litras et al. (2010) suggested VSM is more effective for teaching social skills than video modeling alone. There was also the idea that when a student sees him/herself behaving appropriately, it improves his/her perceived self-efficacy (Mason et al., 2016). Mason et al. (2016) found evidence that VSM is effective not only for students with autism but with many other cognitive and behavioral disorders as well as students from preschool through postsecondary settings.

Students with ASD do better when behavior is modeled by others who are similar in age, race, and gender, making VSM beneficial because the student becomes his/her own model performing appropriate behaviors (Buggey & Ogle, 2013). Other benefits similar to video modeling included this technology does not intrude on the student's school schedule and shows the student only in positive behaviors practicing what he/she has just learned. One major advantage was the Buggey and Ogle (2013) study supported the idea that there are positive results almost immediately. In this case, VSM might be a preferred intervention before trying other more intensive interventions.

According to Bandura (1994), self-efficacy is the belief that an individual has in his/her ability to perform a specific task. The level of self-efficacy is reflected in how they think, feel, and behave, and is related to how they motivate themselves when faced with a challenge. In students with disabilities, their self-efficacy skills can also affect how they develop their sense of self and interact with others.

A student with low self-efficacy might have the ability to perform a range of behaviors yet not believe they can do it or do it well enough. However, VSM offers students the opportunity to develop increased confidence in their own abilities simply because they are viewing themselves performing the skill or behavior. Bandura (1997)

claimed that viewing oneself completing a task enhanced the control one feels in performing the task. The higher the individual's belief in his/her success, the higher the rate of success. Thus, social learning theory, especially in the area of self-efficacy, can be key to understanding the effectiveness of VSM. Self-modeling allows students to see themselves being successful and thereby increases their self-efficacy.

Teacher Preparation

Morrier et al. (2011) conducted a study concerning the kind of training teachers of students with autism received. Of the participants in the study, few had received specific training for working with students with autism during their teacher preparation in the university. Some of the participants took part in online training, while the majority reported taking part in either one-half or one-day workshops. The results of the study demonstrated fewer than 5% “reported using best practices for students with ASD in their classrooms” (Morrier et al., 2011, p. 124). It is challenging to use best practices if teachers have not received training. However, in the Morrier et al. study, there was little statistical difference in teachers who used evidence-based practices and teachers who did not. The authors concluded much more research needed to be conducted before this issue could be further explained.

In another study, Busby et al. (2012) measured teachers' self-efficacy to determine the “impact on their ability to accept the challenges inherent in including children with autism in their classrooms” (p. 27). The purpose of the study was to provide working theory to assist in training teachers to be prepared to work with students with disabilities, especially students with autism. Participants in the study were students in graduate teaching courses at a local university and who were working as teachers. The

results of the study reinforced earlier studies that showed “the quality of teacher preparation programs is the most important factor influencing pre-service teachers’ motivation for teaching children with autism” (Busby et al., 2012, p. 33). How teachers perceive their training can also influence how they respond to the needs of students with ASD.

One review of the literature looked at teacher training using evidence-based practices (Alexander et al., 2015). An interesting part of this review was the authors found 23 studies to evaluate but only two of those studies met criteria established by the What Works Clearinghouse (WWC) for quality indicators for single-case or group-design standards. Alexander et al. (2015) discussed one of the problems of training teachers was there were so many articles and meta-analyses on all of the different forms of interventions for students with ASD that teachers were not sure what forms of interventions to use for what situations. Another issue reviewed was how many difficulties there were to using evidence-based interventions, e.g., school districts that did not have the resources to offer quality in-service training. Then, even if teachers did get some training, there was not much opportunity for follow-up training. Alexander et al. studied approaches used for in-service training, how the training was delivered, and changes in teacher behavior following training. The results indicated schools could improve effective educational goals for students with ASD by not only allowing in-service teachers to get training in using evidence-based practices (EBPs) but to support their efforts as much as possible. Alexander et al. stated, “Trainings that include coaching or performance feedback are more likely to lead to higher fidelity and adoption of EBPs than traditional workshops alone” (p. 22).

Teacher Perceptions

Rodríguez, Saldana, and Moreno (2012) explored teachers' attitudes and perceptions about teaching students with autism. Their research focused on teachers' attitudes as they related to working with students with autism and understanding what teachers needed to be successful. Rodríguez et al. found most studies used to understand teachers' perceptions were at least 20 to 40 years old, which indicated more recent studies were needed. The authors interviewed 69 special education teachers, the majority of whom worked in mainstream schools. Many of the teachers interviewed had five or less years of experience working with students with autism. The interviews were designed to find information about teachers' attitudes and what support they needed in their work. The results of the study showed most teachers had positive attitudes toward their expectations of how successful their students would be, how much influence they believed they had as teachers to influence student success, and that they would have positive relationships with the families were essential. Teachers perceived that for programs in mainstream schools to be successful, they needed more support.

If special education teachers do not get the social and administrative support they need, it could lead to higher rates of teacher burnout (Brunsting, Sreckovic, & Lane, 2014). Support was not the only variable included in the Brunsting et al. (2014) study. Other variables included "teacher experience, student disability, role conflict, and role ambiguity" (Brunsting et al., 2014, p. 681). Burnout affects teachers' perceptions of how effective they are when working with students with autism.

Understanding teacher perceptions about the reality of teaching students with ASD is an important part of the whole story. Teachers who do not perceive they are

trained to meet the challenges of teaching students with ASD might not be willing to take on those challenges (Busby et al., 2012). Because perceptions often dictate reality, knowing what those perceptions are can help researchers understand what motivates teachers to help them perceive themselves as effective. Attitudes toward working with students with ASD rely on how teachers perceive the adequacy of support, resources, and training (Rodríguez et al., 2012).

Perceptions of the effectiveness of training are so important that Busby et al. (2012) reported: “If teachers have superior training, preparation, and experiences, and are provided the tools to facilitate success, they will begin to feel more confident in their abilities to teach children with autism and other disabilities” (p. 34). Knowing about teachers’ perceptions could help plan effective training for future special education teachers of students with ASD.

Summary

Autism spectrum disorder is defined as a developmental disability that significantly affects both verbal and non-verbal communication skills as well as social interaction skills of children. Although ASD can be diagnosed at any age, children with ASD are often identified by the age of three. In addition to social communication and interaction skills, other common characteristics of ASD include engaging in stereotypical and repetitive activities, unusual reactions to sensory experiences, and resistance to changes in daily routines. Without interventions, this disability has the potential to significantly and adversely affect the educational performance of children who are diagnosed with ASD; developing strong social skills is a prominent challenge for these individuals. Improved social skills help individuals with ASD academically and socially,

contributing to appropriate behavior and successful independent living (Cook et al., 2008; Wang & Spillane, 2009).

Research indicated social skills interventions for individuals with ASD could effectively improve communication and social interaction skills critical for positive short- and long-term outcomes for these individuals. Furthermore, most social skills interventions that meet the criteria for evidence-based practice and effectiveness use modeling behavior (Wong et al., 2015). Given the importance of social skill interventions, special education teachers need specific training with regard to identifying social skills issues among students with ASD and providing appropriate evidence-based social skills interventions (Morrier et al., 2011). This qualitative study investigated how special education teachers in Colorado decided to use specific interventions of either social stories or video modeling to teach social skills to students with ASD. The study also examined what data teachers collected to determine the effectiveness of the intervention as well as what types of support and training teachers received before they used these interventions. Chapter III describes the methodology used in this study.

CHAPTER III

METHODOLOGY

The purpose of this study was to explore the perceptions of special education teachers regarding teaching social skills for K-5 students with ASD; specifically, to see how teachers viewed the effective use of two promising practices (i.e., peer-mediated interventions and social stories) and one evidence-based intervention (i.e., video modeling). Few qualitative studies have shown how teachers chose interventions to teach social skills for students with ASD (Reichow & Volkmar, 2010; Wolfberg, 2003). Qualitative research reviewed had a gap between understanding teachers' perceptions for how they had been teaching social skills and how they had been prepared to teach social skills to students with ASD (Busby et al., 2012; Morrier et al., 2011). This qualitative study used the approach of phenomenology in an attempt to use the lived experiences of teachers to explain the phenomenon of teaching social skills for students with ASD (Merriam, 2002). Through one-on-one interviews, this researcher used responses from teachers who shared similar teaching experiences until saturation of information was met regarding teacher perspectives of teaching social skills to students with ASD.

Research Design

Qualitative research is most appropriate for exploring the lived experiences of individuals of a specific phenomenon (event, activity, process, etc.) in substantial detail. Qualitative studies in the social sciences have been interested in how humans construct their perceptions and assign meaning to their experiences. Data collected for qualitative

research provide rich information that might not be as evident as in quantitative studies that use numerical data summaries to describe general relationships and trends among variables. A key characteristic of qualitative research is it looks deeply into the perceptions of individual participants and uses inductive logic to interpret meanings from the data collected from those individuals. Qualitative research has also been an effective way to investigate possible new issues or key variables within an already researched phenomenon (Creswell, 2013; Merriam, 2009; Merriam & Tisdell, 2015). In this study, new issues arose beyond the current literature review findings regarding special education teachers' perceptions about using evidence-based interventions to teach social skills for students with ASD.

This research study used one-on-one interviews to investigate teacher perceptions about their use of best practices interventions for teaching social skills for individuals with ASD. An interpretive qualitative approach was chosen to understand how individuals interpreted the reality of their situations (Merriam, 2002). Using this approach provided an opportunity to investigate a specific phenomenon in depth within an authentic context. In this case, the phenomenon being explored was teachers' perceptions of using best practices or evidence-based interventions to provide specific social skills instruction.

Prior to beginning the research, the researcher received approval from the University of Northern Colorado's Institutional Review Board (IRB; see Appendix A). This process included an explanation of the purpose of the research as well as how participants were selected, how the researcher intended to provide confidentiality, and how data were handled and analyzed. A minimal risk statement for participants taking

part in the research was addressed. Once the IRB approved the research, the researcher began the participant selection process.

The following primary research question guided this study:

Q1 How do elementary special education teachers describe their experience when using peer-mediated interventions, social stories, and/or video modeling to address social skills with students identified with ASD?

In this chapter, the following topics for the research are presented: (a) research design, (b) participant selection, (c) data collection process, (d) data analysis process, (e) trustworthiness, and (f) ethical considerations. Figure 1 depicts the five-phase process that was followed to complete the study.

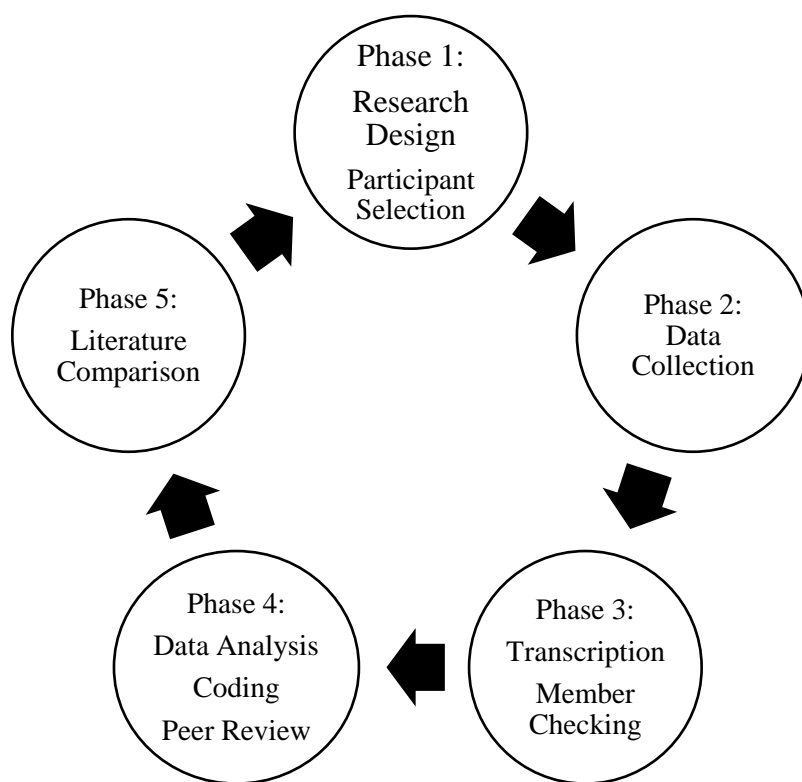


Figure 1. Five phases in the methodology used in this study.

Participant Selection

The qualitative research process used began with identifying participants who met selection criteria. Purposeful sampling has been used when researchers select participants who are most likely to provide the most valuable data concerning the research questions (Merriam, 2009). Purposeful sampling allowed this researcher to select information-rich cases for in-depth study that provided substantial data about the issue central to the research (Merriam, 2009; Patton, 2002). In this study, the purposeful sampling parameters were defined by the selection criteria. For individual interviews, it was necessary to use purposeful sampling as the selection of each participant because they needed to meet the necessary criteria that helped inform the research. The criteria was that each participant was a licensed special education teacher in Colorado, taught students identified with ASD who were in K-5 grades, and used one or both of the two promising practices (i.e., peer-mediated interventions and social stories) and/or one evidence-based intervention (i.e., video modeling) to teach social skills for students with ASD.

The search for participants began within the three largest school districts in Colorado including Denver Public Schools, Jefferson County School District (R-1), and Douglas County School District (RE-1) because there was a good chance of finding enough qualified participants from those districts. During the 2017-2018 school year, 14,901 teachers were working in public schools in the three largest school districts in Colorado (CDE, 2019b). The Bureau of Labor Statistics (n.d.) estimated 1,570 special education teachers were working in K-5 education in the Denver-Aurora-Lakewood, Colorado metropolitan districts at the end of the school year in 2017. Within Colorado,

just over 10% of students were children with disabilities and 5.4% of all students with disabilities age 6-21 were children with ASD (Kast, 2017).

To initiate Phase 1 of the study, the researcher sent email requests to the Special Education Directors of the three largest school districts asking the directors to send an email invitation to all special education teachers in their districts (see Appendix B). The invitation sent to the directors included a Qualtrics survey link. Teachers completed questions on the Qualtrics survey to ensure they qualified. If they qualified, they moved on to the next part of the Qualtrics survey that included a consent form for participation (see Appendix C). The survey section also included demographic questions for each participant and the described opportunity to receive a gift card worth \$15.00 if they were chosen for an interview (see Appendix D). By clicking on the link to the Qualtrics survey and completing the consent, criteria questions, and demographic information, participants agreed they met the criteria and were willing to be contacted by the researcher with instructions about the interview process.

The first three questions of the Qualtrics survey determined if the respondents met the criteria necessary to take part in the study. They qualified if they answered in the affirmative that they were licensed special education teachers in Colorado, were teachers of students identified with ASD in K-5 grades, and they had used one or both of the two promising practices (i.e., peer-mediated interventions and social stories) and/or one evidence-based intervention (i.e., video modeling) to teach social skills for students with ASD. If the response to any one of these questions was no, the respondent read a statement thanking them for their answers as they were not qualified for participation in

the study. Once the teachers responded to the information, their contact information was maintained on a list. The list was checked to make sure there were no duplicate names.

If all three answers were positive, the respondent was directed to the demographic section of the Qualtrics survey where data were collected prior to the individual interview meeting. Teachers were asked about the number of years of teaching experience in special education, years of experience teaching students with ASD, age range, gender, and school district (see Appendix D).

If not enough participants qualified from the volunteer pool, participants from alternate districts would have been solicited. With nine participants, it was possible to get saturation of information (Merriam, 2009) but if saturation had not been met, there were still others who qualified that the researcher could have asked to participate. The researcher identified nine teachers from those who completed the Qualtrics that were qualified and were able to be interviewed in a timely manner.

The final section of the Qualtrics survey asked for contact information so the researcher could set up a date and time for the interview and an explanation of the online interview method using Zoom. Once the dates and times for interviews were set, the interview process began, which completed Phase 1 of the study.

Data Collection

Interview Procedures

To initiate Phase 2 for this study, the researcher chose an online interview method using Zoom. This method was easier for the participants and the researcher because they did not need to travel to actively participate in the interview. Participants only needed to

click on an invitation link or use a dial-in number. The online interview method chosen included a recording feature.

Interview Opening

Questions used in the semi-structured interview were intended to produce as much information as possible from each participant in an effort to answer the following research question:

- Q1 How do special education teachers describe their experience when teaching social skills to students with ASD using promising and evidence-based practices?

At the beginning of each interview, the participant was asked to confirm they were licensed to teach special education in Colorado, they had experience teaching K-5 students who had been identified as students with ASD, and they had used one or both of the two promising practices (i.e., peer-mediated interventions and social stories), and/or one evidence-based intervention (i.e., video modeling) to teach social skills for students with ASD. Participants were informed their participation was voluntary and they could stop and withdraw at any time. They were assured that if they chose to withdraw from the study, their decision would not result in any punitive reactions or actions nor damage to them. They were informed the interview was being recorded and reconfirmed their permission to do so, the interview would take approximately 20 to 30 minutes to complete, and they would be given a copy of the transcript for their approval. The interview questions are found in Appendix E. Each interview ended by thanking the participant for their time, asked if they would be willing to participate in a follow-up interview if necessary, and that a copy of the transcript would be sent to them for confirmation of what they said during the interview. A professional transcription service

was used so as to assist in obtaining a complete and accurate transcription of all interviews. This process concluded Phase 3 of the study.

Data Analysis

Interview dates and times were set up with the original participants. Data analysis, Phase 4 of the study, began as soon as the first interview was completed. The researcher set up an Excel spreadsheet for each interview. Participants were given a pseudonym and each participant was referred to by that pseudonym from that point on. The spreadsheet was used to input responses, code interpretations, and researcher notes.

The interviews were transcribed by Transcription Star, an online transcription service that offered interview transcription services. Benefits of using this service included confidentiality and a way to keep the data secure. Data collection continued while the researcher instituted the analysis process. Keeping clear field notes on each interview as it happened was necessary to avoid confusion and to make sure every participant completed an interview. The researcher's notes from each interview, including the researcher's impressions, and the procedures followed became a permanent record of the procedure and referred to as an audit trail (Merriam, 2009) or analytic memos (Saldaña, 2013).

As each interview transcript was received, it was recorded to match the interview number. A copy of the transcript was sent to the participant as a form of member checking. Member checking signaled the interview was completed and was an important component in establishing validity for the study (Merriam, 2009). It allowed the participant an opportunity to verify his or her responses were reflected accurately in the final results. Of the nine original transcripts emailed to the participants, only three

participants responded. The three who responded did not make any changes to the transcriptions.

As soon as the member checking was completed, the researcher began reading the transcripts. The researcher read each transcript multiple times and began forming interpretations of the data from each interview. With each reading, notes or analytic memos (Saldaña, 2013) were taken until categories begin to emerge. These notes were kept in an Excel spreadsheet. By reading the transcripts thoroughly multiple times, the researcher was able to reflect on the participants' stories or narratives. These participant narratives led to an inductive development of categories (Saldaña, 2013).

Coding

Coding interview responses was done in two stages (Saldaña, 2013). The first stage was a review of what participants actually said during the interviews. The notes recorded specific words and phrases that emerged from participants' responses. This descriptive coding method (Saldaña, 2013) then led the researcher to begin interpreting meaning from the participants' words. It became apparent during the first coding that information regarding the definitions held by the participants of the three interventions needed to be clarified. Follow-up interviews were completed and according to the definitions provided, further follow-up questions regarding social stories were used (see Appendix F). The decision to use a deeper follow-up focused on social stories was because this intervention was the only one that appeared to be used by the participants in a way that somewhat aligned with the definition of social stories found in the literature (Gray, 2004).

As Saldaña (2013) pointed out, it was important at this stage to make sure the interpretations were based on the topic of the participants' responses. The first reading of the transcripts was the beginning of the analysis. The researcher kept a list of the words and categories that emerged repeatedly. The perceptions and categories from parts of the interview were compared with other parts of the interview and the perceptions and categories from each interview were compared to other interviews. Data were analyzed using this constant comparative method (Merriam, 2009) and the categories that emerged in the notes began to lead to the essence of the teachers' experiences, which were shaped from the collected data.

For the peer review, the researcher worked with a faculty member who held a doctorate in special education. The researcher and the reviewer separately analyzed the data to identify codes and emerging categories. First, she conducted a review of data redacted from all the transcripts to confirm these data were not relevant to the analysis and reached a 99% agreement with the researcher. In addition, she examined one complete transcript to determine if she agreed with the researcher's coding. After reviewing 956 lines of text in this transcript with 107 dialogic units about the interview questions and 132 dialogic units about the conceptual codes, she was in 82% agreement about the interview questions and 89% agreement about the conceptual codes. The discussion over the shared categories and how each had emerged was completed between the researcher and the peer reviewer. Each discussed the reasons why how these categories were decided upon as well as those on which they did not have initial agreement. Once agreement was reached, possible themes were discussed. Saldaña (2013) suggested agreement should range at 80% or 90% agreement to satisfy the need

for credibility and dependability in data analysis. The peer review component completed Phase 4 of the study.

Trustworthiness

Qualitative studies are unique because they require a different form of establishing reliability and validity (Morrow, 2005). This qualitative study did not include an experiment designed to show causality. According to Merriam and Tisdell (2015), the best way to establish the trustworthiness of a study is to follow practices that support four critical areas: credibility, transferability, dependability, and confirmability.

Credibility. To support the credibility of this study, the researcher used well-established qualitative research methods. Member checking was also included in the data analysis process to add to the credibility of the analysis (Stake, 1995). For example, if a participant noticed in his/her transcript that there was a factual error, the participant would have been able to correct this error before the data were analyzed. This process added to the believability of the study. The researcher made special efforts to establish a safe and positive environment for participants to encourage high levels of engagement and honesty.

Transferability. One way to support transferability was to provide details about the study that allowed other researchers to replicate the study in similar situations but in different times and places interviewing different participants. These details would also allow others to establish whether the study might transfer to another situation. Providing rich, thick descriptions in the research report supported the transferability of this study (Merriam, 2009). One way to establish whether a study could be replicated was to maintain an audit trail (Morrow, 2005). An audit trail includes all the steps taken within

a particular study so another researcher can follow and then replicate the study accurately.

Dependability. In qualitative research, dependability refers to determining if the results of the data are consistent with the data that were collected (Merriam & Tisdell, 2015). The researcher maintained an audit trail that included procedures, notes, and how themes emerged. An audit trail was also helpful in maintaining dependability (Morrow, 2005). The researcher also ensured adequate engagement in the data collection to ensure saturation of the data (Merriam, 2009).

Confirmability. Confirmability demonstrates whether the results of the study can be confirmed by others (Merriam & Tisdell, 2015). Usually, this is done through member checking and peer review as explained when participants are able to read the transcripts and some of the researcher's first impressions to check if there are any substantive errors. Once the transcripts had been reviewed, coding was used to identify themes and categories. Themes that emerged were analyzed for content that answered the research question. Using peer review was another form of confirmability.

Ethical Considerations

Ethical considerations for this study included aspects related to confidentiality, informed consent, interview processes, and researcher integrity. Although the data were not shared with the researcher anonymously, only the researcher knew the identities and specific identifying information about the participants. Those interviewed were never asked to name themselves or place of employment when sharing contextual information or during the interview. Participants chose to censor, or not censor, themselves during the interview. All participants received the consent for research (see Appendix C) and

were specifically informed that completing the contextual survey and scheduling an interview was an agreement to participate. Participants were also informed they were volunteers and could discontinue participation at any time during the study without repercussions. Prior to consent, the purpose and intent of the study were clearly described along with the methods to be used as approved by the University of Northern Colorado's IRB.

Researcher Bias

The researcher completed a critical reflection about assumptions, personal viewpoints, theoretical orientation, and potential biases that could have affected the interpretation of the raw data (Merriam, 2009; Merriam & Tisdell, 2015). For example, the researcher's assumptions about effective social skills interventions or beliefs regarding ASD could have influenced how responses were coded or categorized. The researcher strove to maintain objectivity relative to potential biases and included related reflections in the final research report. Differences in primary language might have added to the researcher's perception of what participants were expressing. The language difference made the peer review process essential to support the elimination of the effects of possible bias.

Summary

In this chapter, this researcher discussed the research design and methodology used for this study. Open-ended, semi-structured questions were used to investigate teacher perspectives of their use of peer-mediated interventions, social stories, and video modeling as interventions to improve the social skills of students with ASD in Colorado. Well-established qualitative methods and structured thematic analysis were used to

organize and present the raw data to represent participants' perceptions as related to the research questions. The researcher took appropriate steps to ensure the consent, confidentiality, and well-being of the participants. Furthermore, member checks, a high level of engagement with the data, peer review, detail descriptions, and an audit trail supported the trustworthiness of the study.

CHAPTER IV

RESULTS

Introduction

The current study was guided by the following research question:

- Q1 How do elementary special education teachers describe their experience when using peer-mediated interventions, social stories, and/or video modeling to address social skills with students identified with ASD?

To explore this research question, nine interview questions were developed that included eight sub-questions. Using the methods described in Chapter III, nine teachers were identified and interviewed who indicated they used at least one of the interventions identified to teach social skills to students with ASD. After reviewing the interviews, it was determined two participants did not meet the criteria: one was not teaching and one had reported she used at least one of the interventions but revealed in the interview she did not use any of the interventions. Seven of the nine interviews met the criteria to be included in the current study.

The experiences of special education teachers regarding teaching social skills to K-5 students with ASD were explored—specifically, to see how they perceived the use of two promising practices (i.e., peer-mediated interventions and social stories) and one evidence-based intervention (i.e., video modeling). This chapter provides a review of the findings synthesized from the data collected during the interviews of special education teachers selected using the criteria described in Chapter III. The interview questions are found in Appendix E. The chapter begins with reporting the demographic information of

the participants, followed by the description by each teacher of their teaching experiences.

Participants

Using a Qualtrics survey (see Appendix D), participants were solicited and then purposely selected using criteria set forth in Chapter III. Of the 25 teachers who responded to the Qualtrics survey, nine special education teachers were available to be interviewed within the time available. Once the interviews, it became evident only seven of the nine met the following criteria to participate: they were licensed special education teachers in Colorado, taught students identified with ASD who were in K-5 grades, and used one or both of the two promising practices (i.e., peer-mediated interventions and social stories) and/or the one evidence-based intervention (i.e., video modeling) to teach social skills for students with ASD.

Table 1 describes the demographic information collected for the seven participants from the Qualtrics survey and the interviews. The researcher knew the real names of the participants but the names reported were pseudonyms to ensure participant anonymity and confidentiality.

Table 1

Participant Demographics

First Name (Pseudonym)	Sex	Race Ethnicity	Certification or License	# of Years Teaching	Case load # of Students	Currently, Teach Elementary School
Ann	F	Caucasian	Special Education Teacher Professional license – MA	6	4-6	Yes
Beth	F	Caucasian	Special Education Teacher Professional license – MA	More than 8	6-10	Yes
Cathy	F	Caucasian	Special Education Teacher Initial license – BA	More than 8	7-10	Yes
Delores	F	Caucasian	Special Education Teacher Professional license - MA	4	4-6	Yes
Fran	F	Caucasian	Special Education Teacher Professional license – MA	More than 8	More than 10	Yes
Nancy	F	Asian/Pacific Islander	Special Education Teacher Initial license – BA	1	7-10	Yes
Paula	F	Caucasian	Special Education Teacher Initial license – BA	More than 8	7-10	Yes

As explained in Chapter III, each participant confirmed she met the criteria of using at least one of the identified interventions before being interviewed. Table 2 displays which of the three interventions the teachers reported they used.

Table 2

Interventions Used by Teachers

Intervention	Teachers
Social Stories	Ann, Beth, Cathy, Delores, Fran, Nancy, Paula
Video Modeling	Ann, Beth, Cathy, Nancy
Peer Mediation	Ann, Cathy, Delores, Fran, Nancy

Interview and Data Analysis

Interviews of the seven special education teachers were completed using Zoom video meetings. Interview questions can be found in Appendix E. The interviews were video/audio recorded and then transcribed by the Transcription Star online transcription service.

Initial coding was done by creating an Excel spreadsheet of words and phrases that emerged. In the beginning of the coding, any word or phrase that was repeated either within each interview or among interviews was noted. As coding continued, the transcripts were read and reread. Each reading was initially done by the researcher (see Table 3).

Table 3

Example of First Categories

Question	Ann	Beth	Cathy	Delores	Fran	Nancy	Paula	Category
1. How do you make the decision about what social skills you work on first?	How frequently we're seeing a problem; which social skills; which are the most intense	Students with significant needs- -most are nonverbal. Assessment and IEP objectives	What kind of adaptive skills are needed first; assessments.	IEP goals; assessment done by the school psychologist	Observe what they need; assess the first week; a basic skills checklist	What skills they need most to get in general education; assess with zones of regulation	Based on whatever behavior is happening in the classroom,	Individual needs;
							Reported by the teacher, some formal assessments from IEP	Assessment Collaboration IEP
2. Tell me about how you teach social skills to students with ASD	Research based curriculum; in social skills group - targeted social skills objectives	Introduce pictures [that] match everything around my room. Like wash your hands [establish routines]	Modeling and video; practicing in individually getting it out there after you practice. We coordinate with schools	It depends on [child]; prefer being able to explain what the skill is, show them in person, how to do it	I use natural environment	Computer modeling; booklets and lessons that I find; VM	Different ways modeling on the playground, in a group. or through a book. VM. Individually. Can be in a classroom or in my office.	Individual needs How SS taught

As the categories were reviewed, it was noted there was no consensus on how the three specific interventions—social stories, VM, and PM—were being defined. At that time, a category of undefined interventions was included and a follow up interview was done with each of the respondents, asking about definitions (see Appendix F).

A more in-depth category review led the researcher to note subthemes that emerged. The first round of subthemes included deciding to teach social skills using assessments, training for teaching social skills and using interventions, individual needs and individualizing interventions, time challenges, resources and technology, defining student success, and collaborating with others. From the responses to follow-up questions, concepts of intervention and sources of intervention were added as subthemes. After further analyses and discussions with the peer reviewer, the following themes were determined: (a) sources used to establish student need for social skills, (b) factors contributing to the best use of interventions to develop social skills, (c) methods of approaching the use of social skills interventions, (d) methods of displaying interventions for social skills, and (e) barriers to using social skill interventions for students with autism.

Table 4 summarizes the core themes that emerged through composite descriptions as told by the teachers interviewed. The core themes each had sub-themes that demonstrated how the themes emerged from the interviews. When taken all together, this demonstrated how the teachers shared experiences to create the essence of teaching social skills to students with ASD.

Table 4

Summary of Core Themes Emerging from Descriptive Data

Core Theme	Sub-Themes
Sources used to establish student need for social skills	<ul style="list-style-type: none"> • Deciding to teach social skills • Using assessments • IEP goals—Individual needs • To help define student success
Factors contributing to the best use of interventions to develop social skills	<ul style="list-style-type: none"> • Deciding to use interventions • Formal—university, conferences, training • Informal—online searches, mentoring • Training and Support • Collaborating
Methods of approaching the use of social skills interventions	<ul style="list-style-type: none"> • Social stories • Video • Using peers • Collaborating
Methods of displaying interventions for social skills	<ul style="list-style-type: none"> • Using Social stories—Individualizing • Using Videos <ul style="list-style-type: none"> ○ Resources and technology • Other interventions • Data of student success
Barriers to using social skill interventions for students with autism	<ul style="list-style-type: none"> • Time challenges • Learning about what’s needed

After reviewing the teachers’ personal experiences with teaching social skills to students with ASD using at least one of the interventions (peer mediation, social stories, or video modeling), data analyses were performed. As the teachers’ stories demonstrated, descriptive data were collected through the interviews and the lived experiences were then contextualized to move from initial categories and subcategories to

similar themes across each story (Creswell, 2009). The themes that emerged are demonstrated within each of the teacher's described experiences.

Themes and Teacher Experiences

Cathy

Sources used to establish student need for social skills. Cathy described her experiences and perspectives on how to teach social skills to students with ASD based on the interview questions she was asked. Her response to how she made the decision about what social skills she would work on first was "that children come to me with an IEP from Child Find. The children I meet with are often non-verbal and impacted by autism, they lack basic life skills such as how to ask for a drink of water." The initial instructional level Cathy described was guided by visual prompts "around my room I have pictures, like by the drinking foundation, there's a picture of a kid drinking, and I just teach them. They all have water bottles and they're all on this bookshelf." Cathy introduced asking for a drink of water by using defined steps:

There are steps, by that sink, there's a picture of a kid drinking, and you could model taking it off the Velcro. Eventually, they're going to take it off the Velcro and give it to you. That's what I want them to do; advocate that they need a drink. But first, go over to the sink....redirect the behavior and say, oh, take it off and say, oh, you want a drink and then give them a drink.

In addition, there was formal assessment; Cathy said she "uses Creative Curriculum Gold for my three assessments throughout the year as well as their IEP

objectives” to determine the kinds of skills students need. In response to a follow-up question, Cathy explained,

We use stories for kids who have certain needs. We use the curriculum tracking for the state and if the students learn the skill we mark it on the form. If they don't we can mark Developing and keep working on it. This curriculum for the state measures what skills they should be using.

Then she related how she had taught skills needed for students to follow classroom expectations and interact with other students. Cathy said,

We have these classroom norms too. We have to follow the rule song we all sing. And then I have four classroom norms that I show on the screen, and I wear pictures of them around my neck and they're also around the room; safe hands, quiet voices, calm body and sit down.

She said she has taught students “communication [for] when they're freaking out. I also have a break area, and I taught them how to use the break area.” Students were learning how to interact with others. Cathy said, “Eventually they start learning that, oh, there's this person next to me and we can interact.”

Cathy explained how collecting data and sharing it was an important part of ongoing assessment: “I collect a lot of data. I take notes, mark off data charts, I write in their student journal that goes home with them, I use google forms to keep classroom notes every day or week, and I enter student data that goes to the state.” Cathy later said,

I do continual and ongoing assessments. I use this to change what I do in class, so it meets each student's needs. I also use the assessments to determine when it is time to change a student's IEP goals. I input data into Gold for formal

assessments, and I share information with the paras in the room. I make it simple, like "This kid played so well with second kid yesterday, maybe we should have him play with third kid today?" I also make it simple for the administrators, because they often do not have a special education background and don't understand what is going on in my classroom. They want to see kids sitting quietly looking at a book for 5 minutes because that is what is going to be required once they start kindergarten. But so many of my students don't do that yet.

Cathy was asked to define student success: "Students are successful when I see them communicating more independently." Later, she said, "When they point to a picture cue or take it and give it to me or even go over to the handwashing area when it is time to wash their hands. Success is when they use the picture cues independently."

Factors contributing to the best use of interventions to develop social skills.

Cathy became interested in teaching special education after teaching for several years and it was because of her university program that she decided to use specific interventions. She was able to collaborate with an "awesome speech language pathologist" who enhanced her learning. This was when she learned about the importance of using pictures to convey meaning, especially for non-verbal children:

I've been teaching for 18 years, and I started as a fourth-grade teacher. And then I got a master's in special-ed and linguistically diverse learners. And then I went right into special-ed. And I'd never been a special-ed teacher. I only know from what you learn in the university classroom. And I had an awesome speech

language pathologist. So the speech language pathologist introduced me to pictures to communicate and pictures, schedules. I learned about social stories in grad school.

The pictures are the awakening for these children who have no other way to communicate. That's fine if you're talking about a typical kid. But pictures and videos and watching the technology changed from when I first started teaching until now, it's just amazing. So that's why I keep doing it because it works.

Cathy saw her need for future knowledge in a couple areas: "I want training in how to communicate that we need these things for kids to those who don't understand. I need to learn that type of training [and] as technology increases, I like to know more of that." These trainings and supports might help Cathy with the challenges she experienced trying to do what she called teaching social skills using social stories, peer mediation, and video modeling.

Methods of approaching the use of social skills interventions. Cathy has used a variety of methods including setting goals for expressing the students' basic needs: "They have to tell me their basic needs if they want water if they want food." Cathy used pictures: "I have little pictures around my room." Students were put in groups, on chairs, and went to rug time "in my group time...I have these block chairs...set out and I play this song every single day, the cleanup song by the singing walrus, and then they all know it's time to clean up and then go to the rug time." Children learned to transfer skills to real life:

My rug time is all video, it's all on-screen, projected on a screen. And each thing that I do, like my goals for the week or objectives for the week, I find songs or videotape myself on Zoom, reading the book or singing the song, and I project it. So I have seen, while they are singing a song about washing your hands, and I play it every single day and then eventually, when they see it, they'll go to the sink or if you sing wash your hands.

In response to a follow-up question, Cathy said she defined social stories as mostly using pictures “because my students are not very verbal. They respond to pictures best. We try to give a story around the pictures like near the sink so the kids wash their hands by using the pictures.” In that same follow-up interview, Cathy defined video modeling as “using videos to show my students what they should do when they are faced with a social situation that they need to learn a new skill in.” In another response to the follow-up interview asking Cathy to define peer mediation as an intervention, she said, “I use peers to show the students what they should do. So peer mediation is like having typical peers model social skills for my students. It is very effective out on the playground.”

Methods of displaying interventions for social skills. Cathy indicated she has used social stories to teach social skills. In response to a follow-up questions, she said, “We use social stories to teach skills the students do not have. Like the way they wash their hands or a sequence like getting ready to leave school for home.” She gave two examples of making her own stories for what she referred to as using social stories. Her first and main point was how social stories are done with the student’s own picture. Pictures are an important part of this process of telling the social story:

Social stories, sometimes I do it with their pictures, like one little kid, he went to RAP, which is our before and after school program and so I had a story that said when the goodbye song plays, I get my backpack. It shows him with his backpack and then it says I go to RAP and I see Ms. Mary. I use real pictures for him. Sometimes if I have behavior kids, I'll have a social story with a superhero they like, telling them superman listens to his teacher.

I like to use the kids' picture, doing the stuff I want them to do when there. So, those [I] make myself, I'll have it typed up. And then I'll cut and paste the picture of the kid with their backpack on or whatever I'm working on. If it's a superhero, I just have the superhero there, but we use Board Maker. It's like a different cartoon type image. But that's [what] the district gave us.

In response to a follow-up question, Cathy explained,

We create all of the stories because we use the kid's real picture and then add pictures from board maker or images off the internet of someone they like, like a superhero or cartoon character they like. It is really important that we personalize the social story for each student. I usually just use one of two pictures as like cues or prompts for them to do a certain thing.

She explained the purpose for making social stories in another follow-up response:

The whole idea of creating a story is to get kids to do a task or use a skill so they make progress. I usually just have a picture that I use to prompt the kids to start doing something. It is like a clue, for something like start looking at the person talking. I have pictures that I have laminated on a lanyard that my paras and I

always wear. If one of our kids is having a problem with [asking] another student [for a] toy and I see it's going to be a problem, I show them a picture of asking. I also tell them a quick one line story about how Billy asked for the ball and got it.

Cathy discussed how she used videos for students to imitate a skill or decrease aggressive behaviors. The major point here was how much practice the student did using the video:

So, the videos, I just play on and do it with them. I play it on the big screen. I also do little ones. And, we played and played and played and played and then we practice, practice, practice. I have the pictures that follow whatever the video is.

Cathy addressed where she got the equipment and materials to use to create the videos and pictures she used in her stories. She was very adamant when asked if she used her own equipment that it should be up to the school to provide the equipment she has needed:

I used to use my own equipment when I first started teaching and then I said that is not okay, I should be supported with this stuff. I am actually at a Title I school, and I get a fancy computer every year. Right now, I have a MAC Air and next year I'm getting a touch screen MAC Air. I also have access to the color printer. I have P-card because in our program we get so much money we can spend, and I brought a little laminator for the pictures I use around the room and that I wear around my neck. Everything I get from my school. I find a way and I will not pay out of pocket. Teachers get paid so low they should not use their own money. I write grants.

When asked about peer mediation, Cathy described how her students with ASD and typical peers interacted:

I make sure they have play time with typical peers at the recess. Our first part of recess is with the ECSE classroom and the other one is ECE. So they play with both. And it's interesting. You'll see the kids who transition out of my program, first they aren't even aware that there's other kids on the playground. And then they'll go down slides with the kids. And then they play this chase game. They don't even know why they're playing it. But then eventually, something clicks, and those kids who become aware and play more [with] typical kids, actually that's time for them to move on.

Cathy described how she tried to explain to peers why they were needed to assist with some of her students. She said she saw that as educating the peers. Cathy also had collaborative help from other teachers in this effort.

It's hard to explain to a kid who's typical, that another kid who runs up to them and grabs their ball and that type of stuff that they don't understand. But then we just explain that everyone's learning and they say, okay, and then they just start doing it. So it's more educating the peers and [I] use that a lot. And all the teachers work with the two; everyone knows my kids.

Cathy mentioned using other interventions in addition to using social stories, using videos, and using peers:

I do timers. I have this timer that, it's like an app. ...it's like covered and red and then it gradually opens up to like a robot and then at the end or about, for transitions. I use a timer for sharing, like, you have two minutes and then it's this

person's turn. I just use videos, songs, pictures, everything I pretty much told you and I have all the pictures around the room for, when the kids are getting independent, I think that's all I do.

Barriers to using social skill interventions for students with autism. When asked about the challenges she has faced, Cathy first responded about technological challenges: “Those times when the Internet's down at the school and you can't get the technology going.” She also faced challenges with explaining to peers about interaction: “It's hard to explain to a kid who's typical, ...[if] another kid runs up to them and grabs their ball...but then we just explained that everyone's learning. ...it's more educating the peers.”

Ann

Sources used to establish student need for social skills. Ann's decisions about what social skills to work on first depended on the individuals. She also used autism specific assessments and checklists to determine individual needs:

It usually depends on how frequently we're seeing a problem which social skills we're seeing the most often and which are the most intense. And usually that intensity has something to do with some kind of a breakdown or a problem that's occurring between the student and other students are within their environment. If there is a social skills breakdown or a conflict between two or more students, we'll refer them back to the scale of using an “I” Message.

We have formal assessments that we use at the three-year reevaluation or an initial evaluation typically. We have the Vineland [for general assessment],

and for students with autism there are autism specific assessment and checklists that we can use to help guide social skills instruction.

During a follow-up interview, Ann explained further, “I use a checklist system for what skills students should learn according to the their IEPs. I use the checklist to report progress if the skills are listed for the IEP goals.” Ann noticed how students demonstrated successful achievement of social skills by observing behaviors. From a follow-up interview, she added, “If the student gets better using the skill, then I mark it off and use it on parent-teacher progress reports and for the IEP progress report.” She explained in detail how she used data to adjust to individual needs and the data were shared in collaboration with the student’s team as well as sharing information with the parents:

If they’re experiencing more success we’re hearing them verbalize more, use their words, use more appropriate ways like it’s the attention example verbal and nonverbal strategies to get peers attention. And we start to see just more happiest children because they’re enjoying the time that they have with their peers.

We share [data] during progress reports for the parents ... [and] with the team that I work with and that student’s team so that could include their classroom teacher, specials teachers, the paraprofessionals, speech therapist, OT just so that we can continue to be using the same language in developing that strategy until it’s more solid.

Factors contributing to the best use of interventions to develop social skills.

Ann said she used research to guide her decision to use these three interventions. She also emphasized the decisions were based on the needs of the individual, especially in deciding to use social stories:

Social stories are a powerful tool for students to be reminded of what's expected. It makes it natural learning because we all use reading and text and pictures and videos to learn, and not as teacher directed. It involves the students more. And it can be individualized with these different formats. Often there are so many nuances to social skills that it [means] the social story has to be individualized.

Ann taught social skills in a group setting with reinforcement teaching in real-time situations. This decision was also made in light of using a research-based curriculum at her school.

For some students, they've shown that there's a more intensive need for social skills instruction. They have a social skills group. And we use a research-based curriculum to teach those skills and then we follow through with generalizing or applying what we've learned in group in other settings. So, if in social skills group we've targeted one specific skill and then that issue comes up in one of the students' academic groups or out on the playground, then we refer them back to the social skills objective that we're currently working on in those like real time moments.

Methods of approaching the use of social skills interventions. Ann used a couple of examples of how she has used social stories she learned how to make while in graduate school:

For social stories it depends on the intensity and frequency of the behavior. I've had some students that have several social stories within one theme and will have a scheduled time of day that we review. So that the story is different, but the theme is similar. If we're working on getting another friend's attention, there'll be

a variety of stories about getting a friend's attention appropriately. And then we'll have a central time of day to work on that especially if we're moving into a time frame when that social skill has been shown to be a challenge.

She also collaborated with autism specialists in her current district and a previous school district. Ann explained she used video modeling and peer interaction as other methods for approaching the use of social skills intervention. Ann has used other “curriculums that we use that are more of the social thinking curriculums.” When asked where she got the training for social thinking curriculums, Ann said, she got a “little bit” of training from the district. For Ann, collaboration with an autism specialist at the district was valuable:

Our autism specialist kind of gave me an overview. I think way back she did do an actual training with us to talk about the research that went into the social thinking curriculum and what social thinking even really means. So, we did have like about a one-hour training.

Ann had mentioned earlier in the interview that she received some training at the university. She explained a bit about what training and support she still needed. She also had the experience of collaborating with an autism specialist:

Primarily we talked about it in grad school but that was more about like the research that supports using it. And then really, it's just on the job trial and practice what's worked and what hasn't worked. Our autism specialist sat down and shared with us about the ideas behind the social curriculum. I did go to the Zones of Regulation training.

In response to the follow-up interview, Ann explained her definition of a social story: “It is a very individualized story for a very specific skill, where you write about the student in a situation so they can do the skill themselves or be ready to do it.” Ann reported she “took a class in Autism at UNC and they taught us there how to write stories.” This is what she remembered learning about social stories:

They showed the kind of sentences we should write so students with Autism could use social stories to learn all kinds of tasks. I don’t always check to see if the stories have all them because we usually make them on the spot for a need we have to hurry up and deal with. We have most of the stories already made and we just adjust them for the particular student and their need at the moment.

In the follow-up interview, Ann explained what she considered the definitions for both video modeling and peer mediation:

Peer mediation is when we put students together to work out a conflict between two—it is usually in the spur of the moment. I have them use social skills during this time by prompting them and having students show them what to do. Then there is feedback from peers on how the student does. To use video modeling, you have to make a video of the student responding to the target behavior, whatever it is and show it to them every day so they do what is right on the video.

Methods of displaying interventions for social skills. Ann said she decided to use social stories as an intervention for a variety of reasons. She preferred to make her own social stories for individualization. Here again, Ann described social stories as using pictures along with text or even videos to make the story student directed:

Of course in grad school we learned about social stories. Once I started teaching, our autism specialists were there and encouraged me to use social stories and did some modeling for me on how to use them. And then because we're individualized with them it's pretty easy to get creative and try to make it more fun for everybody.

In response to when asked if she made her own social stories, Ann said she used online resources and a book for inspiration. She mentioned the challenges of making social stories:

I really make my own. I do have one book that has several social stories in it.

There [are] resources online as well. But more often than not if I find a resource it doesn't fit the situation perfectly and it needs to be individualized.

Ann explained about some of the equipment and apps she has used to make videos. She also emphasized the importance of making the video individualized and shareable. She mentioned the video is a social story about a student theme and that videos can be powerful:

[For] video modeling, I usually use the iPads. There [are] different apps. But I'll have a theme for the social story and we'll have them act out what I want them to include in the video. It might be a series of pictures that we put together and then they narrate them. It's usually them showing the strategy that we're targeting.

So, if it's sitting in my own space bubble, we'll go to different settings where staying in your own space bubble is important and take pictures or video and then go back and narrate it. What I find powerful about the videos is they're something that we can share, we can do this for social stories too but it's more

exciting to share a video with your parents and your classroom teacher and maybe with your peers if appropriate.

Ann was fortunate that the school district has provided “a wide variety of access to technology. We have a lot of iPads and Chrome books and computers so lots about.” She also said that “finding the time to sit down and create a video when there aren’t other distractions or other students who also want to be in the video, that can be a challenge.”

Ann said that using peers “has just kind of evolved naturally through wanting the students to have more feedback.” She also described one of the challenges she faced when there were misunderstandings:

I think sometimes the challenge can be when there are social misunderstandings between two students who are struggling with social skills when right now I have some students who are experiencing some conflict and both struggle with perspective taking. And so they’re having a hard time hearing how the other person is impacted by their actions and vice-a-versa.

Ann talked about choosing and training peers as random, on the spot, in the moment when a peer is needed: “It’s not very formal. Sometimes I’ll give them a head’s up [of how] we’re going to go talk to a friend or show a friend how to do this. And then we go.” Usually she asked peers to provide a form of friendship to demonstrate what friendship is supposed to be like:

It depends on the situation that some of those teachable moments. It’s random in that it’s the student who was impacted by that student’s choice, so the social skill problem that was created by whoever created that problem. The targeted individual gets chosen so that we can hear their experience and their words from

that experience. And if I'm going to practice social skills in my classroom or on the playground. I typically look for a peer model, someone who can be accommodating and patient and will give the students the wait time.

Barriers to using social skill interventions for students with autism. Ann shared some of the challenges she has faced in being able to use social skills interventions:

I think one of the challenges goes back to how individualized do they need to be. And so it can be hard to find but we need it quickly as we needed making sure that we have time to individualize a social story.

I think it would be nice to have a team and we check in and but again, it goes back to that like treasured resource of time, being able to check in with others and get feedback on social skills and what we can do to improve our practices.

Nancy

Sources used to establish student need for social skills. Nancy observed behavior to decide which social skills to work on first. She also collaborated with other teachers. She also used some formal assessments during evaluations but not to decide on which intervention to use:

Usually, the decisions are based on whatever behaviors are happening in the classroom, where they're having difficulties, [what has been] reported by the teacher or whoever is working with them. What we do is use some formal assessments when we're doing IEP evaluations, but we don't do formal assessments with figuring out which intervention to use.

Nancy was asked if the district had specific social skills interventions that they wanted her to use. She provided an example of collaboration with other teachers to decide what was working and how to monitor progress:

We do not have specific protocol. Typically, we talk amongst each other about what works, and that's typically how we figure it out besides just looking at the research, but that's usually done on your own time to try to kind of figure that out. But we do progress monitor, so I will do some baselines and I will progress monitor a specific skill that I'm working on to look at if the intervention is working or not. I just don't use the assessment to figure out which curriculum. I work with the whole special education team. I have a special education team that I work with here in the building. I do also have district-wide that we meet as mental health professionals district-wide.

Nancy discussed using data to help with targeting behaviors and to demonstrate success using progress monitoring:

We progress monitor the skills that we're looking for, so we take a baseline of what kind of behaviors were happening before and then we do the interventions and then we progress monitor whether they are putting those interventions into place, those strategies that we're teaching them and if that's decreasing the behavior that we're targeting.

Typically, it's pretty specific about what the behavior is. So, usually, it's pretty specific about a behavior, like right now I have a child with autism who is having a difficult time going out to recess. So I have a social story around recess, I have specific skills that we're working with, I have peers that I'm working with

him to go out to recess because he has difficulty with noise, he has difficulty with all of the kids, he has just difficulties with all of those pieces. So, I'm working specifically on going outside and being outside with the peers and helping him with the strategies that he needs to use outside.

Nancy then discussed how she shared student success data with parents and with the student as well as others. She collaborated with the student's teacher and used the data to decide next steps:

I talk with his parents about it. He also tracks with me. We talk about how long you stayed out [and] these were the things that you did. So he also tracks it with me and I do it with his teacher because his teacher is also trained to figure out that piece of it when he gets really anxious and overwhelmed.

So, at one point, I was saying, I looked at the data and I said let's step back on these two steps to see if this one step is really the step that's helping him. And then, we added another piece. So, sometimes we back up on the intervention and figure out which piece that's helping or sometimes we'll add something and just track when we add or subtract or do something different, but we do keep a consistent data on how long and what happened.

In response to a follow-up interview questions, Nancy said, "I collect data on all kinds of behaviors and keep track of it. I usually start over each month to see where they have made progress. The social stories usually help with all kinds of problem behaviors."

Factors contributing to the best use of interventions to develop social skills.

Nancy taught social skills in different ways at different times depending on situations and

real-time needs. She did mention using social stories based on Michelle Winner's research:

I do usually integrate [social stories] with other curriculums. Sometimes I'm just doing a social story, so I'm using a research about behind a social story and I'm making a social story. So I do have some curriculum that we use specifically. I use mostly—I'd use a lot of the Michelle Winner's 'Superflex'; it's basically a bunch of different social stories and it's based on Michelle Winner's research. And Superflex is the hero, a superhero and he's teaching students strategies to help defeat Unthinkables. And Unthinkables usually are particular behaviors that they are addressing.

Nancy discussed some of her education specifically in studying autism. She also mentioned how support for her was “a constant growing need”:

I do have some formalized education. I did go through a certification through Colorado University, and I did a whole summer learning about specific interventions, about specific symptoms.

I think constantly we need to look different interventions and needs because it's autism spectrum and it's a huge spectrum of kid's abilities and behavior and things that that they need. So, I think that we constantly really need to look at that. But in particular for myself, I think the lower cognitive non-verbal kids are the ones that I find—finding resources for those kids seems to be hardest for me.

Methods of approaching the use of social skills interventions. How Nancy approached using interventions for social skills varied. She briefly explained using social stories, video modeling, and peer interaction:

I do it in a whole a bunch of different ways. Sometimes I'm doing it with modeling out on a playground. Sometimes I'm doing it in a group. Sometimes I'm doing it through a book. There are times that I have done video modeling. Sometimes I'm doing it individually. Sometimes we do it in a classroom and sometimes it's in my office.

Nancy has used other forms of intervention available in the district. Nancy also explained, “There are sometimes that I will use Zones of Regulation (Kuypers, 2011), which is another curriculum that just talks about being able to kind of self-regulation your feelings and emotions.”

In a follow-up interview, Nancy explained how she defined social stories, peer mediation, and video modeling:

A social story is a story that teaches students to do certain skills through pictures and sentences that tell them what to do and act like. Peer mediation is when I integrate my kids with some general-ed kids mixed in. We have lots of role-modeling and a lot of showing how to do social behaviors. Peer mediation is done in a group. Video modeling is having students watch videos about different skills you want students to improve, then ask them questions about the video. Lastly as the video ends, students answer question about if they saw appropriate behavior.

Methods of displaying interventions for social skills. Nancy has used packaged social stories and she has made her own based on the cognitive ability of the individual student: “I sometimes use social stories that are already premade. It depends on the kid and their cognitive abilities and what's going on.” She looked at individual students to make decisions on how to use social stories. She discussed the importance of using pictures for comprehension: “Sometimes I do a very personal social story and so I'll use pictures from them and make it specific to them so that they are comprehending it about – it being about them.” At this point in the interview, a follow-up question was asked if she used a checklist for the child she was discussing:

I do use a checklist with him, but I also use a social story with him. So, every day, we read the social story, we have our checklist, we have the peers that go with him, we have—I structure his play during that time so he knows exactly kind of—what kind of things he's going to play. He usually chooses it but we structure it so that he kind of knows when the beginning and when the ending is and what we want to do in the play. And it tends to help him be able to regulate that time better.

In a second follow-up response, Nancy explained more about how she created and used social stories. Her concern about time was repeated here:

If we create social stories, we use pictures of the students, so it is real. I really want to personalize the stories, so on the ones that are premade I use a script of what we want the kids to do. Sometimes I use video so they can see the steps or to see themselves making eye-contact in the video. We usually use a checklist of what they are supposed to do. We spend a lot of time practicing the scripts and

from the video skills. Mostly, though we use ones that are premade, and it saves time.

We think if we are going to spend the time making the story that it should only have pictures or videos of the kids acting out the behavior we want them to do. They like to see themselves in videos, so sometimes it is just easier to take a video of them rather than a picture.

Nancy used video modeling to help with routines. She mostly used equipment available at the school:

So, typically with video modeling, it has to do a lot with routines, and kind of the routines that we're running and the expected and unexpected behaviors. So, we're videoing them having expected behaviors. Again, I will typically use them in the video so that they are making the connection if they're having trouble cognitively.

I'm able to use the equipment that's here at the school, like I can use the iPads here to do that or that kind of stuff. It kind of varies from school to school if you have kind of a budget to buy supplies specific for that curriculum. Just sometimes if I use my own equipment it's because it doesn't have the memory that I need on the school.

Nancy used some peers in group settings. She trained peers using scripts and she explained why she used peer mediation for some of the students in groups. In the interview, Nancy explained using peers for role-modeling social behaviors that was sometimes scripted and then practiced:

I have kids who are identified with autism and I have kids who are identified with having some difficulties with social skills because of impulsive behavior or some

other kind of disability. And so they're integrated in the group. And I also usually have some general-ed kids mixed in them. And so, typically, it's a lot of role-modeling and a lot of showing how to do the social behavior.

Typically we have a script and we go by the script of what we want them to do. And so we will talk about we are going to make eye-contact and we're going to say "hi" and you might shake their hand or this is how far the space you need to be in. And then we'll have kind of a checklist of things that they have to do, and we'll practice them together.

I wanted them to be able to read social cues around them. And so if I was able to use the peers around them, then we could practice how to use social cues and how to read social cues and just be able to go into a room and start being able to identify those kind of things. So, in a small group setting, we can do that where they can practice it and then we can practice it in a larger setting.

She usually chose peers she was familiar with and had had some interaction with. She collaborated with other teachers to know the peers chosen would do well. Nancy also discussed some of the challenges she found with peer mediation that included problems with communication between typical peers and non-verbal students:

I've typically had some interaction with them, so I know that they will do well in social situations. I know because I've observed them, because I've talked with their teachers, because I've been around them, I know their behaviors and that they would be able to show what I need them to show. So, typically, I'll pick a peer that's in their own classroom to help them.

Barriers to using social skill interventions for students with autism. Nancy discussed the issues of children who were non-verbal and were low cognitively as barriers or challenges to using social skill interventions:

What I think is the most challenging is kids that are more low-cognitively and getting those interventions for the non-verbal, low cog kids that [are] needed. ... we do have PECS, we may have other ways to communicate but it's more difficult to find materials developmentally appropriate and that can really help them make the connections that they need to make.

Responding to a follow-up question, Nancy explained more how students' abilities to think and understand could be barriers to creating stories that the individual needs of students:

The stories we create are for helping learn expected behaviors and how to show the right emotions in difficult situations. It depends on the kid, like if they need social skills taught to them at a very basic level, we use pictures of themselves. It really depends on their ability to think and understand.

Delores

Sources used to establish student need for social skills. Delores collaborated with a team to agree on which social skills to work on first. Delores did not do any of the formal behavioral assessment, which was done by the school psychologist. She said, "I was only allowed to assess on academic skills." She explained:

It depends on a lot of IEP goals. We've sat down as a team and said, "Hey, we think that these are the most important things to work on right now." And so I want to target those skills. Now, if something comes up, because, life changes for

kids all the time, and we might notice something else that needs to be addressed, maybe more immediately than we had thought. That's when we have another meeting as a team [and ask] "Hey, should we be addressing these skills instead?" But it's primarily about what we sat down and agreed needed to be worked on as an IEP team. So it's not just my decision, it was the whole group.

Delores had personal reasons for deciding to use interventions. She also referred to having done "a lot of collaboration with gen-ed and Disability Advocacy." She was forthcoming on how determined she has been: "I absolutely had an agenda with that in a way of boosting an overall positive outcome, both academically for my student on the skill that they were working on, but also on hopefully making a broader societal change." She mentioned the importance of advocacy:

There was a really important part for me about normalizing disability and giving, especially younger children, access to peers with disabilities, because if you're around someone with a disability, you become much more tolerant of it. I wanted the benefit for my students for this specific academic skill that they're working on, but I also really wanted that advocacy piece. I'm a person with multiple disabilities, and so that is always on my mind of how we can help typical people understand and become comfortable with people with disabilities.

Delores collaborated with the paraprofessional on collecting data that demonstrated the success of interventions. She shared data with the IEP team and the paraprofessionals as well as with parents. She sometimes shared information with students:

I share data with everybody on the IEP team and the paraprofessionals. I was in contact with the parents for every student at least once a week. I also met with the gen-ed teachers. And then the paraprofessionals needed to know as well. With some of the older students, I would actually tell them, because they're working on a really hard skill. And they need to know that "you're learning how to do this thing or you're becoming more successful at this; your hard work is paying off." That was a lot harder to do with some of the kindergarten/first grade students, but by the time they get to late third, fourth grade, they can start to understand that a lot better.

Factors contributing to the best use of interventions to develop social skills.

Delores was eager to explain the various ways she has taught social skills in different settings or in groups. She also explained how paraprofessionals helped out and gave examples of real situations:

So, a lot of it depends on the kid. I wouldn't say that there's one overall way that I tend to do, because there're so many factors that go into it. There's a huge difference between a kindergartner and a fifth grader, on how I would work with them and how I would teach them. This is the specially designed individualized instruction. I much prefer being able to explain what the skill is, show them in person how to do it. This is when I would use paraprofessionals; the two of us would have a role-playing scenario and show the kids in person what the skill would look like when it's being used. And then I would have the kids practice with a partner. And once they got more comfortable with that, I would actually

introduce real-world scenarios. I would tell them ahead of time, like, "Hey, this is the purpose of this activity."

So, depending on the time of day, I could have anywhere from just two or three kids in my group that I was working with two, seven or eight or nine students that I was working with all at the same time. When I had that many students, my preference was to break it down into smaller groups. And I did a lot of station work when I could. So, they're working with me on something, they're working with a paraprofessional on something and then we can swap. Because when you're working on those really explicit skills, it's just much more manageable if you don't have eight kids in one group that all need something very individualized.

Delores said, "I have a master's degree in special education." She explained about classes she has taken toward a certificate: "I did get a little more specialized training teaching students with autism spectrum disorders and I attended some conferences." The district also offered teachers a chance to attend one conference a year. Delores had much more to say about what other training or support she would like to see, and she explained that she would like to see others get training as well:

So, when I teach social skills, the way I think about it is I don't do it in a vacuum. So, I'm not just teaching social skills to my students with autism. I also need to be teaching the paraprofessionals, I need to be teaching the teachers, I need to be teaching the peers that. I mean, here is something that this student struggles with. Here are ways that you can help that student with those difficulties, here's what the student is learning. And here are the specific phrases that we're working on to

so that they can prompt the student, it's not just teaching the student with autism, the social skills, because social skills don't occur in one person, if we're communicating, there's at least two people involved in that conversation. If we're I mean, anytime we're interacting with other people, there are multiple people.

Responding to a follow-up question, Delores remarked how time challenges might affect how decisions were made to use specific interventions:

We talk to the IEP team and decide what are the most important skills the student who can use a social story can use and we target those which are usually social skills. Sometimes things just come up and we have to work on them immediately and so we have to do it right away because the kid is getting in trouble doing something they shouldn't and need to learn not to and what they should be doing instead.

Methods of approaching the use of social skills interventions. Delores first explained how and why she did not use social stories for all her students. She also explained using peers for interaction. Later she spoke about her love of writing and other personal experiences in how she learned to write and use social stories. She made her own social stories using her writing skills. However, she suggested using social stories was not the best intervention for all students:

So, with social stories, I personally didn't use it for every student. Our occupational therapist actually would come in, and we would co-teach, and she would use it with the entire group. I would only use it with some students, because I've seen a couple of research studies that have been done on the effectiveness of social stories. And for students who have a verbal

comprehension or reading comprehension below a certain threshold, they haven't been shown to be effective at all. So, I'm kind of looking for students who have demonstrated an ability to read or communicate in a way that's working for both of us, before I choose a social story to use.

Delores said peer mediation was “probably in something published by CEC, by the Council for Exceptional Children I subscribed to.” Delores also faced challenges using peer mediation. Delores has also used role-playing as another intervention. She explained about using interventions in real-life settings and how STEM could be incorporated:

I did a lot of role-play with students. I would do a lot of modeling first, especially with a paraprofessional. One time, the para and I were modeling how not to show frustration. We were sitting there banging on desks and yelling, and the kids thought it was just the funniest thing in the world. And we got done with that, and I asked, "Is that how I should have been upset about something," and the kids said, "No, that was awful. It was so loud." That role-play was really important, and then, bringing it in a safe way to a real-world setting, applying it to a real-world setting.

I gave them a challenge, I did a lot of STEM—actually STEM challenges are fantastic for teaching and reinforcing those social skills. So I would go find the STEM challenge. That's the Science, Technology, Engineering and Mathematics. The one we did for group work was to build a bridge from here to here [in 15 minutes], and I have to be able to set five blocks on it. I was always very direct on what we're doing, and I found that that priming helped to. And

when I could convince general teachers to help with that priming, the students would do a lot better generalizing it out than if it was just suddenly unexpected.

During a follow-up interview, Delores was asked to give her definitions for social stories and peer mediation: “A Social Story is for students who need an introduction to a topic or get them ready for an activity. Students need to have a certain level of verbal and reading comprehension to make sure social stories are effective.” “Peer mediation,” she said, “is when students need to learn self-regulation skills. We pair two students and teach one another the necessary skills.”

Methods of displaying interventions for social skills. Delores explained how she has learned about using social stories. She has done research and has used her creative writing skills. She talked about making social stories for students who had verbal and reading comprehension:

I'd learned about [social stories] in college, in my master's program. I don't know how I learned about it, but it'd had some really promising research. I'm in the doctorate program, so I'm really big into looking at the research. And so, I was [thinking], "Well, hey, we've got some promise here, but how do we actually do this in an effective way? Not every intervention works well for every single student, so how can we leverage this to actually get the most out of it? I bought the original book, which had suggestions on how to write social stories. And actually, my background before I became a teacher was as a writer, so that was really exciting for me. I got to incorporate one of my big interests into being a teacher. And so, then deciding to implement it was based off of where the student's skill was with the social stories.

I made my own—first of all, that let me use some of that writing background that I really love. So it let me bring part of myself into my teaching and my interventions. It was so much easier to tailor it to an individual student and what those individual students needed. I might look at the social storybook to get an idea of what was recommended, but then I would take that and turn it into something that was my own that would be more helpful for my students.

One follow-up question asked specifically about formatting and using steps to create social stories. Delores also explained she used mostly pictures since many of her students were non-verbal:

It would be directive or tell a story about what they might be going to do next.

Often I would just write an introduction to an event they were going to be involved in. There wasn't a specific format and most of the research I have read says that it isn't effective if students do not have a higher level of verbal and reading comprehension. I really don't know if it is an effective intervention to use.

I use minimal words. Most of the kids are nonreaders and it doesn't mean anything to them. The occupational therapist usually does whole groups in my room and tells a story about behavior we are expecting. Then we reinforce it with words from the story she tells when the behavior is needed.

After discussing social stories, Delores explained that she has used peers in “a bunch of different ways [such as] academic skills [and] some self-regulation skills.” She used an example of how she and another teacher noticed a relationship that was helpful in the classroom and how they encouraged it:

We actually had two students, and we discovered this completely on accident, they were really good at calming each other down, or suggesting to each other that they take a break. They had been in class together for half of the school year, and the teacher just happened to seat them next to each other when there was a seating chart change. We discovered the students [working together], "Hey, like, if you notice your friend is getting upset, here're some things that you can do that we've taught, and we've been working with that student on." Or, "Hey, if you're feeling upset, your friend can help you with that." And that was something that occurred naturally. And we just ran with it, because it was super-effective and really exciting to see. It was absolutely amazing. I mean, it was total serendipity.

Other times, we've more intentionally asked students, "Do you want to volunteer to come and help work on some math with this student, or work on, or read a book to this student?" And so, we would invite a typically developing peer to come do some tutoring on a skill that the typical peer was [learning]. With the more academic skills, it was twofold, it was one, wanting my students to have time with peers, and it was also a very intentional decision on my part to work with.

Barriers to using social skill interventions for students with autism. For Delores, time and individualization were two major challenges in writing and using social stories:

With social stories, and I think time is another challenge—I mean, it's going to be a theme throughout anything, you talk to teachers about finding that time to really write that story that's going to help the kid in the best way, so that they understand

what you're trying to explain to them, what you're trying to express. And then, also determining which students will respond to a specific social story, I mean, even if a student has a higher reading skill, I might write a social story. And they're like, "What was that?" Like, that was ridiculous. And they're not going to gain anything from it, because that specific one just didn't work for them. So that individualization on the social stories was something that was really challenging to do, and I mean, it did not always work.

One of the challenges Delores faced was having enough time to teach peers what they need to know.

With the peer-mediated, personality conflicts are absolutely a challenge, personality conflicts between students, or any conflict in general can be a huge challenge. But also, sometimes teaching the peer exactly what you wanted them to do can be really challenging. And, you have to make sure you can set aside enough time to do that, which is also another challenge, do I have the time to teach somebody else how to do this thing?

Another challenge here was finding time to do the research:

The time to be able to look them up, look up the research on the best ways to implement it. I think having some actual, formal practice in a degree program would be really helpful or at least, learn that these things really exist, and you can use them. A really basic introduction would actually be helpful. I don't know if I got that or not, though. So, a basic introduction would be really good.

Beth

Sources used to establish student need for social skills. Beth noted on the Qualtrics survey that she only used social stories and video modeling interventions. She spoke briefly about her decisions and added some detail to the follow-up questions that were asked. About making the decision on which social skills to work on first, she said,

I basically think it's always a matter of priority, you know, adaptive living kind of skills, what the child needs first. We decide by looking at what kind of adaptive skills are needed first, as far as social skills, how much they are—you know what's necessary, what's their priority of what they need. At the clinic, we do variety of assessments.

Beth explained that a company she worked for made decisions about using specific interventions: “Well, I had a BCBA above me. So, I did what was in the programming, prescribed by our company.” Beth was asked if she was familiar with the interventions before she began working there: “No, as a special-ed teacher in moderate needs in the public school, no.”

Factors contributing to the best use of interventions to develop social skills.

Beth had much more to say about how she worked with children teaching social skills. She worked with children as young as three up to adults but she said,

I stay focused in the preschool to—lower elementary is my specialty area. We have a social skills group of—we have actually two separate ones. One of some boys that are between six to eight years old. And we do a social skills group coming in once a week after kids spend individual therapy as well. But they base it on each individual goal as they're within the group dynamics. They do a lot of

work with the zones. Again, it's so individualized once we get the groups in there based on each person's need of whether it's the eye contact or the social greeting or the inter-verbal or what's needed by each one is kind of incorporated into the group. The same with the girl groups that they have and that's a span of seven through 10. They model, set up a situation and a scenario and model it and practice it and they have autism and they'll sit down, and they take the gamut of behavioral disabilities.

Beth is currently attending classes at the university working on a master's degree in Behavioral Analysis and she gets training where she works. Later, when Beth was asked what other training or support she would like to see, she explained she liked where she was now: "I feel like I'm in the middle of my programming, in my classes that's what I'm learning right now. I'm kind of in the middle of all the training I need, which is awesome."

Beth used a program called CentralReach to collect data used to demonstrate success that she then shared with parents and a case manager. She explained how she collected and used the data:

I feel like there's a lot of data collected. We use the CentralReach and whatever goals we're working on we track daily. A lot of times, depending on the kid, [where] we are in the session and then recorded into the system afterwards and then of course follow the graphs and the data to see what kind of effect it's having. We analyze it, we look at it, we review it, just to see if the interventions [are] showing that increase that we want and the positive behaviors and

interactions. And then of course tweak the programs if they are not showing that they're being helpful to the students.

When asked to define effective, she said, “Increases the quality of that child's social interactions—whatever you're looking for, the positive attractions increased.”

Methods of approaching the use of social skills interventions. Beth had much more to say about how she worked with children teaching social skills. She worked with children as young as three up to adults but she said, “I stay focused in the preschool to—lower elementary is my specialty area.”

We use a lot of modeling, there's a lot of video—we do use video, and then of course the real-life modeling as well as video modeling. We teach using modeling and video. Again, once you prioritize it, if you model it or then just practice it individually and then getting it out there after you practice.

During a follow-up interview, Beth was asked to give a definition for social stories and for video modeling:

A social story is using modeling that is real-life in pictures or video. You follow steps of using the story on video or written that models a behavior you want and then you have the student see or read it every day and then encourage them to practice it.

Video modeling is showing a student video from the internet or Youtube about a social skill you want them to use, and reinforcing them when they start using the social skill.

Methods of displaying interventions for social skills. Beth talked about social stories and video modeling at the same time in a story about one child she has worked with:

Right now, we've got a kid that can't lose games, it's kind of fun to watch him lose out of the fact that it gets to be such a big scene, but he's just really struggling with that. So, we've gotten social stories, both we've created from online curriculums and then also social stories from videos that he can model. So, we've incorporated both of those together as well as he's part of that social boy group. We try to incorporate them into trying to lose a game or be in there to practice that skill. They play for the other kids too, so that sometimes it's more one-on-one losing, but so we use things like that to go up and then do the practicing with.

She also indicated she has sometimes made her own social stories: "We just find what's out there, something's there that's working, it looks good, we use it, if not; we create it as we go." She also mentioned that "the company is providing iPad, all of our equipment, computers, and laptops." In a follow-up interview, Beth explained she generally did not create her own social stories: "I don't create really—I took a class that taught me how to create a social story, but I haven't done it yet. I use the videos more than anything."

Barriers to using social skill interventions for students with autism. Beth explained challenges more in terms of determining success. She said, "I guess anything is the transfer to reality as far as those—you know generalizes it actually, do we see that difference for a child is it useful, is it an effective one." In response to a follow-up question asking if there was anything else she wanted to add, Beth explained how not

having enough time was often a barrier and limited her choices for using individualized interventions:

I think it is easier to just use social stories from videos or packaged program we buy or can borrow. It saves a great deal of time and money. I think the kids learn the skills they need just as well as if we made a story on paper. Besides, they have a great deal of trouble with the words, so I think using videos that get them to pay attention and cartoons like Wigglebottoms and the characters from movies like Inside Out to teach Zones skills is just as good.

Fran

Sources used to establish student need for social skills. Fran responded on the Qualtrics survey that she has only used social stories and peer mediation. She said firmly, “We don't take any videos of the kiddos at all.” To make a decision about which social skills to work on first, Fran started by simply observing classroom behaviors and then began to work with the children in groups:

I have a classroom that starts with kinders and we go all the way up to fifth grade. And maybe their first week or so, I just observe what they need, how are they interacting in the class, what areas are really strong? So, some of my kids are really social as far as they're more comfortable sitting down and talking; whereas others really want to isolate themselves. And so, we just kind of assess the first week. And then after that, we start working them in groups, and pairing them up and seeing if we can figure out what skills that they need to work on. So, it takes a good week or two and then from there, I also use a book that helps me with my

assessments to kind of figure out what they're doing and where they're at as far as what level.

She addressed a follow-up question asked about formal assessment by describing what she used and the times she collaborated with a team to make sure they were meeting the needs of the individual child:

It's a basic skills checklist focused on autism, and it has different skill lists that they have. So, I can go in after I've watched them for the week, and I can do a checklist on social skills for school—is it math, is it fine motor, they have reading and language. And then basic concepts like matching, sorting colors, but there's also checklist for transitioning through the building, grooming, we do toileting as well, so we help out with that. It really is individualized and differentiated for each child.

To another follow-up question, Fran explained about why she used interventions such as social stories:

We use them to teach kids the new behavior they need. There are certain skills that kids don't show or do wrong, and so we correct them by showing them a story about that specific thing and a kid doing it the right way. It might be something the whole class needs to learn or just one student.

Fran explained how she collected data by recalling the story of the student who was copying everyone and the success of the intervention used for that behavior. She shared data with her team but talked about how parents came to her with information that she verified from the data. She also explained how she used data to decide if an intervention was working:

I was using an intervention last year that our [student] had a hard time not copying other people. So, we measured, we had a baseline of how many times a day he would copy other people and then we started the intervention. And we ran that intervention for about probably four months. And we saw a decrease. So, we took data once a week and we saw a decrease. And then we started into the summer. And then he came back at the beginning of this year and there's none of that behavior. It's gone.

I share data with my team. I have a SPED [Special Education] team in the school comprised of a speech pathologist, a psychologist and myself.

We've had some great success. And what we—what I found is the parents used to come and tell me how successful it is versus the other way around. So then when they come parent and teacher, I share with them, but they're usually sharing with me that they're seeing positive changes at home.

Well, if the intervention is not working, we may have to modify our plan and change the story a little bit or maybe we changed the time, we've had to change our groupings. That's happened several different times where it just wasn't working with those two particular kids, not necessarily the intervention, but let's go ahead and try it with somebody else and we've seen success with those as well.

Factors contributing to the best use of interventions to develop social skills.

Fran said, “My director was the person who suggested it [using interventions] to me. I mean, we covered it in school. But she really helped me to kind of put those together and find some of those resources.” Fran is part of a larger team and part of the collaboration

with that team is that she does not need to make all the decisions in a busy classroom on her own. Fran briefly talked about how she has taught social skills in response to a question of if she taught directly or integrated them with another curriculum. Here also she related how she collaborated with her team members:

I use a lot of natural environment, what's going on, opportunities, for example, walking down the hall and one of the other teachers pass, we get a chance to say good morning. We have another—one of my team members is a psychologist, so she also helps and does a lot of that curriculum for me. And I focus more on the academic piece. But in the classroom, we use partnering. Like I said, we have kids all the way from kinder to fifth grade, and all at different skill levels. So, I have eight kids on extended evidence outcomes. So, everybody has different skills that they need to work on and we just try and create those opportunities for them.

Fran had university training and a separate course on autism. She talked about some of the struggles she has had, then instead of pointing out specific training she would like to get, she explained she gets good support:

I have a master's in special education. I focus mostly on autism. I took some extra classes on autism, so that I could be comfortable. And then when I received the position, I took an online 30-hour course specifically on autism for collecting data, creating programs that the district paid for.

I think that we have an excellent SPED Department and the administration is really excellent as far as hearing our needs. So, one of the struggles I had when I first started was being a center-based program. I think that in this district, there

wasn't a lot of center-based programs and they were kind of bringing those in and so we asked to kind of have a meeting, we focused specifically on different struggles. So, one of the struggles we were having is how do we just take data in general. And we had one of our other teachers come in and kind of shared with us, all of us were able to get together and kind of just talk about what was going on. I think they do really well with training. And if we need help somewhere, they're there to help. So that's really good to know.

Methods of approaching the use of social skills interventions. Fran discussed the various methods of social skills interventions she has used in the classroom. She has used both social stories that are packaged or she makes herself and some form of peer interaction. She used no other interventions in the classroom:

We use social stories. We also use stories. We will like you do a Youtube video or something along those lines, but we don't take any videos of the Kiddos at all.

I think that it works well with the classroom environment and it's a nice way to model, and for a lot of my kids, they need that repetition and that routine consistently, and so it was just a nice way to kind of bring that in as a story and help them to kind of model some of those techniques and they've worked. And so my director, um, was the person who suggested it to me. I mean we covered it in school, but she really helped me to kind of put those together and find some of those resources.

In a follow-up interview, Fran was asked how she defined social stories and peer mediation: "The social stories are specific stories that we use to change misbehaviors that students need help with. They direct them to act a certain way." For peer mediation, she

explained, “It is modeling for what you want students to do while they watch a peer do the task or activity or skill.”

Methods of displaying interventions for social skills. Fran began with a story of one student to explain the individual nature of teaching social skills using social stories and then discussed the children in general. She also mentioned one challenge: “We have to find a time to sit down and write them.”

There are different things for each kiddo. So, one of my kiddos had a really difficult time with copying. He wanted to copy other kids, everything they said, which is an excellent tool for him to learn, but other students would get uncomfortable. We created a social story for him that helped him work through that skill of when it was a good time for him to copy, when it was a good time for him not to copy.

I have another social story that I used as being a good friend. And we sit down with a different group of students who are struggling with, how do I interact with my friends, what are some of the skills that I need to say good morning, and I'd like to play with you. So, we've used those skills and we used the social stories for different kids for different skills that they need. I also have another social story that I use that's for teacher time versus playtime and directing them in their skills. So, it really basically depends on what are those students needing. Some social stories are general for the whole entire class, and other social stories are very specific for that student.

During a follow-up interview, Fran was asked if there were specific steps or if there was a specific format for social stories. “Not really,” she said, “I know in school

they talked about writing social stories, but I don't have time to find it and train my paras when kids are falling apart. It has to happen right then." She was asked what kinds of sentences she used in social stories:

We write sentences in the stories that tell them what they are supposed to do. We can't beat around the bush, so it is straight forward, right? They need to know what they should say or do when something happens. So we write the sentences and words they should use in the situation that the story is about.

Explaining the use of peers, Fran said, "We want to try and get peers that are closer in age, depending on what skills we're looking for, it's about their level and if they're ready for that that material." She went on to talk about two students who have been working together on friendship skills. She discussed choosing peers when they are needed. She collaborated with her paraprofessionals and her team to help work with the peer groupings:

I have a second and a third grader working together right now, working on being friends and how to initiate that talk. And some of our kids are not ready for that. So, it just depends on the grouping. I mean, we group different kids for different reasons for throughout the whole day. So, whatever the skill is that they're needing to work on, we will bring them in and we will have a short conversation about what are we looking for, we would like to have you go out onto the playground with our friend. We have to let them know sometimes there's certain behaviors that will happen that might make them nervous. So, we want to make sure we cover those, so they're unexpected behaviors happen and that they're ready for those. So, we do a lot of times they'll go out onto the playground and do

recess together, play in the sandbox. A couple times we've had musicals, concerts, and it's better for the peers to be out there helping them versus a teacher kind of being in the mix of all those kids. We do some play where we set up different activities in our sensory motor lab, and then we have the parents, or the adults help model and intervene with the younger kids. So, it just really depends on what our age level and what our goal is.

Barriers to using social skill interventions for students with autism. Fran briefly mentioned the kinds of challenges she faced in using social skills interventions, especially finding time working with paraprofessionals in the classroom, which she mentioned during the first interview and in the follow-up interview:

The biggest challenge I think I have is, I have three paras that are in my room with me. And depending on what's going on throughout the day, just really finding time and making sure that we're being consistent with our tools across the board, so that everybody on the team is following that same consistency and that same routine that you know if this happens, this is how we're going to react and just making sure that's going on correctly, and then finding opportunities.

Paula

Sources used to establish student need for social skills. Paula said she worked first on social skills that would help students the most as they spent time in the general education classrooms. She did both formal and informal assessments:

I work in a school that believes in inclusion, so they want the students to be in general education a lot. I look first at social skills. I look at what skills they need the most currently to help them get in the general education system. I look at what

kind of behaviors are happening and how can the social skills that I need to teach help them be integrated more for what the school wants.

I do some like Zones of Regulation and they have some stuff, some formal assessments that they use. Other than that, a lot of it is observational and data that is collected through the paras or through some informal assessments.

Paula enjoyed discussing the data she has collected to show success. She used data to help understand what interventions were effective and successful, and she shared that data with a team:

I find they're successful when we put the skill that I've been practicing like targeting, so like no hitting, into practice in a situation that they might not feel the most comfortable. And I also see if they're asked when they get upset before they get upset, I see if they start asking for the social story of what they can do, what kind of tools can they use, or if they just know them, if they've memorized them that I need to take a break and they tell us, then I kind of know. Instead of hitting, he's replaced that skill with asking for a break. And when they do start doing that more consistently, I kind of realized that they're becoming more proficient at it and they have gained that skill.

So right now, I collect behavioral data. Anytime that they show physical aggression, I record that. So if I notice that they're hitting quite a bit, I will start recording data on how many times I hit in a day, how many times I am hit myself or staff members, how many times they hit themselves, how many times do they throw objects? So, anything around that, I record data for about a month. I tried to give about a month, two weeks to a month of data, of baseline data, and then I

start implementing social stories and the social skills in ways that I want to teach them.

And then I collect data throughout that whole process to say, "Is the social skill helping? Is the social story helping? Is that curve kind of coming down now after about two more weeks or so? Where are we looking at after?" And again, just doing some informal data test of saying giving them more transitions or giving something that they might not prefer, do they hit, or do they ask for what they need to? And do that more consistently for about two weeks and see—and I want to say if they're about 80% or so above their baseline and then I say that they were successful and then we can move on and try to target another skill.

I share that data with my team, with my administration, and with my paras so that they know that we're doing the right thing. Or if I'm giving them a different intervention of saying, "Let's try this one instead," then they know why and I show them the data saying, "This is not working of what we need it to do." I really use it to assess to see if the paras and I are doing the correct thing for that student for him to learn—for him or her to learn what we need them to learn.

Factors contributing to the best use of interventions to develop social skills.

In response to a follow-up interview, Paula explained more about how valuable social stories were for collecting data and sharing that information with others:

Every time we use or write a social story we break down the parts in it and see if the student transfers the information to an environment other than when sitting with the para or I reading the story. So like do they use it at recess, home, or lunch for instance, you know? We keep a checklist of when we hear or see them

use it. We tell the gen ed teachers what the parts are that they are working on and ask them to watch for those being used by the students.

Methods of approaching the use of social skills interventions. Paula taught mostly directly to students in her classroom preparing them for the general education classroom experience:

I do a little bit of both of teaching through the curriculum and teaching directly. I have a lot of students that have behaviors. So, the direct teaching really helps with in the moment. And then when we have time that I have created specifically for social skills, I might do it a little bit more indirectly with, like, a video and then, like a lesson or something else with the curriculum.

I work in a classroom that is just full of intensive low-functioning autism students. It's where I teach currently. So, when they go out to specials or when they go on to general education, we do skills there. So, say thank you, please, how are we feeling, zone check-ins, things like that. But they spend a lot of the time currently in my classroom, so they don't go out to gen. ed a lot. So, when I am teaching, I'm teaching pretty direct in the classroom.

Paula has used the Zones of Regulation and other resources she has found online: “We try to be sure they follow the research by Gray before we buy them or use them,” she explained in a follow-up interview: “Those are not necessarily real social stories, but the students like them.”

I do use a type of curriculum like Zones of Regulation. I went to a conference on that and that was pretty interesting. But other than the Zones of Regulation and what I find maybe online or free resources that are research-based, I just do the

social stories and the peer-mediated and things like that that I know will work immediately for them.

Paula has learned from her mother, from the university, conferences, and other training. She gets training and support from a teacher who has a classroom next door to her classroom. She spoke about what it would be nice to learn as she progresses with her teaching; this is her first year teaching:

I learned from my mom about the social stories and social skills. I also learned it from the university. I got my bachelors in Early Childhood Special Education. I took a lot of special education courses. And I'm currently in my master's program getting it in special—generalist special education K-21 and with the Teaching Students with Autism certificate also included in that program. So, I'm continuously learning about it, but I really learned from experience in my bachelor's program and just working with some really amazing special education teachers along the way for my education.

I have some training through some classes that I took that incorporate how to talk to families, how to teach social skills, and self-regulation. I went to a self-regulation—the Zones of Regulation Conference which talked a lot about teaching social skills and using their curriculum to teach social skills. And I've had a lot of just informal observing other teachers and just trial and error a lot actually at my school with working with these students of saying what works and what doesn't for them.

And I'm lucky. This teacher that I have, who's next-door to me, that was my mentor. She has been teaching there for about five years, so she's been doing

a ton of different jobs and has been teaching social skills for a very long time with that school, so I really took her advice to heart about what she said works and what works essentially on how to teach these students social skills.

In a follow-up interview, Paula was asked to define social stories:

A social story is guided by research and how you create it or even if you buy them, they should follow the research guidelines. I think Gray has done the most research and gives the most detailed definition and way to write or look at social stories. She says that they need to describe situations and not tell kids what they should do really. There are kinds of sentences that she says need to be included.

Methods of displaying interventions for social skills. Paula worked hard to create individualized social stories. She found writing her own social stories to be a challenge, especially if the story had too many words or not the right words to make it meaningful to the individual student. She explained in detail the importance of using pictures of the individual students so they can see themselves:

I use social stories in a sense of what appropriate behavior is expected of them. So, like, if a teacher gives them a directive, then the social skills would be saying like, "Thank you, I like doing this," or—we do not hit—a lot of them, since they are low-functioning, they are pretty physically aggressive. I use social stories in the sense of teaching them when you are angry, you go take a break or you do this, you do not hit, you do not do these things. And I use pictures of themselves.

So when they're calm, I have to take pictures of them and then I use those pictures too—in the story saying like, "When I'm calm, I can sit at my desk and do my work or I can—if I'm getting angry, I can take a break."

We also use social stories to teach them if we're going to go into a new environment. So, like the appropriate behavior for when we go swimming every other Friday, so I teach them what the appropriate behavior is to swim. Or when we go do horse therapy on Fridays, what's the appropriate behavior around the horses, or on the school bus? And things like that.

I really like using social stories because you can create your own. There's not a specific template, so I can really make it the student's own and I can use the student's picture specifically, so it's not just like cookie-cutter pictures. I can make it very personalized, very individualized, showing them, and I have the opportunity then to sit with them and go through it and it makes it more very direct learning for them. And I'm targeting a very specific skill and sometimes in my classroom, covering a broad range of different social skills used.

I learn that it is sometimes very hard to write and that it's hard to get it right sometimes. When writing social stories, I really have to think about the specific targeted skill I want them to learn. And sometimes I realize that I write a social story and it might be a good one for something else but I didn't really target what I wanted to once I have read it to them and started implementing it. With them and reading it to them, they're interpreting something different than what I wanted them to of a different skill. So, we really have to be figuring out how to be very specific and very concise with my words on how I'm saying it and what I'm saying so that they learn exactly what I want them to learn.

I make my own off of PowerPoint. I found it the easiest. My students easily get distracted if there is like more than one picture on there and a lot of

words. I have to keep it very clear and concise with, like, white background, one picture, three-four words maybe at the max currently. So, I find it easier to make my own.

In response to a follow-up question about using steps and formats for social stories, Paula explained, “We use the ones from the Gray website. They follow the research and are made for kids with Autism.” When she created social stories, she said, “We create our own when a student needs a story about a situation. Then we use the guidelines for pictures and sentences to include in it.”

Another follow-up question asked about the types of sentences Paula used when creating social stories:

Well there are at least five or six different types of sentences that the research tells us to use. I did my student teaching project on this so I read about the sentences formatting that Gray suggested. She also suggests that there are questions that you should use to guide how you write the story. So it is the “wh” questions, how and why. She also says that you always have descriptive sentences to start with that are the facts and then you go from there. You can choose cooperative sentences and point of view sentences.

Paula used web-based videos for video modeling rather than making individual videos. She found video modeling a challenging intervention to use:

So, there's a site a called—there's some videos called Howard B. Wigglebottom that they seem to like, and it goes through different things of learning to listen, using your manners. So, we watch the video. They ask questions in the video towards the end of saying like, "Is this the appropriate behavior or is this

appropriate behavior?" And then I give them a second and then they answer it—the students can answer the question and then they give you the answer of, like, yes or no. And they have little posters at the end too that talk about it.

I play the video and we talk about it. At this point, that's kind of what we're doing for videos and then we kind of go into a more direct with, like, me teaching them and then the paras and using the video as support when we're specifically targeting a lesson of, like, how to listen, how to use your manners when you have anger management problem. So, when you're angry, what can you do? And it just gives them another mode, a way for them to understand the material that we're trying to teach them."

Paula has used peers as models rather than for peer mediation. She has chosen peers who are interested in working with the students and there was no training involved. There was collaboration with her paraprofessionals in getting the peers organized within the classroom:

So, when they go to into the general education setting, we use the peers as models for how to get breakfast, how to sit, how to introduce themselves to class, how to do those typical general education things that are required to be in the general education room of sitting for a long period of time or getting their worksheet, getting their own pencils, so that the paras are directly teaching them social skills. And we do that when they go to recess so that they know the appropriate behaviors at recess and different settings.

I normally choose the peers. I chose the peers that did the right thing. I didn't train them. I don't train them on how to interact. Actually, a lot of the

typical students love our students. When they come in, they're always being like, "Hi Dre," or "Hi so-and-so," "Hi." And they're very interested in being with our students and helping them actually, which is really cool. They want to help them. They want them to be in a classroom more. So, they're actually pushing it more than we are saying like, "Look at your peers." They'd be like, "Oh, come sit here, so-and-so. Come sit here. Come sit by me and I'll help you read this book or I will track for you." I didn't train any of the peers or any peer groups, they kind of just jumped in and wanted to do it and then my paras or I supported them in the general education room setting.

Barriers to using social skill interventions for students with autism.

Equipment was sometimes hard to find: "Our school is considered a title I school so we have a lot of low-income students. So sometimes they have stuff, sometimes they don't, it just depends on the day. I often use my cell phone." One of the biggest challenges she experienced was finding enough time:

Video modeling is—I find very difficult. I haven't had much practice with it so I'm trying to get better at it and work my way around it, something more on how to incorporate it better for my students. And right now, since we came back from break and things like that, it's hard. And I just got two new students. It's kind of hard to find the appropriate behavior that I want to video record and putting it together. And finding the time, I realized, is hard between the paperwork and school. It's very, very hard to get it all put together in a timely manner.

Paula described the challenge of getting more training on how to use interventions she has not had the chance to get yet:

It will be nice to have, at some point, a class about how to teach social skills, like the different types of ways you can teach social skills because my program really focuses on social stories and how to write them and how to implement them but I would have loved to learn more about, like, video modeling and any other social skills interventions that are used because mine is limited. It's good but it's limited on what I know. And so, if I wanted to know any more information, I'd have to take specific time to research different interventions to make sure it's research-based, to make sure it's proven to work with students with ASD. I don't have that personal knowledge right now because I didn't learn it through education. It would be nice to have learned some more of that in education or in professional development.

Summary

By listening to teachers describe their own unique experiences in teaching social skills, their lived experiences led to a closer look at what teachers had actually been doing in the classroom. As is discussed in the next chapter, not all of the interventions described by the teachers met with the research-based definitions of those interventions; however, these stories told how the teachers in this study actually used what they called the interventions. Much of their experiences were “in the moment, in real-time” based on what they perceived as the individual needs of the student at that time. Teachers openly discussed many of their challenges and what they would like to see in the future for training and support.

Chapter V discusses the themes, limitations of the study, implications, and suggestions for future research.

CHAPTER V

DISCUSSION

This chapter begins with a review of the purpose of the current study and a brief description of the design that was employed. Next, the findings of the primary question are described in term of the themes that emerged in response to the qualitative interview protocol. The limitations of the study are outlined, followed by suggestions for further inquiry. Phase 5 also includes the comparison of results to the literature reviewed and the chapter concludes with a statement of how educators in Saudi Arabia might find the results informative for the inclusion of intervention teaching in special education programs now being formed in that country.

The purpose of this study was to explore the perceptions of special education teachers regarding teaching social skills to K-5 students with ASD—specifically, to see how they viewed the effective use of two promising practices (i.e., peer-mediated interventions and social stories) and one evidence-based intervention (i.e., video modeling). Seven special educators were interviewed and their transcripts analyzed for categories and themes to address the following research question:

- Q1 How do elementary special education teachers describe their experience when using peer-mediated interventions, social stories, and/or video modeling to address social skills with students identified with ASD?

As explained in Bandura (1977), social learning is obtained through observing the behaviors of others. Observational learning was reinforced by Ritter (2012) and Charlop-Christy et al. (2000). The teachers interviewed in this study explained how social stories,

video modeling, and peer interactions were used to encourage students with ASD to observe and model the social behaviors of others. These observations are an important part of learning social skills according to social learning theory (Bandura, 1977; Charlop-Christy et al., 2000; Ritter, 2012). The findings of this study have shown that among the three promising or evidence-based interventions available for teaching social skills to students with ASD, social stories were most often used by the teachers interviewed. Teachers used videos and to some extent forms of video modeling. The teachers interviewed discussed their perceptions of using peers for helping with academic and social skills but after follow-up interviews, it was determined none of the teachers were using peer mediation as defined. Results also indicated individual student success was related to both how teachers used interventions and how teachers perceived successful acquisition of social skills based on observations and data collection. Teachers reported that training on how to find and use evidence-based interventions was an important part of student success.

Discussion of the Core Themes

Five core themes with sub-themes emerged from the analyses of the transcribed interviews: (a) sources used to establish student need for social skills, (b) factors contributing to the best use of interventions to develop social skills, (c) methods of approaching the use of social skills interventions, (d) methods of displaying interventions for social skills, and (e) barriers to using social skill interventions for students with autism. Each of the core themes was discussed in Chapter IV using the teachers' own words to discuss the sub-themes embedded in the core themes.

Sources Used to Establish Student Need for Social Skills

All of the teachers explained they used IEP goals and assessments to determine which social skills individual students would need to work on. Some of the assessments varied, e.g., using a formal assessment such as Creative Curriculum Gold, Vineland, or checklists to less formal assessment. Fran explained, “I just observe what they need, how are they interacting in the class, what areas are really strong.” Because of a lack of information about creating IEP goals specifically for students with ASD, many IEP teams needed to use their own judgment, which was why assessments varied from the formal to the informal (Kurth & Mastergeorge, 2010). Most local schools were responsible for developing assessments and treatment plans for students with ASD (Ruble & McGrew, 2013).

Teachers also collected data on whether students were successfully improving social skills. As students progressed, teachers used data and assessments to make decisions on what further social skills individual students should be working on. This was a collaborative process and the data were shared with administrators, counselors, other teachers, paraprofessionals, parents, and, at times, with students. Research indicated teachers who had complicated or numerous IEP goals for students with ASD were less able to provide data on every goal and/or to report findings for all IEP goals for all students. This data collection and reporting could also be limited because teachers did not have enough time (Ruble & McGrew, 2013).

Factors Contributing to the Best Use of Interventions to Develop Social Skills

Social skills help with communication and interaction (Cotugno, 2009), which includes being able to communicate verbally and non-verbally. Younger children with ASD who have delayed language development might be challenged both verbally and non-verbally (Charman & Stone, 2008; Radley et al., 2014). Teachers in this study chose the use of pictures as the best intervention to developing social skills for students who had delayed language developments. Using pictures is an effective way for teachers to communicate and to help students who might be non-verbal to interact successfully with others. Cathy had pictures posted throughout the classroom as a way to help her non-verbal students interact and develop social skills. As the literature demonstrated, students with ASD could have delays in language development and challenges with both verbal and non-verbal communication as they grow older (Charman & Stone, 2008; Radley et al., 2014).

In a study about teacher training, participants had little to no training specific to interventions for students with ASD (Morrier et al., 2011). Other research indicated teachers had inadequate training in evidence-based interventions for students with ASD (Ruble & McGrew, 2013).

In the current study, deciding when and how to use specific interventions varied; however, all of the teachers had received some training—both formal at the university or conferences and informal such as mentoring by other teachers or professionals. Some teachers did their own internet research on best practices and how to use interventions. Many of the teachers realized their training for specific interventions was limited and

they often discussed the need for continued training, which Cathy explained when she suggested they all needed training as technology changed. She also said, “I want training in how to communicate that we need these things for kids to those who don’t understand.”

Methods of Approaching the Use of Social Skills Interventions

This study asked for teachers’ perceptions of how they used any of three specific interventions: social stories, peer mediation, and/or video modeling. One study about training teachers reported that a survey of 90 teachers demonstrated that even though teachers had some training, their training did not match what they practiced in the classroom. Many of the teachers reported modifying methods based on arbitrary decisions (Ruble & McGrew, 2013). During the reviews of the interviews, it was noticed that teachers were describing using interventions that did not match definitions for those interventions as explained in this study. With this discovery, it was noted the teachers were not asked in the original interview to explain the definitions for social stories, video modeling, or peer mediation. A decision was made to do a follow-up interview to discover if the teachers had working knowledge of the definitions of the three interventions. Of the seven follow-up interviews, only Paula came close to describing social stories as defined in Gray (1998) by developing individual stories for social situations in specific format and using descriptive, directive, control, perception, and affirmative types of sentences. However, Paula explained she bought pre-made social stories written according to Gray’s specifications. None of the teachers used definitions for video modeling or peer mediation that matched the research.

The interviews revealed teachers perceived they were using social stories, video modeling, and peer mediation. All of the teachers reported using social stories as a method for intervention. The results indicated they approached the method with the goals of teaching social skills but were not creating social stories that fully met the requirements posited by researchers such as Gray (2004). The few who reported using video modeling had tried to use videos in combination with social stories—they used videos to create stories for students to watch in order to learn specific social skills. When teaching behavior through the use of video modeling, theory explained that social learning came from both observing and experiencing to help reinforce learning (Ritter, 2012). The teachers who used videos were trying to reinforce social learning; however, they were modifying what they did based on arbitrary decisions in the classroom rather than using video modeling as defined by Wilson (2013).

Peer mediated intervention is a formal intervention that works when the student with ASD receives social skills training from his or her peers (Kamps et al., 1994; Petursdottir et al., 2007). According to Neitzel (2008), teachers should follow a number of steps to choose and train peers. Included in these steps are details of how to implement a structured teaching session. Peer mediation does not include simply allowing students with ASD to play with peers on the playground; it is structured. Learning social interactions to be part of socializing in school or at play is an important social skill for successful communication (Bellini et al., 2007). Peer mediation allows teachers to use real time situations that give students with ASD immediate feedback from other students in the classroom or on the playground (Kamps et al., 1994; Petursdottir et al., 2007).

The approach to using peer mediation teachers reported using was not correlated to the definition of peer mediation. When using peers, most teachers reported asking typical students to help out in the moment such as on the playground. Cathy reported, “I make sure they have play time with typical peers at the recess.” Although none of the teachers could adequately define the three interventions, they all approached using what they perceived as social stories, and/or video modeling, and using peers as methods for teaching social skills.

Methods of Displaying Interventions for Social Skills

Every teacher interviewed reported creating some type of social story. Teachers used both packaged stories, used packaged stories they tweaked to make them more individual, and/or created stories out of resources at hand. A common theme to using social stories for teaching social skills to students with ASD was the stories needed to meet the individual needs of the student. “It is really important that we personalize the social story for each student,” Cathy said. Ann agreed: “Often there are so many nuances to social skills that the social story has to be individualized.”

According to Sansosti et al. (2004), social stories need to be individualized as they are short stories about the individual that can help him/her understand how to communicate and/or interact. The point of any social story is to show a student how to recognize social cues and the significance of his/her own actions so he/she can identify with what he/she is thinking, feeling, or doing in a specific circumstance (Ziv et al., 2014). Scattone, Wilczynski, Edwards, and Rabian (2002) referred to “Gray’s (1998) Social Story Guidelines” that included writing stories from the perspective of the student and using a “mix of descriptive, perspective, and directive sentences” (p. 536). From

what the teachers in the current study related, they, at times, followed steps in creating social stories and wrote from the perspective of the individual student.

It was noticed that although the teachers were using social stories similar to the definitions above, the teachers were also creative with how they created and used the various methods. This creativity was seen as necessary because methods used in teaching social skills to students with ASD need to be highly individualized. An example of this was when Beth talked about tweaking the program by allowing a student with ASD, who was part of a larger group, to do things a bit differently than others in the group until he gradually caught up with others. Some of the research indicated that teachers and paraprofessionals could successfully learn how to create effective interventions using social stories but it was important to not tweak programs too much or there would be a loss of effectiveness (Moudry Quilty, 2007). In an effort to make sure the interventions do not lose effectiveness through this kind of creativity, teachers need to collect data on what changes they have made to the interventions and on the effectiveness of the interventions. Collected data help maintain the fidelity of the methods used (Sam, Kucharczyk, & Waters, 2018).

Using data to track results not only helps maintain fidelity but is important for teachers to know how to collect and use data. “It is imperative that educators understand how to select and implement such practices with students in their classrooms and continuously monitor the progress of their students” (Marder & deBettencourt, 2015, p. 5). Using evidence-based interventions leads to student success if teachers know how to use the interventions correctly, if the resources teachers use are trustworthy, and if teachers track and use reliable data to know when students are successful and when to

change or modify the interventions being used (Marder & deBettencourt, 2015; Stahmer et al., 2014).

Five of the seven teachers reported using videos to help teach social skills. Cathy and Paula have shown packaged videos. After watching the videos, students are asked a series of questions that are supposed to help them learn behaviors. Beth reported she incorporated her social stories with video. Ann also combined social stories with videos: “We have a theme for the social story, and we’ll have them act out what I want them to include in the video.” Nancy made videos of students as a way to help students learn routines by having students act out expected routines. Video modeling requires the use of technology and equipment such as computers, laptops, iPads, and recording devices (Bellini & Akullian, 2007). Three of the teachers explained how they were able to use equipment supplied by the school, which made using videos easier for them and their students. Two teachers discussed finding online resources and videos they could use. The teachers interviewed in the current study revealed that even when their school district did not provide them with the technology they needed, creating videos and social stories was important enough that they were willing to use their own equipment—even their own cell phones.

For those teachers who reported using peers, their perceptions of peer mediation did not match the definition used in research (Kamps et al., 1994; Petursdottir et al., 2007). The teachers who used peers were excited about opportunities students with ASD had to learn social skills from typical students. Most of these interactions occurred in natural settings, such as the playground, and were often done in the moment, which Ann said was random and on the spot. Paula told how she chose typical students she knew but

she did not train them. She said she has used peers as models because they seemed interested in helping out. Cathy also did not train peers but did say she would take some time to explain situations. Nancy explained using peers for role-modeling social behaviors that was sometimes scripted and then practiced. Delores reported using peers for helping with academic and self-regulation skills while Fran used peers to help with friendship skills. Teacher-reported incidents of peer mediation were not part of the process described by Strawhun et al. (2014).

Barriers to Using Social Skill Interventions for Students with Autism

A barrier to using social skill interventions mentioned by six of the seven teachers was not having enough time. Teachers faced the challenge of providing comprehensive services in the time they had available in the school setting, which could lead to taking shortcuts or modifying interventions to meet immediate needs (Kurth & Mastergeorge, 2010; Ruble & McGrew, 2013). For Paula, it was time to do the interventions because of all the other paper and schoolwork. Ann wanted more time for connecting with others. Ann wanted to use correct format for creating social stories but found there was not enough time if she needed to create something quickly at the time it was needed. Fran echoed this when she said that training “has to happen right then.” Beth said something similar and said that using packaged programs “saves a great deal of time and money.” Delores wanted time to do research.

Other barriers included getting more training in how to use specific interventions, limited resources, and having access to continued training and technology resources. Research of special education teachers who had students with ASD perceived they often

did not have enough training and support to meet the challenges of teaching students with ASD (Busby et al., 2012; Rodríguez et al., 2012). Other research indicated the need for school districts to have enough resources not only for training but for support for teachers (Alexander et al., 2015).

One conclusion drawn from the experiences of the teachers interviewed was although they did not adequately define the types of interventions they were using in the classroom, they all perceived they were using effective interventions. Teachers who had effective data collection could evaluate the success of the methods they used to teach social skills to students with ASD (Kurth & Mastergeorge, 2010). Their perceptions of the effectiveness of the interventions they used were reflected in the success stories they shared of students who demonstrated improved social skills. As Cathy said, “I keep doing it because it works.”

Limitations of the Study

One limitation of this study was the language barrier presented by the researcher who is a non-native English speaker. This limitation might have impacted the quality of the responses because there were times when the researcher did not pursue follow-up questions or questions from the participants during the initial phase of interviews. It was not until the responses were being read and coded that the researcher realized follow-up questions needed to be asked during the interviews and follow-up interviews were necessary to get clarification.

A major limitation was the researcher did not define interventions in either the first survey or before beginning the interviews. The researcher made an assumption the teachers would understand the intention of the questions and if they said they used the

interventions, they would also have explicit working knowledge of the definitions. This limitation was mitigated somewhat by conducting follow-up interviews. Using the follow-up interview information, it became clear the teachers had different perspectives than the researcher assumed and they did not use the interventions as outlined by best practices and evidence-based research.

Implications of the Study for Practice

The results of the current study have important implications for school-based social skills training. Although several studies identified social skills interventions that resulted in effective outcomes in school settings (e.g., Plavnick, Sam, Hume, & Odom, 2013), challenges still exist due to a lack of fidelity for the implementation in the replication of evidence-based procedures. Thus, lack of fidelity aligned with best practices and procedures outlined in evidence-based studies limited the intervention use and most probably the effectiveness of outcomes achieved by teachers in school settings. School-based interventions described in this study were often limited to on-the-spot need as observed by teachers and what interventions were immediately available and easy to use in the moment. Few ready-to-use with minimal training needed social skill curricula are available to school personnel (Lord & Hall, 2005). As a result, evidence-based practices are often neglected in lieu of nonempirically supported practices teachers can implement in their educational setting (Hess et al., 2008). The lack of fidelity aligned with evidence-based practices amongst teachers was found to have negative outcomes for intervention effectiveness (Plavnick et al., 2013). In examining and trying to understand the live experiences of the information gathered from the teachers in this current study concerning the three interventions examined (the teachers' use of what they defined as

social stories, video modeling, and peer-mediation) suggested their lack of fidelity would most probably impact the intervention effectiveness.

As mentioned in Chapter I, this researcher is from Saudi Arabia and his intention is to return to his native country and share what he has learned about special education, specifically the teaching of social skills to elementary-aged students with ASD. This study will be helpful when teaching special education teachers in Saudi Arabia about the importance of implementing evidence-based and best practices with fidelity in school settings. Some of the experiences of special education teachers in America could be translated to schools in Saudi Arabia. Understanding how to find and use evidence-based interventions is a useful tool. Knowing the successes and lack thereof other teachers have had in educational situations could help with learning how to apply the interventions. Research-based information could inform teachers in Saudi Arabia about the worth of training special education teachers in how to use evidence-based interventions to teach social skills to students with ASD. As a teacher from Saudi Arabia, it would be interesting to conduct further research there.

Recommendations for Further Research

The limitation of not defining the interventions had clear implications for future research. Future researchers should ensure definitions are clearly explained to participants before beginning any interviews or surveys.

More research should be completed on best strategies for implementing evidence-based interventions with fidelity given a short time-frame for preparation. The current study suggested more research could be done to discover when and how teachers decided to make changes in the interventions they used and how data to document effectiveness in

the change could be collected to show the efficiency of the changed intervention. Finally, further research into finding ways to ensure easy to provide training on the use of interventions such as social stories, video modeling, and peer mediation is indicated.

Conclusion

The purpose of this study was to add understanding to the following research question:

Q1 How do elementary special education teachers describe their experience when using peer-mediated interventions, social stories, and/or video modeling to address social skills with students identified with ASD?

Seven special education teachers working in elementary schools in Colorado who taught students with ASD in grades K-5 social skills with specific interventions were interviewed. After reviewing the data collected from those interviews, it was discovered special education teachers spent time individualizing interventions they used for teaching social skills to students with ASD and were not using interventions as defined in the research. Teachers most often created their own social stories and/or videos using equipment provided for them or their own equipment. Teachers worked individually with students on social skills interventions that were required at different times but they collaborated with other teachers, paraprofessionals, and specialists to decide how best to provide individual interventions. Using peers for interventions was generally an informal practice of inviting peers to work in the moment, such as on the playground. The teachers interviewed discussed how they collected data on how well students learned social skills. The data collected were most often shared with parents and team members working with the students.

Teachers described how they mostly needed to learn about evidence-based interventions by attending conferences, finding resources online, or through peer mentoring opportunities. Teachers discussed their university training as well as how they had attended conferences and used online sources to learn more about how to best work with students they saw every day. Most of the teachers felt challenged by the lack of time to individualize interventions, the lack of time to find reliable resources, and a lack of training in how to find and use evidence-based intervention methods. More research is needed to understand if how teachers used and/or changed interventions affected the outcome of those interventions. For all the teachers interviewed, the successful acquisition of social skills was their main purpose for how and when they applied interventions.

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APPENDIX A
INSTITUTIONAL REVIEW BOARD APPROVAL



Institutional Review Board

DATE: November 15, 2018

TO: Naif Aldawood, M.S.

FROM: University of Northern Colorado (UNCO) IRB

PROJECT TITLE: [1327121-2] K-5 Special Education Teachers' Perceptions of Using the Best Practices of Video Modeling, Social Stories, and Peer Mediated interventions to Teach Social Skills for Individuals with Autism Spectrum Disorder

SUBMISSION TYPE: New Project

ACTION: APPROVAL/VERIFICATION OF EXEMPT STATUS

DECISION DATE: November 15, 2018

EXPIRATION DATE: November 15, 2022

Thank you for your submission of revised materials for this project. The University of Northern Colorado (UNCO) IRB approves this project and verifies its status as EXEMPT according to federal IRB regulations.

Thank you for your thorough submission of requested revised/amended materials to your IRB application. Please be sure to use all amended/modified materials and protocols in your actual research.

Best wishes with your research and please don't hesitate to contact me with any IRB-related questions or concerns.

Sincerely,

Dr. Megan Stellino, UNC IRB Co-Chair

We will retain a copy of this correspondence within our records for a duration of 4 years.

If you have any questions, please contact Nicole Morse at 970-351-1910 or nicole.morse@unco.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.

APPENDIX B
EMAIL INVITATION

Dear Mr./Ms.

My name is Naif Aldawood and I am doctoral student at the University of Northern Colorado beginning my doctoral dissertation. My research advisor is Dr. Francie Murry. She is a professor at University of Northern Colorado. My research is about the teachers' perceptions of using the best practices of video modeling, social stories, and peer mediated interventions to teach social skills for individuals with autism spectrum disorder.

I will ask about how do special education teachers describe their experience when teaching social skills to students with ASD using promising and evidence-based practices and the training they got for using these interventions. For this study, I need to contact special education teachers who teach social skills to K-5 students with ASD in school districts in Colorado who may want to participate in an online one-on-one interview. I have received IRB approval for this study from UNC and have attached my letter of approval.

For a one-on-one interview it is necessary to use purposeful sampling. Each member that will be included will meet a criterion that helps inform my research. The criteria will be licensed special education teachers in Colorado, teachers of students identified with ASD who are in K-5 grades who use one or both of the two promising practices (i.e., peer-mediated interventions and social stories), and/ or one evidence-based intervention (i.e., video modeling) to teach social skills for students with ASD. Interviews will be conducted online using Zoom. They will be audio recorded and transcribed. Each interview will last approximately 20-30 minutes.

No personal data (school district or teacher name) will be identified in this study. The results from participants will be presented in an aggregated data format and all data will be kept confidential.

I am writing to you to request that you assist me in locating participants for my study among special educators who work with K-5 students with ASD. I request that you forward the email below from me to the special educators who work with students with ASD in grades k-5.

The link below will allow the teachers access to the online Qualtrics survey designed to elicit demographic and contact information for those who want to participate. Thank you for your support. Please see the email below that I request you forward for me.

Sincerely,
Naif A. Aldawood, M.S.
University of Northern Colorado
Ph.D. Candidate
School of Special Education

Hello, my name is Naif Aldawood and I am a student at the University of Northern Colorado. I am doing research for my doctorate on teachers' perceptions of using the best practices of video modeling, social stories, and peer mediated interventions to teach social skills for individuals with autism spectrum disorder.

I request that you join me in an online one-on-one interview to discuss your use of these interventions. If you meet the following criteria and are interested in helping me study the use of these interventions, please complete the Qualtrics survey using the link below. The criteria are licensed special education teacher in Colorado, teacher of students identified with ASD who are in K-5 grades, and use peer-mediated interventions, social stories, and/ or video modeling to teach social skills for students with ASD. Interviews will be conducted online using Zoom. They will be audio recorded and transcribed. Each interview will last approximately 20-30 minutes.

No personal data (school district or teacher name) will be identified in this study. The results from participants will be presented in an aggregated data format and all data will be kept confidential.

Qualtrics survey link:

https://unco.co1.qualtrics.com/jfe/form/SV_b1LXQI72YivVGkZ

Please feel free to contact me via phone or e-mail if you have any questions or concerns about the study. Thank you for assisting me in my study.

Email: alda6018@bears.unco.edu

Phone #: 970-301-7403

Research Advisor: Francie Murry, Ph.D. [SEP]

School of Special Education

Email: francie.murry@unco.edu

Phone: 970-351-1656

Sincerely

Naif Aldawood

APPENDIX C
INFORMED CONSENT FOR PARTICIPATION
IN RESEARCH



CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH
UNIVERSITY OF NORTHERN COLORADO

Project Title: Elementary Special Education Teachers' Perceptions of Using the Best Practices of Video Modeling, Social Stories, and Peer Mediated interventions to Teach Social Skills for Individuals with Autism Spectrum Disorder

Researcher: Naif Aldawood, Ph.D., School of Special Education

e-mail: alda6018@bears.unco.edu

Research Advisor: Francie Murry, Ph.D. ^[L]_[SEP]

School of Special Education

Email: francie.murry@unco.edu

Phone: 970-351-1656

My name is Naif Aldawood and I am a doctoral student at the University of Northern Colorado. My research is about teachers' perceptions of using video modeling, social stories, and/ or peer mediated interventions for teaching social skills for individuals with autism spectrum disorder.

I would like to request your participation in this study about your experiences teaching social skills to students with autism. Your participation will involve taking part in an online interview where you will be asked about your experiences working with students with autism, the interventions you have used in your classroom, and how you learned about these interventions. Interviews will be conducted online using Zoom. They will be audio recorded and transcribed. Each interview will last approximately x minutes.

All participants must be 18 or older and use peer mediated intervention, social stories, and/or video modeling to teach social skills to students with autism in K-5 schools in Colorado. There are no foreseeable risks to participate in this study. The risk of participating is no greater than those normally encountered during collegial conversation. While there is no direct benefit to participation, this study will contribute to the field of education by providing information about the interventions currently used with students with autism. Participants may also learn about new social skills interventions that might be helpful to them in the future.

Confidentiality cannot be completely guaranteed due to the nature of electronic data collection. You will be asked to provide your name and contact information to be used only to send instructions of the date and time of the interview and for any necessary follow-up. No names, IP addresses, or other identifying information will be used during the interviews. Participants will be provided with a gift card of \$15. You may decide not

to participate in this study and if you begin participation you may still decide to stop and withdraw at any time. Your decision will be respected and will not result in loss of benefits to which you are otherwise entitled. Please feel free to contact me or my research advisor via phone or e-mail if you have any questions or concerns about the study. Thank you for assisting me in my study.

Having read the above and having had an opportunity to ask any questions, please complete the following demographic questions if you would like to participate in this research. By completing the questions, you give your permission to be contacted with instructions about the interviews date, time, and location and to be included in this study as a participant. You may keep this form for future reference. If you have any concerns about your selection or treatment as a research participant, please contact Nicole Morse, IRB Administrator, Office of Sponsored Programs, 25 Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970-351- 1910.

Follow the like to take the survey. Or copy and paste the URL below into your Internet browser:

https://unco.co1.qualtrics.com/jfe/form/SV_b1LXQI72YivVGkZ

APPENDIX D
DEMOGRAPHIC QUESTIONS ON
QUALTRICS SURVEY

Demographic Information

1. I am:
 - Male
 - Female
 - They/ Other
 - Prefer not to answer

2. What certification and/or licensure do I possess? (check all that apply)
 - Teacher Initial License - BA
 - Teacher Master Certificate - MA
 - The Board Certified Behavior Analyst Certificate (BCBA)
 - Autism Certificate
 - Other credentials _____

3. I have been teaching for:
 - Less than one year
 - 1 – 4 years
 - 5 – 8 years
 - More than 8 years

4. The number of students on my caseload identified with autism in grades k-5 is:
 - 1-3
 - 4-6
 - 7-10
 - More than 10

5. My race/ethnicity is:
African American
Asian/Pacific Islander
Caucasian
Hispanic
Multiracial
Other
Prefer not to answer
6. I currently teach in elementary school.
Yes
No

Contact Information – the following information will be used only to contact you to supply you with instructions for the focus group and for any follow-up information. All contact information will be kept separate from all data collected and will be kept confidential.

Name: _____

Preferred method of contact:

Email: _____

Phone: _____

APPENDIX E
SEMI-STRUCTURED INTERVIEW QUESTIONS

Semi-Structured Interview Questions

Researcher Introduction: Thank you for meeting with me today. I appreciate your time and your help. I'm interested in hearing about your experience working with students with autism. The interview, as I told you, will be recorded and will take about 20 to 30 minutes. Before starting, if I have any follow-up questions, do you prefer them sent to your email or to make another meeting?

1. How do you make the decision about what social skills you work on first?

(prompts may include: Do you use any formal assessments?)
2. How do you teach social skills to students with ASD (prompts may include: Do you teach them directly – explain how you do that; do you integrate them into other curricular skills – explain how you do that?)
3. In the Qualtrics survey, you indicated that you use (peer-mediated interventions, social stories, or video modeling). Tell me about how you use it/them. (If the participant uses more than one, ask the questions for each intervention used)

For each intervention, ask about implementation:
 - a) What made you decide to use this intervention?
 - b) Where did you learn this intervention?
 - c) For video modeling: Do you use your own equipment?
 - d) For social stories: Do you use packaged programs or make your own?
 - e) For peer mediation: How do you choose peers? How do you train peers?
4. Do you use any other social skills interventions? (If yes, ask questions about implementation; and ask, Have you ever heard about ...name any of the 3 interventions they didn't use)
5. What do you see as challenges using any of the interventions you use with students with ASD?

6. Explain how you decide students are successful with (name intervention).
 - a) What data do you collect to show this success? (prompt can include: What does it look like?)
 - b) With whom do you share the data?
 - c) How do you use the data collected?
7. What kind of training do you have for teaching social skills) (Prompt includes: Ask specifically about the intervention they said used; about Autism certificate if they said they have, or other programs for students with ASD)
8. What other support or training would you like or need to receive to use these interventions more effectively?
9. Is there any other information that you want to share about the ways in which you teach social skills?

APPENDIX F
FOLLOW-UP INTERVIEW QUESTIONS

Follow-Up Interview Questions

1. How do you define a social story?
2. What is your definition of peer mediation?
3. What definition do you use for video modeling?

I am going to ask you some question specifically about social stories.

1. What reason do you usually use social stories for?
2. If you use social stories you buy, what is the name of the package?
3. If you create social stories is a type of format or step do you use?
4. If you create social stories what is the purpose of creating them?
5. If you create social stories how do you decide what pictures to use?
6. If you create social stories how do you decide what words or sentences to use?
7. When you use social stories, how do you track the effectiveness of using social stories?
8. Any other information you want to add about social stories?