January 2020

School-Aged Children With Severe Disabilities And Limited Verbal Language: Exploring The Importance Of Social Interactions And Friendship, And Its Application In Practice

Kristina Brodal Syversen

Recommended Citation

Brodal Syversen, Kristina, "School-Aged Children With Severe Disabilities And Limited Verbal Language: Exploring The Importance Of Social Interactions And Friendship, And Its Application In Practice" (2020). *Theses and Dissertations*. 3258.
https://commons.und.edu/theses/3258

SCHOOL-AGED CHILDREN WITH SEVERE DISABILITIES AND LIMITED VERBAL LANGUAGE: EXPLORING THE IMPORTANCE OF SOCIAL INTERACTIONS AND FRIENDSHIP, AND ITS APPLICATION IN PRACTICE.

By

Kristina Brodal Syversen
Bachelor of Arts, Theatre Arts, University of North Dakota, 2012
Bachelor of Science in Education, Elementary Education, University of North Dakota, 2012
Master of Science, Special Education, University of North Dakota, 2014

A Three-Article Dissertation

Submitted to the Graduate Faculty

of the

University of North Dakota

In partial fulfilment of the requirements

For the degree of

Doctor of Philosophy

Grand Forks, North Dakota
August
2020

Name: Kristina Brodal Syversen

Degree: Doctor of Philosophy

This document, submitted in partial fulfillment of the requirements for the degree from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

DocuSigned by:
Cheryl A. Hunter
Dr. Cheryl A. Hunter

DocuSigned by:
Joshua Hunter
Dr. Joshua Hunter

DocuSigned by:
Virginia Clinton
Dr. Virginia Clinton-Lisell

DocuSigned by:
Amy Jacobson
Dr. Amy Jacobson

This document is being submitted by the appointed advisory committee as having met all the requirements of the School of Graduate Studies at the University of North Dakota and is hereby approved.

DocuSigned by:
Chris Nelson
Chris Nelson
Dean of the School of Graduate Studies

7/13/2020
Date

PERMISSION

Title	School-Aged Children with Severe Disabilities and Limited Verbal Language: Exploring the Importance of Social Interactions and Friendship, and Its Application in Practice.
Department	Educational Foundations and Research
Degree	Doctor of Philosophy

In presenting this dissertation in partial fulfillment of the requirements for a graduate degree from the University of North Dakota, I agree that the library of this University shall make it freely available for inspection. I further agree that permission for extensive copying for scholarly purposes may be granted by the professor who supervised my dissertation work or, in her absence, by the Chairperson of the department or the dean of the School of Graduate Studies. It is understood that any copying or publication or other use of this dissertation or part thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the University of North Dakota in any scholarly use which may be made of any material in my dissertation.

Kristina Brodal Syversen
Date: June 29, 2020

TABLE OF CONTENTS

LIST OF FIGURES AND TABLES

Figure

CHAPTER II

Tables

CHPATER II

ACKNOWLEDGMENTS

First of all, I want to thank my doctoral advisor and dissertation committee chair, Dr. Cheryl Hunter. Without your kindness, knowledge, expertise, and support, I would not be finishing my dissertation. Through this exhilarating process, you have guided me with empathy, encouragement, and endless opportunities for me to grow as an educator and a human being. I also want to thank you for encouraging me to participate in research projects outside of my specific, showing how I can expand my knowledge and apply what I know to different fields of social justice. To Dr. Joshua Hunter, thank you for not only being my professor and committee member but also for everything you have taught me through our research project and your constant flow of knowledge. You have helped me find my voice in research, and I will be forever grateful for that! I also want to thank Dr. Virginia Clinton-Lisell and Dr. Amy Jacobson, for being on my committee. Though you both joined my committee towards the end, you dedicated your time to give me deep and insightful feedback on how to improve my work. I am immensely thankful for the both of you. Then there is Dr. Renuka Mahari de Silva – you are such an inspiring woman. You have shown me it’s never too late to follow your dreams and go beyond them. Thank you for being you, for teaching me so much, and for all the good times we have had together.

A heartful thank you goes to my parents for their constant love and support. Without you, none of this had been possible. You let me spread my wings and fly, even though it meant living far away in another country for so many years. Though it has been an absolutely incredible journey, I hope you know how much I have missed you throughout all of this. Thank you so

much for being the most supportive, encouraging, and loving parents I could have ever wished for! I also want to thank my wonderful brother, his wife, and two children: Øivind, Astrid, Sverre Johan, and Maud. I will always be thankful for your support, love, encouragement, and for being someone I inspire to be every day.

To my dear friends! I never thought I would have so many amazing people in my life. You have shown me that though we have walked in opposite directions, we have remained side by side. Thank you for letting us grow closer, while apart. I would not be who I am today if it had not been for our friendship.

Last but most importantly, I want to thank the magnificent, kind, generous, and honest individuals I have met along my path, whom I am dedicating my career to – this dissertation is for you! You have taught me how to open my eyes and see the world from different perspectives; how to recognize individuals for who they are and how their context affects their world; and you have shown me who I am, who I want to be, and my purpose in life. Thank you!

ABSTRACT

Social interactions and friendships with peers have been found to be essential to children's and adolescents' development, learning, and overall quality of life. However, research shows children and adolescents with severe disabilities and limited verbal language have fewer friendships and quality social interaction with peers than those without disabilities. This still occurs today, despite the implementation of the Least Restrictive Environment (LRE) legislation in 1978. One of the goals of the LRE was to maximize the opportunities children and adolescents with disabilities have when it comes to social interactions with peers in the general education classroom. However, as the general education classroom is not always deemed the most appropriate learning environment for students with severe needs, they receive very little of their education outside of their specialized classrooms. Knowing how important social interaction and peer relationships are when it comes to development, learning, and overall quality of life, it becomes essential to understand why these research findings are not being implemented into practice on a larger scale. Thus, this three-article dissertation aims to explore how past, current, and future research on social interactions and friendship impact how we educate students with disabilities and limited verbal language. Further, this study aims to provide educators, policymakers, and researchers a holistic understanding of why social inclusion and peer relationships are essential to how well students with disabilities and limited verbal language succeed in school, their sense of belonging, and their overall quality of life.

CHAPTER 1

INTRODUCTION

Children and adolescents with disabilities, especially those who have limited verbal language, often have fewer friends and social interactions than their peers without disabilities (Doll, 1996; Freeman, Gulsrud & Kasari, 2015; Hestenes & Carroll, 2000; Papoutsaki, Gena & Kalyva, 2013; Taheri, Perry and Minnes, 2016; Østvik, Ytterhus & Balandin, 2017). One of the main reasons for this is because these students spend significantly less time in proximity to their general education classroom peers (Fryxell & Kennedy, 1995; McDonnell et al., 2002). The majority of 6-21 year-old-students with multiple and intellectual disabilities spend 40% or less of their school day within a general education classroom (Snyder, de Brey, & Dillow, 2019). This occurs despite the passing of the legislation Least Restrictive Environment (LRE) in 1978 (Villegas, 2017). The LRE was passed to maximize opportunities for social interactions between students with and without disabilities, by including students with disabilities in the general education classroom as much as possible (Morin, 2020; Rueda et al., 2000; Villegas, 2017). However, this is determined by whether a student's supplementary aids and services can be provided there (Morin, 2020). For most students with severe disabilities, it cannot. Therefore, they spend most of their day within specialized classrooms (Morin, 2020; Rueda et al., 2000).

Though the general education classroom has been deemed unsuitable for providing the appropriate aid and programs for these students, being included in such a setting has shown to be important to other aspects of learning and development. When deprived of social interactions and close friendships, it can have a negative effect on these students' lives, by making them feel lonely and depressed, which can decrease their academic performance (Coie & Cillessen, 1997;

Corsaro, 1990; Gordon et al., 2005; Papoutsaki et al., 2013). Inclusion, social belonging, and social groups are also dominant factors in how well individuals are being accepted into society (Tomlinson, 2012). This is supported by theories of childhood in sociology, where social groups or peer cultures as Corsaro (1997) defines them, have been found essential to children's development and ultimate success in school (Chung, Carter & Sisco, 2012; Corsaro, 2011; Suzumski, Smogorzewska & Karwowski, 2016). Current research reinforces this statement, as social interactions with peers have been found to have a positive impact on children and adolescent's social skills, cognitive, emotional and language development, which are all critical aspects to an individual's quality of life (Corsaro, 2011; Gordon, Feldman, & Chriboga, 2005; Kennedy & Itkonen, 1996; Papoutsaki et al., 2013).

Though this is a well-studied topic for students with and without disabilities, we are still seeing a gap between research and practice in terms of social interactions and friendships among students with severe disabilities and limited verbal language. One reason for this could be the rigorous requirements set by the Institute of Education Sciences (IES) and the What Works Clearing House (WWC) on what research qualifies as Evidence-Based Practice (Odom et al., 2005). But it could also be impacted by the quality of how current research is constructed and conducted. When it comes to research on social interactions and friendship among this population, current research is mostly exploring this phenomenon through observations of interactions between students with disabilities and their peers, and interviews with peers, teacher, and parents (Chung, Carter & Sisco 2012; Corsaro, 1990; Doll, 1997; Freeman et al., 2015; Gordon et al., 2005; Hestenes & Carroll, 2000; Odom et al., 2006; Papoutsaki et al., 2013; Taheri et al., 2016). This limits the understanding of how these students themselves perceive friendships, and if they classify friendship in the same way as current literature defines it (Østvik et al., 2017). Further, a majority of this research can be classified as *basic* instead of *applied research*, as it mostly adds to our general knowledge instead of being used to make direct practical decisions about improvements in program and practices (Bogdan & Biklen, 2007; Schein, 1987).

Knowing how important social interaction and peer relationships are when it comes to development, learning, and overall quality of life, it becomes essential to understand why these research findings are not being implemented into practice on a larger scale. Thus, this three-article dissertation aims to explore how past, current, and future research on social interactions and friendship impact how we educate students with disabilities and limited verbal language. Further, this study aims to provide educators, policymakers, and researchers a holistic understanding of why social inclusion and peer relationships are essential to how well students with disabilities and limited verbal language succeed in school, their sense of belonging, and their overall quality of life.

Problem statement

Social interactions and friendships with peers have been found to have a positive impact on children's social skills, cognitive, emotional and language development, which are all critical aspects to an individual's quality of life. Yet, existing research examining social interactions specifically among children and adolescents with disabilities and limited verbal language show minimal peer interactions and friendships in this population. This reflects a discrepancy in how well educators are adapting research findings into practice and a lack of understanding of how important social interactions and peer relationships are for all students.

Purpose of Study

The purpose of this three-article dissertation is to provide a holistic understanding of why students with disabilities and limited verbal language are still experiencing minimal social interactions and friendships with peers, even though decades of research indicate how important these are to development, learning, and overall quality of life. Therefore, this study aims to explore how past, current, and future research on social interactions and friendship impacts how we educate students with disabilities and limited verbal language. Specifically, this was done to encourage educators, policymakers, and researchers to have a higher focus on the importance of social interactions and peer relationships, by providing a more inclusive learning environment for all students.

Dissertation Format

My dissertation research consists of three articles, which are identified as chapters. Each article builds on each other, to create a holistic understanding of what social interactions and friendships look like for children and adolescents with disabilities and limited verbal language. It also examines how past, current, and future research on social interactions and friendship impact how we educate students with disabilities and limited verbal language.

Article 1. The first article is a systematic literature review looking at the perception of friendship among children and adolescents with limited verbal language, and how different methods impacted these findings. The purpose of this was to create a more in-depth review of which research methods might be more applicable to this population, to create a better understanding of their perception of friendship, and what friendship means to them. The following research questions were addressed:

1. Which research methods have been used in previous research on the perception of friendship among children and adolescents with limited verbal language?

2. What results came from the different research methods?
3. How can the research methods used in previous research be compared and contrasted to each other?
4. How can the findings in previous research be compared and contrasted to each other, based on the chosen research methods?

The systematic review was conducted based on the guidelines suggested by the 27-item checklist and flow diagram by the Prisma Statement (Moher, Liberati, Tetzlaff, & Altman, 2009). Twelve international general-purpose databases were searched, using nine broad search term phrases. Search term phrases were built on keywords describing the participants and their relationships with peers. These were combined in multiple variations, to locate as many articles as possible. The database search provided a total of 29,476 results, including duplicates. These were saved to “RefWorks” and transferred to “Abstrackr” to screen the titles and abstracts of these articles. A total of 258 references were selected for further investigation. Full-text copies of these articles were downloaded and examined by the author, and a total of 28 articles met the inclusion criteria. A backward search was done of the references in the 28 extracted articles, to ensure that all relevant studies were identified. This backward search provided another seven articles, raising the total to 35 articles meeting the inclusion criteria of describing friendship among children and adolescents with limited verbal language and their peers. These were reviewed for data extraction and quality assessment.

While the first article was not completed by the time the second article was conducted, preliminary findings showed there to be a lack of studies collecting data on the perception of friendship from children and adolescents with limited verbal language themselves. These studies also mostly collected data in inclusive settings. Therefore, the second article became a case study of three children with limited verbal language in a multiple impairments classroom, examining the social interactions occurring within this social context.

Article 2. This narrative case study utilized a qualitative methodology to examine the social context within a multiple impairment classroom, and more specifically, the social interactions of three children with limited verbal language and multiple disabilities. A narrative approach used to reflect during the entire inquiry process because it quickly became evident how complex these lived experiences were (Moen, 2006). The social interactions of these children are not isolated to just whom they are, but it is profoundly impacted by their social and cultural context. Therefore, to better unpack this complexity, it became vital to present the findings through a meaningful narrative, where both the individuals and the context was captured (Moen, 2006). By doing so, the author hopes the reader will gain a better understanding of the social interactions these children engage in and how they affect their lives. The following research questions were used as a guide to explore these student's social context:

1. What social interactions do children with limited verbal language engage in, and how do they value these interactions?
2. How are social interactions facilitated for these students, by teachers and adults?

Participants were recruited through purposeful sampling (Creswell & Plano Clark, 2011; Robson & McCartan, 2015) by cooperating with the local Public-School District in a Northern Mid-Western City. Three children with multiple impairments and limited verbal language became the focal participants in the study, along with their special education teacher, paraprofessionals, speech-language therapist, physical education teacher, and substitute teacher. The data was collected through participatory observations (Bogdan & Biklen, 2007), fully structured and semi-structured interviews (Robson & McCartan, 2015), and analyzing the focal participants'

Individualized Education Program (IEP). Multiple methods of data collection were utilized to establish validity through data triangulation.

A total of 50 participating observations were conducted, for the focal children to see the researcher as a member of their social context, allowing for a higher level of trust to be established and for the participants to be more familiar with the researcher before the interview process (Robson &McCartan, 2015). The researcher, therefore, helped with work tasks, sat with the children during recess and lunch, and had conversations with both the children and the adults throughout the day. Interviews were conducted with all three of the focal participants, the special education teacher, speech-language therapist, and the full-time paraprofessional. This approach was chosen to build on the idea of social constructivism because to understand people as individuals, and within a social context, we need to examine their interactions with other people (Clandinin & Connell, 2000; Robson &McCartan, 2015). This also meant it was imperative to use a flexible design. As the researcher got to know the participants better, their needs and abilities impacted how the data was collected.

The field notes and the interview transcriptions were analyzed using a narrative thematic analysis (Charmaz & McMullen, 2011). Through multiple readings of the data, codes were established and developed into themes while keeping in mind the voices within each narrative and layering these voices with their interactions to create an understanding of each participant's story (Charmaz & McMullen, 2011). The overarching theme of "Opportunities for Interactions" emerged, including the two sub-themes: Interactions with Adults and Interactions with Peers. A cross-case analysis was also performed to examine if there were any patterns across the individual stories (Charmaz & McMullen, 2011). A narrative approach was used to explain the findings, as this would allow for a presentation of what the participants said about their social context and how it was told (Charmaz & McMullen, 2011).

Ethics Standards. This study gained Institutional Review Board (IRB) approval from the IRB Committee of the University of North Dakota on September 24, 2018. All participants were accommodated with an *Informed Consent Form* to sign. Considering the children were underaged, these forms were signed by their parents/legal guardians. The *Informed Consent Form* was given one-to-two weeks before the data collection began.

Article 3. After finalizing the systematic review and the case study, it became evident there is a gap between research and special education practice. Therefore, my final article examines why there is a gap between research and practice regarding social interactions among children with significant disabilities and limited verbal language. Despite research indicating how essential social interactions are to development, learning, and overall quality of life, most students with multiple and intellectual disabilities spend 40% or less of their school day in a general education classroom. This raised the research question:

1. What is hindering research findings and their recommendations from becoming part of special education practice?

To gain a better understanding of how children with severe disabilities and limited verbal language are educated, it was imperative to examine how the history of special education laws and policies have impacted today's classrooms. Together with the impact of laws and policies within special education, the article examines how recommendations for higher quality research have influenced the way research is conduct and construct in this field. Finally, this article looks at how these elements have contributed to why the recommendations from research findings are not implemented into practice at a larger scale.

Organization of the Remainder of the Study

Chapter Two consists of the first article, “Perception of Friendship Among Children and Adolescents with Limited Verbal Language, and the Impact of Research Methods: A Systematic Literature Reviews.” Chapter Three is the second article, “Social Interactions in a Multiple Impairments Classroom: A Case Study of Three Children with Limited Verbal Language.” In Chapter Four, the third and final article will be presented, titled “The Research to Practice Gap: Friendship and Social Interactions Among Children with Significant Disabilities and Limited Verbal Language.” Finally, in Chapter Five, a conclusion tying the three articles together will be provided.

CHAPTER II

PERCEPTION OF FRIENDSHIP AMONG CHILDREN AND ADOLESCENTS WITH LIMITED VERBAL LANGUAGE, AND THE IMPACT OF RESEARCH METHODS: A SYSTEMATIC LITERATURE REVIEW

Perception of Friendship Among Children and Adolescents with Limited Verbal Language, and the Impact of Research Methods: A Systematic Literature Review

Kristina Brodal Syversen

University of North Dakota

Abstract

Social interactions and friendships with peers have been found to be essential to children and adolescents' development, learning, and overall quality of life. However, research shows children and adolescents with limited verbal language have fewer friendships and quality social interaction with peers than those without disabilities. Yet, these findings are mostly based on observational data and the perception of proxies (teachers, parents, and peers), instead of these individual's own perception. Therefore, it becomes essential to systematically review methods utilized in the literature to investigate how these have impacted the findings and our current understanding of how children and adolescents with limited verbal language perceive friendship. Twelve databases were searched, using English search terms built on keywords describing children and adolescents with limited verbal language, and relationships they have with peers. Twenty-eight articles met the inclusion criteria. A backward search was conducted of the references of these articles, providing a total of 35 articles meeting the inclusion criteria of describing friendship among children and adolescents with limited verbal language and their peers. The results revealed though there is a consensus in how friendships are perceived among children and adolescents with limited verbal language, these perceptions were mainly gathered from proxies (peers, parents, and teachers). Only two studies included data solely from adolescents with limited verbal language, and an additional 14 attempted to include interview data from them. Future research should collect data more prominently from children and adolescents with limited verbal language themselves in order to create a more holistic understanding of how this population perceives friendship and how these relationships impact their overall quality of life.

Perception of Friendship Among Children and Adolescents with Limited Verbal Language, and the Impact of Research Methods: A Systematic Review

Research on friendship among children and adolescents without disabilities is quite substantial (Østvik, Ytterhus, & Balandin, 2017), and though the literature continues to grow for children and adolescents with disabilities and especially those with limited verbal language, it is not nearly as extensive and comprehensive as it could be. There is especially a limited amount of research gathered from just the participants with limited verbal language themselves. Instead, current literature consists mostly of data being collected through proxies (parents, teachers, and or/peers) or a combination of proxies and the participants with limited verbal language. Therefore, it becomes essential to systematically review methods utilized in current literature to investigate how collecting data mostly from proxies have impacted the findings and our current understanding of how children and adolescents with limited verbal language perceive friendship.

Because of the limited data gathered from this population itself, Day and Harry (1999) suggested it becomes too easy to turn to something that Goffman (1963) refers to as a "master status" when explaining the basis of friendships for this population. The term master status denotes when a person's identity and entire social experience is shaped by a perceived social standing and is often implied as a negative connotation (Goffman, 1963). Similar to any group of people identified as belonging to a particular microcultural group (Banks & McGee-Banks, 2020), there seems to be stigmatization based on race, culture or personal abilities for individuals with disabilities, when explaining the relationships, they have with others (Day & Harry, 1999). The consensus in the current literature, therefore, seems to define friendship based on what has been found among individuals without disabilities, as reciprocal friendships in the sense that there is a mutual preference of each other (Anderson, Balandin, & Clendon, 2011; Buysse, 1993;

Day & Harry, 1999; Hall, 1994; Moore-Dean, Renwick, & Schormans, 2016; Østvik, Ytterhus, & Balandin, 2018; Rossetti, 2011, 2015; Salmon, 2013). These reciprocal friendships are usually built on shared interests, proximity, positive affect, intimacy, affection, the transcendence of context, companionship, conflict management, trust, loyalty, and support (Buysse 1993; Day & Harry, 1999; Hall & McGregor, 2000; Hollingsworth & Buysse, 2009; Matheson, Olsen, & Weisner, 2007; Moore-Dean et al., 2016).

Though these are common descriptors of reciprocal friendship throughout the literature, Freeman and Kasari (2002) suggested that friendships might look different for those with disabilities compared to those without. When examining the literature, this was confirmed by Buysse (1993), who identified an additional two types of friendships in her study: (1) Type I unilateral relationships (where the child initiates interactions with a peer who does not reciprocate, and (2) Type II unilateral relationship (where the child is the recipient of peer's interactions but does not reciprocate). Similarly, Østvik et al. (2018) found that only one-third of the participants with limited verbal language reported being in a reciprocal friendship, and instead mostly engaged in unilateral friendships. Some of their participants also identified adults as friends, and one girl identified a doll as her friend.

Friendship and individuals with limited verbal language

Though limited verbal language can occur because of other reasons than disabilities (e.g., selective mutism), the current study focuses on individuals whose verbal language was limited due to their disability. For the purpose of this study, limited verbal language contains to individuals who can only express themselves through short sentences, a few words, or not verbally at all. Though verbal language is not the only way to express oneself, having limited verbal language can have a negative influence on the friendship because of the reduction in communication effectiveness and emotional responsiveness, as these individuals might also have motoric impairments affecting their facial expressions and other non-verbal social-relational skills as well (Anderson et al., 2011; Durkin & Conti-Ramsden, 2007: Light, Arnold, & Clark, 2003). Durkin and Conti-Ramsden (2007) note language to be especially important to reciprocal relationships among adolescents, as their friendships tend to draw even more on who is initiating interactions, being able to provide social support, attend to other's perspectives and needs, and self-disclosure (as cited in Buhrmester, 1996; Rose & Asher, 2000; Steinberg & Morris, 2001). However, with research indicating that children and adolescents with limited verbal language might identify friendships in different ways than the typical reciprocal definition, it is important to examine what makes these social interactions important and meaningful to this population.

Importance of Friendships

No matter what word we use to define the relationships we have with other people, Papoutsaki, Gena, and Kalyva (2013) stated that interpersonal relationships are highly important when it comes to our quality of life (as cited in Kennedy & Itkonen, 1996). This lack of interpersonal relationships or peer rejections can cause loneliness and decrease the opportunities for further social and interpersonal interactions (Coie & Cillessen, 1993). Webster and Carter (2007) also present that research has found friendship to be the most important one of all social relationships (as cited in Berndt & Perry, 1986; Bukowski, Newcomb, & Hartup, 1996; Newcomb & Bagwell, 1996). This is because the attachments one experience through relationships have a significant impact on how the brain is wired, our emotional state, how we learn, the development of self-concept, and the development of executive functioning (Bass & Walker, 2015).

When examining friendship among children and adolescents, it is important to note the importance of developmental stages and how someone's mental age can potentially influence how friendship is perceived. Compared to chronological age (years since we were born), our mental age is a measure of intelligence compared to individuals of the same age (Siegler, 2016). This means that though we might be the same age as our peers chronologically, our mental age can be lower or higher depending on our intellectual development (Siegler, 2016). Considering that individuals with disabilities might have a lower mental age than their chronological age, it is important to know what friendship looks like at different stages through life, especially if we want to truly understand how friendship looks like for children and adolescents with limited verbal language.

According to psychologist Robert Selman, a five-level framework can be used to understand the developmental trends that impact children's friendships (Kennedy-Moore, 2012). In her article, Kennedy-Moore (2012) presents these five stages, which Selman developed through systematic interviews with children of different ages. Kennedy-Moore starts out with Level 0 Friendship – Momentary Playmates: "I Want it My Way," which occurs approximately from the ages of three to six years. During this stage, she explains that friends are only seen as momentary playmates, and their friendship is built on having fun together. Though children at this stage tend to find friends who are conveniently nearby and might have a more moment-to-moment type of friendship, they also show a preference for some peer over others and show some continuity in their friendships. Level 1- Friendship – One-Way Assistance: "What's In It For Me?" occurs approximately between the ages of five to nine years (Kennedy-Moore, 2012). At this level friendship is often defined by who do nice things for them, such as sharing, but doesn't really think about what they can contribute to the friendship themselves (Kennedy-

Moore, 2012). However, at this level, she says that children care more about friendship, and they understand that it goes beyond just a current activity being done.

At around age seven to twelve, we have Level 2 Friendship – Two-Way, Fair Weather Cooperation: "By the Rules" (Kennedy-Moore, 2012). At this level, Kennedy-Moore (2012) says that children are starting to understand turn-taking and to consider a friend's perspective along with their own. Children are also very concerned with fairness and reciprocity, meaning if they do something nice for a friend, they expect friends to do something nice back, and if it doesn't happen, the friendship might end. She also states that children are very judgmental of themselves and others at this stage, making them very concerned about fitting in and being like everyone else.

Level 3 Friendship – Intimate, Mutually Shared Relationships: "Caring and Sharing" occurs approximately between the ages of eight and fifteen, and it is at this age they start to confide in each other and help each other with solving problems (Kennedy-Moore, 2012). They also genuinely care about each other's happiness at this stage, by compromising and doing kind things for each other without expecting something in return. The last level is Level 4 Friendship – Mature Friendship: "Friends through Thick and Thin," which goes from approximately age 12 and up (Kennedy-Moore, 2012). Kennedy-Moore explains that around this age, children/adolescents start to become more emotionally close with their friends, they feel less possessive and not so threatened if their friends have other relationships, and there is an overall higher level of trust and support at this level. Though Selman's framework gives a good idea of how friendship looks different at different ages, Kennedy-Moore also highlights that his framework has received some criticism, as it is only based on interviews with children. She continues that through observations, it has been noted that children can already at six months show excitement about seeing a peer, show a preference for certain peers around twelve to 18-months, and around age two to three they can be touchingly kind to each other, such as comforting a crying friend.

Despite Selman's framework on how our developmental age can impact the relationships we engage in; this is not often mentioned as an important factor to include when investigating friendships among children and adolescents with limited verbal language. This could be important to note, knowing that this population is still experiencing having fewer friends and social inclusions, and might see friendships differently than their peers without disabilities (Østvik et al., 2017, 2018; See also Evans & Meyer, 2001; Fisher, 2001; Freeman, Gulsrud & Kasari, 2015; Geisthardt, Brotherson, & Cook, 2002; Hestenes & Carroll, 2000; Papoutsaki et al., 2013; Taheri, Perry and Minnes, 2016).This discrepancy of connection between elements that affect how this population identifies friendships and the lack of data to support how friendships look like for children and adolescents with limited verbal language, intrigued the need to examine the methods utilized in studies exploring friendships among this population, and view the findings as perceptions of friendships instead of a definition of friendship.

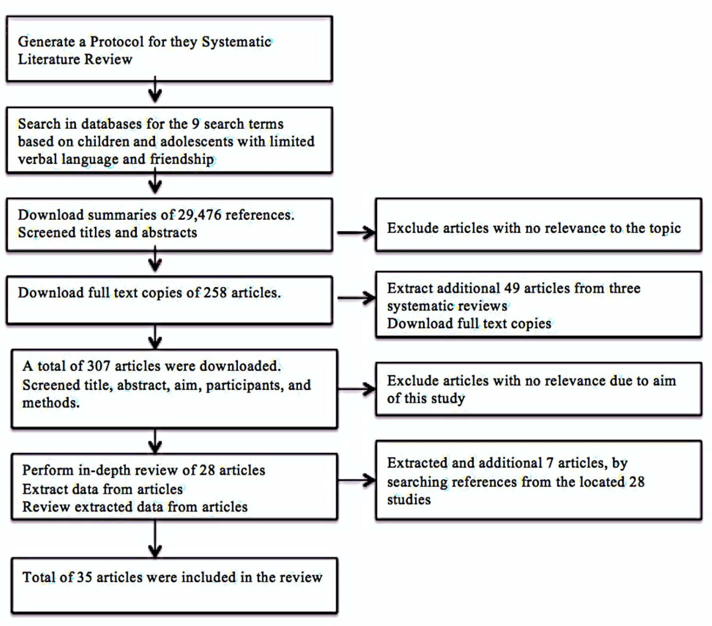
The aim of this article is to present a systematic literature review of current research on friendship among children and adolescents with limited verbal language by examining the impact of utilizing different research methods on the findings. This was done to create a more in-depth review of which research methods might be more applicable to this population, to create a better understanding of their perception of friendship, and what friendship means to them. The review complements Webster and Carter's (2007) review on social relationships and friendship of children with developmental disabilities, and the review by Østvik et al. (2017) on friendships between children using augmentative and alternative communication and peers. Results from the literature review are discussed, along with implications for future research. The following research questions were addressed:

(1) Which research methods have been used in previous research on the perception of friendship among children and adolescents with limited verbal language?
(2) What results came from the different research methods?
(3) How can the research methods used in previous research be compared and contrasted to each other?
(4) How can the findings in previous research be compared and contrasted to each other based on the chosen research methods?

Methods

A systematic review was conducted based on the guidelines suggested by the 27-item checklist and flow diagram by the Prisma Statement (Moher, Liberati, Tetzlaff, & Altman, 2009). *The Prisma Statement* consists of a checklist of 27 items and a flow diagram of what to include in a systematic review protocol (Moher et al., 2009). The procedure of conducting the literature search is described in Figure 1., followed by a more in-depth explanation of how the sources and search terms were selected, the procedure of reviewing articles, how the data was extracted from each article, and the quality assessment of the extracted articles.

Figure 1. Procedure of literature search



Sources and Search Terms

In the fall of 2018, the following 12 international general-purpose databases were searched: Academic Search Premier, CINAHL, Cochrane, ERIC, Health Source, Linguistics and Language Behavior Abstracts, PsycINFO, PubMed, PubPsych, SAGE, Science Direct, and Scopus. Nine search term phrases were used for all the databases. The author decided to keep them rather broad and diverse, in order to locate articles discussing friendship without necessarily mentioning it in its title or abstract. The author also chose to include the term “mentally retarded” in order to locate articles published before this terminology was dismissed. The study used nine search terms, with one set of keywords describing participants (“children,” “child,” “kid,” “adolescent,” “youth,” “augmentative communication,” “augmentative alternative and communication,” “augmentative and alternative communication,” “nonverbal communication,” “selective mutism,” “intellectual disability,” and “mental retardation,”), combined with a second set of terms describing relationships (“social interaction,” “social skills," "social behavior," "friendship," "peer relationship," "alone," "loneliness," and "lonely"). The keywords describing the participants and the terms describing the relationships were combined in multiple variations, in order to locate as many articles as possible. A full list of the nine search terms combined can be found in Appendix 1. The database search provided a total of 29,476 results, including duplicates.

Procedure

The results from each database were saved to "RefWorks" and then transferred to "Abstrackr," to screen the titles and abstracts of these articles. Articles with no relevance to the topic of this article were excluded. Articles describing friendship/peer relationships among children/adolescents with limited verbal language and peers were selected. A total of 258 references were selected for further investigation. Full text copies of these articles were downloaded and examined by the author. The articles that did not meet the inclusion criteria were excluded. Because "peer relationship" was included as a relevant term, a lot of the studies included in the 258 references were about peer and social relationships. Through the in-depth review, it was found that most of these did not mention the term "friendship," and were therefore excluded. There were three systematic reviews (Østvik et al., 2017; Petrina, Carter, & Stephenson, 2013; Webster & Carter, 2007) and one literature review (Saenz, 2003) included in these results, which were examined further, extracting another 49 articles. However, the systematic review from Petrina et al. (2013) and the literature review from Saenz (2003) was not included in the current review, because only a total of 3 articles they reviewed fit the criteria of the current review. The author included these three extracted articles. A total of 28 articles met the inclusion criteria, with nine articles coming from the three systematic and literature reviews. In addition, a backward search of the references from the located studies was conducted to ensure that all relevant studies were identified. This provided another 7 articles to be included in the review. A total of 35 articles met the inclusion criteria of describing friendship among children and/or adolescents with limited verbal language and their peers. These were reviewed for data extraction and quality assessment.

Data Extraction

The following data was extracted from each of the included articles: (1) main purpose, (2) participants characteristics and association (diagnosis, limited verbal language, peers, adults); (3) context/setting (inclusive classrooms, segregated classrooms, out of school/home environment); (4) data collection procedures/methods (observations, interviews, questionnaires, surveys, scales); (5) explicit statements about friendship characteristics; (6) main results; (7) document type; and (8) journal title.

Quality Assessment

According to Harden et al. (2004), a quality assessment is done to examine the quality of studies and is often used as a basis for excluding or weighting studies. For the current study, all the relevant studies were included, meaning the quality assessment was performed using the principle of best-evidence synthesis (Østvik et al., 2017). Harden et al. (2004) present seven assessment criteria to examine the quality of articles, but these have been made into nine criteria for the current article. The reason for this is because two of the criteria were two-folded. Based on the assessment criteria model by Harden et al. (2004), this article uses the following nine criteria to examine the quality of the included articles: (1) an explicit theoretical framework and/or literature review, (2) aims and objectives clearly stated, (3) a clear description of context, (4) a clear description of the sample, (5) a clear description how the sample was recruited, (6) a clear description of methods used to collect, (7) clear description methods used to analyze data,

(8) attempts made to establish the reliability or validity of data analysis, and (9) inclusion of sufficient original data to mediate between evidence and interpretation. Similar to Østvik et al. (2017), a table with these nine criteria was created, and the articles were given a “Yes” or “No” depending on if they met the criteria. This process was done twice for each article, before determining if they met the criteria or not. The fulfillment of the nine quality criteria for each included study is presented in table 1.

Table 1. Quality criteria fulfillment

Study	#1	#2	#3	#4	#5	#6	#7	#8	#9
Anderson et al. (2011)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Buysse (1993)	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Buysse, Goldman, & Skinner (2002)	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Day and Harry (1999)	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Durkin and Conti-Ramsden (2007)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Evans and Meyer (2001)	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes
Ferreira, Aguiar, Correia, Fjalho, & Pimentel (2017)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fisher (2001)	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Fryxell and Kennedy (1995)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fujiki , Brinton, Hart, & Fitzgerald (1999)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Geisthardt, Brotherson, & Cook (2002)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Guralnick (1997)	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Guralnick, Connor, & Hammond (1995)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Guralnick, Gottman, & Hammond (1996)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hall (1994)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hall and McGregor (2000)	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Hollingsworth and Buysse (2009)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kishi and Meyer (1994)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lee, Yoo, & Bak (2003)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Matheson et al. (2007)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Moore-Dean et al. (2016)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nabors (1997)	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Østvik et al. (2017)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Østvik et al. (2018)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rossetti (2011)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rosetti (2015)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Salisbury and Palombaro (1998)	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes
Salmon (2013)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Staub, Schwartz, Gallucci, & Peck (1994)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Strain (1984)	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Strully and Strully (1985)	No	No	Yes	Yes	No	No	No	No	Yes
Taheri, Perry, & Minnes (2016)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Webster and Carter (2007)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Webster and Carter (2010)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Webster and Carter (2013)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Results

The purpose of this article was to provide a systematic review of methods utilized in current research and identify how these have impacted our understanding of friendship among children and adolescents with limited verbal language. Thirty-five studies were identified, having relevance to friendship among children and adolescents with limited verbal language. A summary of the authors, participants, settings, methods, and findings for each study is presented in Table 2. The age of the children and adolescents with limited verbal language ranged from 15 months to 20 years and varied quite a bit within studies as well. Twelve studies included children under the age of five years, 19 studies included children and adolescents up to the age of 13 years, and 12 studies included adolescents from age 14 and up to 20. The participants were children and adolescents with disabilities and limited verbal language, their peers, parents/caregivers, and teachers/school staff. The participants with disabilities and limited verbal language were diagnosed with physical and developmental disabilities ranging from mild to severe, including disabilities such as intellectual disabilities, epilepsy, developmental delays, communication disorders, Down syndrome, cerebral palsy, autism spectrum disorder (ASD), Rett syndrome, Guillain-Barre syndrome, Wilm’s tumor, anirida, Goldenhar syndrome, genitourinary anomalies and mental retardation (WAGR) syndrome, emotional disabilities, and some had multiple disabilities.

The children and adolescents with disabilities and limited verbal language received educational services in inclusive, segregated, and partially integrated settings. The majority of the studies (17), came from participants in an inclusive learning environment. Another five studies looked at participants in an inclusive setting, but for three of the articles, the participants came from both inclusive and segregated settings. For two of the studies, Day and Harry (1999) and Kishi and Meyer (1994), the school was an integrated school, but the children with disabilities received their educational learning in a separate, special education classroom. However, Kishi and Meyer (1994) only collected data from peers without disabilities outside of this special education classroom, and Day and Harry (1999) collected their data in the participant's homes and during leisure activities. Two other studies (Fryxell & Kennedy, 1995; Guralnick et al., 1995), collected data from participants in both a general education classroom and participants in a special education classroom. Another study also looked at participants in an inclusive and segregated setting, where the participants were partially integrated (Matheson, Olsen, & Weisner, 2007). In the study by Matheson et al. (2007), a majority of the participants (14) were in a special education classroom, four were in a general education classroom, and nine belonged to both settings. The two studies by Rossetti (2011; 2015) both included participants from segregated, partially integrated, and outside of school. There were another five studies that only looked at participants outside of the school setting, and the two systematic reviews (Østvik et al., 2017; Webster & Carter, 2007) had data being collected in all the settings.

Research Methods

Data collection occurred primarily through interviews with parents, teachers, and/or peers (26 studies), but there were also 16 (11 qualitative, and five quantitative) studies that included some form of interviews with the children/adolescents with limited verbal language. In some of the studies, the participants with limited verbal language were not always able to complete the interview, due to their disability. Only two articles (Day & Harry, 1999; Moore-Dean et al., 2016) collected data solely from the participants with limited verbal language, which was done through interviews and observations. In the quantitative studies, interviews consisted mostly of interviews in survey/questionnaire form. The majority of the studies combined their interviews with observations, sociometric ratings, survey/questionnaires, and/or scales. A total of eleven studies used both interviews and observations, but ten of these also utilized additional methods to collect data. Sociometric nominations/ratings of each other and peers were the most common way to collect data after interviews and observations, as it was utilized by 16 studies. Out of these 16 studies, ten were quantitative, and six of them were qualitative studies. Among the quantitative studies, scales were highly used (11 studies), and seven studies (two qualitative) used surveys/questionnaires as part of their methods.

When examining the data collection methods of the extracted articles further, it was identified that 19 studies were qualitative, and 16 were quantitative. Studies were categorized as quantitative as long as their data collection pertained to interviews in survey form, observations through intervals, and their results were found through doing statistical analyses. It was also found that the methods used to collect data allowed for three types (groups) of studies to emerge. "Our Perspective" (G1), consisted of studies collecting data from only children/adolescents with limited verbal language themselves (two qualitative studies); "Proxy Perspective" (G2), was studies collecting data from only parents, teachers, and/or peers (proxies) (two qualitative, and six quantitative studies); and "Mixed Perspectives" (G3), consisted of studies that collected data from both the children/adolescents with limited verbal language, and proxies (15 qualitative, and 10 quantitative studies). Table 2. indicates if an article was a qualitative or quantitative study, and which group their study belonged to. Categorizing the studies into these groups made it easier to compare and contrast them to each other, and when analyzing how the different methods impacted the findings. Especially since the main focus of this article was to look at how the methods impacted the findings. This is different from how Østvik et al. (2017) and Webster and Carter (2007) presented their systematic review, as they focused on the findings within the studies, and not so much how the methods impacted these findings.

Therefore, when reporting the findings for this systematic review, the author found it more comprehensive to present the findings from the articles reviewed based on which type of study they conducted (groups 1, 2, or 3) and the methods used within these groups. This became evident when examining the studies belonging to group two because their data relied solely on reporting's from proxies. The studies belonging to group three and that relied heavily on sociometric measures through peer ratings, also supported the reason to do this as well. Overall, the author believes that presenting the findings in this format can help further research to be constructed in a way that will provide a deeper insight into how children and adolescents with limited verbal language experience and perceive friendship themselves.

Table 2. Overview of included studies, their methods, and results

Authors	Purpose	Sample	Setting	Methods	Results
Anderson et al. (2011)	To investigate and report existing friendships between children with disabilities and peers who use AAC, from the perspective of children without disabilities, using the qualitative research method of narrative inquiry.	*Participants:* 6 (3 boys; 3 girls) without disabilities. *Their friends with disabilities were diagnosed with* cerebral palsy and used electronic speech-generating devices (SGDs) to communicate). The friends with disabilities did not participate in the study	Inclusive (mainstream) and partially inclusive (partial mainstream).	*Qualitative "proxy perception" (G2):* in-depth interviews. Analysis: thematic narrative methodology.	Friendships began spontaneously by being in the same class. *Why the friendships were successful*: social values, attitudes toward disabilities, reward and benefits of friendship, personal characteristics of friends. Friendship motivators: altruism, recognition, and positive feedback in the form of reciprocity. *Friendship maintenance:* shared time (also outside of school); personal traits, trust, patience, and understanding (especially among older participants); being a helper. Different type of friendship than with peers without disabilities.
Buysse (1993)	To examine friendships among preschoolers with disabilities in community-based childcare settings. What is the incidence of children with disabilities who have established mutual friendships with peers? What aspects of the child, social partner, and the environment are associated with friendship status in these children?	*Participants:* 58 parents/caregivers and 48 teachers of 58 preschoolers with disabilities. *Children:* predominately male (66%), age 2.2 to 5.5 years. *Disabilities:* speech/language impaired, mentally handicapped, behaviorally/emotionally handicapped, developmentally delayed/high, ASD, other health impaired, multiply handicapped, visual impairment, and learning disability.	Inclusive community programs: day care centers, private preschool programs, and Head Start programs.	*Quantitative "proxy perception" (G2):* Sociometric rating, survey/questionnaire, and scales. Analysis: Statistical	Three types of friendship: mutual relationships (reciprocal), Type I unilateral relationships (where the child initiates interactions with a peer who does nor reciprocate), and Type II unilateral relationships (where the child is the recipient of a peer's interactions but does not reciprocate). Parents identified more children to have reciprocal friendships than teachers (46 vs. 32). Parents only identified six children to have no friendships, while teachers found 15 to not have any. Of the 29 children with speech-language impairment, 21 had mutual friendships. *Friendship factors*: personal characteristics, shared time, age, friend's possession, willingness to help, and adjustability.
Buysse, Goldman, & Skinner (2002)	To examine the effects of type of inclusive setting on the friendship formation of preschoolers with disabilities, within natural early childhood settings; how many playmates and friends with and without disabilities; what child and program characteristics affected the number of playmates/friends;	*Participants:* 25 general early childhood educators, and 20 early childhood special educators of 333 preschool children, age 19 to 77 months. 120 of them had a disability. *Disabilities:* Developmental delay, speech-language disorder, mental retardation, ASD, social-emotional disorder, physical or motor	Inclusive: (a) Inclusive specialized program (majority of the children had disabilities (b) Inclusive childcare program (majority of	*Quantitative "proxy perception" (G2):* Sociometric rating, questionnaire/survey, and scales. Analysis: Statistical	*Number of reported playmates and friend, and characteristics:* 1.4 friends for children with disabilities, and 2.0 for typically developing peers (Specialized programs); 1.6 friends for children with disabilities, and 1.7 for typically developing peers (childcare programs). Children with disabilities had more friends in the childcare program than the specialized programs. In the specialized setting children with disabilities had mostly friends with disabilities. In the childcare setting children with disabilities had mostly friends without

	what characteristics defined children's friendship dyads.	disorder, deaf or hard of hearing, health impaired, multiple disabilities, and other.	children did not have disabilities).		disabilities. Disability severity was not related to the number of reported friends. 18 children with disabilities had no friends.
Day and Harry (1999)	To report on a more "emic" perspective on a friendship between two young women with disabilities.	*Participants:* Sarita (16) year old with cerebral palsy and limited verbal language. Asha (19) years old, with "mental retardation" and idiosyncratic speech.	Partially integrated and outside of school.	*Qualitative "our perspective" (G1):* Emergent design and theoretical sampling. Interviews and observations. Analysis: constant comparison for the development of grounded theory	A reciprocal, fun-filled friendship, of high importance to both girls. They enjoyed each other's company. Typical features of adolescent friendships: intimacy, reciprocal appreciation, shared experiences, and having fun together. They understood and accepted each other, and found each other to be nice, funny, and someone to help/be helped by.
Durkin and Conti-Ramsden (2007)	To compare friendship quality in adolescents with and without speech-language impairment (SLI) and to test the extent it is predicted by individual differences in social behaviors and language ability. Also, to examine longitudinal associations between language impairments and later friendship quality.	*Participants:* 120 adolescents with SLI (72/5% male, 27.5 % female), age 15.2 to 16.9 years. 118 typically developing (TD) adolescents (64% male). Age 15.2 to 16.7 years. *Disability:* Speech-Language Impairment.	Partially integrated	*Quantitative "mixed perspective" (G3):* Interviews, survey/questionnaire, and scales. Analysis: Statistical	Language ability is predictive of adolescents' friendship quality. Participants with SLI were more likely to exhibit poorer quality of friendships and scored less favorable on the measure of friendship quality. 98% of TD adolescents reported having one or more relationships involving sharing and seeking contact, while only 64% of adolescents with SLI reported this level of quality of friendship. Little spontaneous socializing, shared activities, and feelings of enjoyment among adolescents with SLI.
Evans and Meyer (2001)	The experiences of a teenage girl with Rett syndrome who was being educated in an inclusive middle school are described to provide a better understanding of how social relationships create meaningful contexts for individuals with limited skills.	*Participants:* Georgia (14-16 years of age). *Disability:* Rett syndrome, and no verbal language.	Inclusive	*Qualitative "mixed perspectives" (G3):* Interviews/survey/ questionnaire, and naturalistic observations. Analysis: Thematical	*Basic school experience:* Georgia's interactions during school hours were relatively fleeting and subtle. She was sometimes ignored and avoided. She was constantly shadowed by her teaching assistant, which often blocked opportunities for interactions with peers. Sometimes, adults deliberately recruited other teens to help. Peers named being able to help as a reason for naming someone with a disability as a friend. *Just another kid:* visit from peers at home, to have them realize she was a teenage girl much like themselves. *Best friend:* One girl, Talisha, named Georgia her friend, and that she could trust her with anything. They spent time together, talked on the phone, visited each other, and told each

					other secrets. *Regular friends:* She and five other girls were part of a Supper Club, which met twice a month to have meals, go out on the town and do activities together.
Ferreira, Aguiar, Correia, Fjalho, & Pimentel (2017)	Examining how number of friendships, social acceptance, participation in cliques, and degree centrality vary as function of type of disability; and how teachers' awareness of sociometric status of young children with disabilities in the peer group by comparing teachers' classification of children's social status and their social status derived from standard sociometric data.	*Participants:* 1,493 children (731 boys) aged between 34 and 89.6 months. Out of these were 86 children with disabilities (63 boys), aged 45 to 88 months. 86 teachers (one male) aged 24 to 60 years. *Disabilities:* developmental delay, ASD, Guillain-Barre Syndrome, Wilms' tumor, - aniridia, genitourinary anomalies, and - mental - retardation (WAGR) syndrome, Goldenhar syndrome, speech-language impairments, cerebral palsy, Down syndrome, multiple disabilities.	Inclusive	*Quantitative "mixed perspectives" (G3):* Interviews, sociometric ratings, and scales. Analysis: Statistical	*Reciprocal friendships:* 55/8% of children had no friend, 25.6% had one friend, and 7.0% had two friends. 11.6% of the children did not participate in sociometric tasks. *Social acceptance:* was very low, with 45.9% of the children scoring below the 25th percentile of their classroom peer group and only 8.2% scoring above the 75th percentile. Children with disabilities had a low degree of centrality, and only three were involved in a clique. *Sociometric status:* teachers classified their children's status more positive than their peers did. *Correlations:* centrality and number of reciprocal friendships were strongly correlated. Peer social acceptance was negatively and moderately correlated to problem behaviors. Verbal competence was moderately correlated with number of reciprocal friendships and degree of centrality.
Fisher (2001)	To describe various aspects of Andre's experience during his third-and fourth-grade years at Atlantic Avenue School, providing one picture of the social relationship and friendships a student with disabilities, and the potential effect of social interaction opportunities on students' general development as well as the setting events and adult behaviors that facilitate or hinder those social interaction opportunities.	*Participants:* Andre and 40 students in the general education constituent groups (grade 3-4th). Andre's family, teachers and school principal. *Disability:* Andrew has multiple disabilities, limited verbal language, and uses a wheelchair for mobility.	Inclusive	*Qualitative "mixed perspectives" (G3):* Interviews, observations, and sociometric rating (in the form of a survey). Analysis: thematical in the form of frames.	*Ghost/guest:* viewed as an outsider rather than as a member of the classroom. Andre was sometimes ignored, other times his peers presumed to know his needs without checking with him. Interactions with peers were often missed/blocked by teachers/adults. Sitting by himself, while others are doing work with the teacher. *Inclusion kid/different friend:* classmates acknowledged children with disabilities but based on how the child with a disability differed from peers without. The interactions between Andre and his peers appeared to be different in kind from the interactions that occurred between peers without disabilities. Children would use comments such as "she's so cute!" or negative "he's a little weird." *Andre's life outside of school:* Andre's mother described his after-school life as rich in social relationships, and

					that he had numerous friends in the neighborhood. He loves hanging with friends at the par, go on the slide, race kids on bicycles, speeding along them in his wheelchair.
Fryxell and Kennedy (1995)	To better understand the conditions facilitating social relationships, we studied the impact of educational placement on the social life of students with severe disabilities. Several indicator variables were used to assess students' social relationships, including measures of social contacts, social support behaviors, and friendship networks.	*Participants:* 18 students with severe disabilities, at age 6-12 years. Special education teachers.	Inclusive (general education classroom) and segregated (self-contained special classroom).	*Quantitative "mixed perspectives" (G3):* Experimental design using post-test only control group design with matched comparison. Interviews, observations, sociometric rating, survey/questionnaire, and scales. Analysis: Statistical	Students placed in general education had higher levels of social contact with peers without disabilities. They also received and provided higher levels of social support from/to others. Their friendship networks were substantially larger and were mostly composed of peers without disabilities. Inclusive educational arrangements appear to be environments that occasion greater levels of beneficial social outcomes for students with severe disabilities
Fujiki , Brinton, Hart, & Fitzgerald (1999)	To describe how well eight elementary school children with SLI were accepted by their classmates and how many friends they had in their classes.	*Participants:* 8 children (1 male) in grade 1, 2, 4, and 5. Age 6.1 to 10.7 (years: months). *Disability:* Speech-Language Impairment (SLI).	Inclusive	*Quantitative "mixed perspectives" (G3):* Sociometric rating. Analysis: Statistical/calculating scores	Classmates rated three of the eight children with SLI 1 or more standard deviations below their class means. The acceptance measure revealed a higher percentage of low ratings for children with SLI than would be expected for the general population. The three first grade girls with SLI had at least one reciprocal friend who was also a girl with SLI. The other five did not have any reciprocal friendships. The play interactions they observed showed that most children with SLI were often on the outskirts of social activity in their class.
Geisthardt, Brotherson, & Cook (2002)	To explore social experiences of children with disabilities in their home and neighborhood – what access they have to friends in the home and neighborhood; do parents encourage friendships; and what characteristics of the home and neighborhood support or create barriers to their friendships?	*Participants:* 26 families with 28 children with disabilities (6 years of age). 16 females and 12 males. *Disabilities:* Spina Bifida, Cerebral Palsy, Dwarfism, Neurological Damage. Mental disability, physical and mental disability, Hydrocephalus, ACD, Holt-Oran Syndrome, Hydrocephalus, Moderate	Outside of school	*Qualitative "mixed perspectives" (G3):* Interviews, observations, and survey/questionnaires. Analysis: constant comparative method, using codes and emerging categories.	Three children played with neighborhood children almost daily, with much of that time being in their own homes either indoor or outdoor. Seven other children had children over to play occasionally. Eight children had occasional contact with other children from their school or daycare. The type and severity of the disability influenced the opportunity to have contact with friends – space often limited the type of play. Parents facilitated play. Five families reported other children were accepting of their child. Six families

		brain disability (seizure disorder).			believed other children did not understand their child’s disability and was, therefore, avoided.
Guralnick (1997)	To examine the community-based peer social networks of young boys with developmental delays.	*Participants:* Mothers of 210 boys, aged at 48-71 months old. Of these, 66 did not have a disability. *Disabilities: developmental delays, communication disorders. Fewer than half were enrolled in mainstreamed preschool programs.*	Outside of school	*Quantitative “proxy perception” (G2):* Interviews, survey/questionnaires, and scales. Analysis: Statistical	Children with more severe delays have a more limited peer social network in comparison to children without disabilities. Fewer reciprocated friendship. The primary group activities involved religious organizations and physical activities; groups met weekly and 27.8% of the groups included children with disabilities. *Social contact:* mothers reported that virtually all children, irrespective of developmental status, played with at least on child on a regular basis, and that they were long-term relationships (2-3 years).
Guralnick, Connor, & Hammond (1995)	Examine how valuable parents perceive integrated programs in relation to fostering their child's peer relations and friendships, the contributions of children with and without special needs to their child's social interactions with peers, concerns regarding rejection, and the importance of having other children with special needs available in the program.	*Participants:* mothers of 262 children between the age of 48 to 71 months. *Disabilities:* cognitive delay, communication disorders, physical disabilities, and being-at-risk.	Inclusive (integrated programs), and segregated (specialized programs)	*Quantitative “proxy perception” (G2):* Interviews, survey/questionnaires, and scales. Analysis: Statistical	*Integrated programs:* 83% of the mothers perceived their child to have made recent gains in learning to share, resolve conflict and play cooperatively with others. They also valued the presence of peers, giving opportunities for social learning and positive participation with peers. 40% of the mothers were concerned about rejection. However, 75% of the mothers perceived the integrated program as a good setting for their children to make friends, and that their child had one or more best friends (65% of these did not have disabilities). 50% felt their child did not have sufficient number of friends. *Specialized programs:* 203 of the children was enrolled in this setting. 80% reported that their child had one or more best friends (96% were within one year of age, and 89% of the same gender). 97 % of them met at preschool. 90% of the mothers believed their child had enough friends in this program.
Guralnick, Gottman, & Hammond (1996)	To examine the effects of social setting on the friendship formation of preschool-aged children differing in developmental status.	*Participants:* 121 children with and without disabilities, between the age of 4.3 to 5.6 years.	Outside of school: 21 playgroups, divided into inclusive, segregated	*Quantitative “mixed perspectives” (G3):* observations and scales.	The vast majority of young children (85%) established unilateral friendships (irrespective of a child’s developmental status). Children who were developmentally delayed formed the fewest reciprocal friendships. Children with communication disorders were less

		Disabilities: communication disorders (CD), and developmental delays (DD).	and partially integrated groups of 6 children.		socially interactive than same-chronological aged peers without disabilities but were able to form reciprocal friendships to the same extent as peers without disabilities. The proportion of children with developmental delays forming unilateral friendships was similar in both specialized and mainstreamed settings. In mainstreamed settings, children without disabilities preferred other peers without disabilities.
Hall (1994)	To assess social relationships in integrated classroom. In addition to social status, reciprocity in choice of playmates between children with disabilities and their peers were examined.	*Participants:* 93 children in four classes. Each class had one focal child with a disability. The age ranged from 3.5 to 7 years. Teachers. *Disabilities:* Down syndrome, born without left cerebellum, and cerebral palsy.	Inclusive	*Qualitative "mixed perspectives" (G3):* Interviews, interval observations, and sociometric ratings/nominations.	*Proximity to focal child:* The highest percentage of time spent with a peer with a disability was found in Class B in which Martin, a classmate without disabilities appeared on 28% of the observations with Manuel. *Sociometric Nominations:* the popularity of the focal children ranged from Manuel in class B who was found among the low status children in his class to Nathan who would be considered the most popular child in Class D. None of the focal children received the most negative nominations in their classes. *Sociometric reciprocity:* The number of reciprocal positive nominations was related to the social status of the focal children. Manuel, of low social status had only one reciprocal nomination compared with Ellie and Mike's three reciprocal relationships and the popular Nathan's seven reciprocal choices. Teachers identified peers as having a "mother" or "bossy' role. *Personal characteristics for friendship:* caring, warm, and quiet. Sharing activities was mentioned as the reason for spending time together. None of the teachers or aides stated that the focal children and their peers were friends.
Hall and McGregor (2000)	To describe peer relationships for students with and without disabilities in the preadolescent years and to determine if changes had	*Participants:* 3 boys with disabilities (focal children) and their classmates, between the age of 6-12 years	Inclusive	*Qualitative "mixed perspectives" (G3):* Longitudinal prospective design. Structured interviews, direct interval	All three focal children were involved in a variety of peer relationships during entry and upper grades. Manuel had a strong mutual relationship with one classmate, and Mike was observed interacting primarily with girls during both entry and upper grades. None of

	occurred in the nature of these relationships over time.			observations, and sociometric ratings (peer nominations).	the boys was found to be of low social status during the upper grades. None of them was found to make the typical shift to same-gender preferences for playmate during the upper elementary grades. They spent less time in large-group activities, more time alone, and received fewer nominations as a preferred playmate, compared to peers without disabilities.
Hollingsworth and Buysse (2009)	To describe parents' and teachers' beliefs and practices related to supporting established preschool friendships between children with developmental delays and without developmental delays	*Participants:* 12 preschool teachers and 24 parents, of 12 children with and 12 without developmental disabilities, between the age of 3 to 6 years. *Disability:* developmental delays	Inclusive	*Qualitative "proxy perception" (G2):* Semi-structured interviews. Thematic analysis	Teachers and parents described the nature of the friendships as harmonious, and largely characterized by positive play interactions. Friendships were characterized by commonalities in chronological ages, developmental ages, genders, cultures, temperaments, interaction styles, interests, or some combination of these. Several also mentioned compatibility in the form of complementing each other and meeting each other's needs. Some described children without disabilities to take on a mothering role in the relationship. Most participants found the friendships to be important or very important to the children with developmental delays. Participants noted a lack of exposure to same-age peers outside of school. Parents supported the relationships through setting the tone of the social environment, providing opportunities for dyadic interactions, and facilitating interactions or play.
Kishi and Meyer (1994)	To investigate what teenagers report and remember as a function of elementary school experience involving different levels of social contact with peers with severe disabilities.	*Participants:* 183 general education students without disabilities, 15-19-year-old. *Disability:* sever disabilities (not part of the study themselves).	Inclusive and segregated	*Quantitative "proxy perception" (G2):* Interviews (structured around 38 predetermined questions), and scales (acceptance scale, and self-observation scale). Statistical analyses	Gender and level of contact were significantly related to attitudes towards persons with disabilities. Students from the contact and exposure groups were more positive and accepting. They also reported more contact with people with physical and mental disabilities as teenagers. Girls were more positive and accepting than boys and were more willing to initiate social contact and pursue relationships. For some, the relationship with a peer with severe disabilities was remembered as teaching and

					caregiving. Friendship maintenance was negatively affected by not being in same school/classrooms when older, creating superficial and time-limited relationships.
Lee, Yoo, & Bak (2003)	To investigate typical children's social interactions and perceptions of friendships with friends with and without disabilities in preadolescent years.	*Participants:* 15 fourth through sixth grade students (10 boys, 5 girls) without disabilities; and 15 friends with disabilities (13 boys, 2 girls). *Disabilities:* mental retardation, Down syndrome, and learning disabilities.	Partially integrated	*Quantitative "mixed perspectives" (G3):* Interviews, observation dyads, and sociometric ratings/nominations. Statistical analyses.	Participants acted more as leaders toward friends with disabilities than friends without disabilities. They showed more neutral affection toward friends with disabilities, and more positive affection towards friends without disabilities. *Factors contributing to friendship formation:* spend time together, teacher's encouragement to help and understand a child with a disability, social contact, willingness to help a child with a disability, closer placement to child with a disability, the appearance of a child with disability, and a mother's suggestion to help a child with a disability. *Type of interactions:* playing together (singing, reading, playing games), helping, talking, and greeting.
Matheson et al. (2007)	To provide evidence on what teens with disabilities say about friendships and their own friends, using adolescents' own ideas and stories, along with ethnographic observations of their peer relationship.	*Participants:* 27 Euro American teens, age 16 to 17 with developmental disabilities. *Disabilities:* developmental disabilities, early speech or motor delays, ADHD, and multiple diagnoses (visual impairment, seizures, and cerebral palsy).	Inclusive, segregated, and partially integrated	*Qualitative "mixed perspectives" (G3):* Ethnographic semi-structured and open-ended interviews, and observations. Mostly qualitative thematic analysis with some quantitative statistical analysis. Does not specifically identify the study as a mixed-methods study.	The teens' concepts of friendship focused primarily on companionship and being able to engage in activities with peers in a variety of contexts, having peers to be with who shared similarities with them, and who were available on a long-term basis. They also mentioned sheer proximity and being in a group together as a kind of friendship. The majority of the teens had friendships and were socially engaged in ways that they themselves found satisfying. This was true for both the high-and-low functioning participants. Classroom context played a role in teens' reports of friendships because those teens in less inclusive classes tended to describe their friendships in more positive terms. Friendships between peers with developmental disabilities are more stable, proximally defined and companionate than friendships between teens with developmental disabilities and typically developing peers.

Moore-Dean et al. (2016)	The purpose of this qualitative secondary analysis was to examine the friendship experiences of children with intellectual/developmental disabilities (IDD) in order to explore whether characteristics of friendship identified in the literature for typically developing (TD) children are also evident in friendships of children with IDD.	*Participants:*9 children with IDD, aged 9-12 years. *Disabilities:* Cerebral Palsy, Down Syndrome, ASD, Asperger Syndrome, Global Delay, Intellectual Disability.	Outside of school, but in school the children were in both inclusive and segregated classrooms.	*Qualitative "our perspective" (G1):* Interviews and observations by using video recordings. Analyzed by using a constant comparative method.	*Friendship characteristics:* proximity, similarity, and transcendence of context. These were also supported by parents' verbatim quotations. *Proximity* was identified by 6 out of 9. Absent of proximity was also mentioned as a reason for not being friends any longer. *Similarity* was mentioned by 7, through shared activities and interests. Children in segregated classrooms mentioned having friends with disabilities. More than 50% of participants were observed interacting with children without disabilities or describing friendships with children without disabilities. *Transcendence of Context:* sleepovers, birthday parties, visiting each other's' homes, telephone conversations, and emails. *Support:* parental, children's repertoire of activities, and accessibility:
Nabors (1997)	To examine the playmate preferences of preschool-age children who are typically developing toward classmates with special needs.	*Participants:* 27 preschool children (13 boys, 14 girls) aged 37 to 69 months. Out of these 19 children (13 boys, 6 girls) had special needs. *Disabilities:* General delays, ASD, Cerebral Palsy, Down syndrome, Apert syndrome, facial impairment (cleft lip), and Prader-Will syndrome	Inclusive	*Quantitative "mixed perspective" (G3):* Interviews and sociometric ratings (friendship nomination)	146 positive nominations: 137 were of children without disabilities and 9 for classmates with special needs. There were 82 negative nominations: 61 for children without disabilities and 21 for peers with special needs. Many did not receive positive nor negative nominations. Common reasons for negative nominations: kicking, hair-pulling, and pushing. Disability characteristics were not used for disliking someone. Children with special needs received fewer nominations in the following contexts: general play, birthday party, and playground. *Friend definition:* identified by name, someone to play with, liked or loved another child.
Østvik et al. (2017)	To present a systematic literature review of the current research on friendship among children with little or no functional speech, who use AAC. Attention was directed to the	*Participants:* 502 children and adolescents between the age of18 months and 8 years, from 8 studies. Both with and without disabilities. *Disabilities:* ASD, ID, Spinal cord injury, traumatic brain injury, Cerebral palsy,	Inclusive, segregated, partially integrated, outside of school	*Qualitative "mixed perspective" (G3):* Database search, data extraction, and quality assessment. Reviewed studies used: database search, interviews, observations, multiple	The results revealed a lack of systematic development of knowledge. All reviewed studies were based on qualitative data, and five studies also included quantitative data. All eight studies used the term friend and/or friendship, but none defined them. Only two studies commented on reciprocity as a dimension of friendship, but it was not

	understanding of friendship as a social phenomenon.	developmental disability, physical disability, and acquired brain injury/		choice, rating scales/sociometric ratings, and questionnaires.	discussed in detail. Children using AAC were found to have a different basis for establishing and developing friendship, due to restrictions in presence, participation, interaction, and communication with peers.
Østvik et al. (2018)	To identify the friendship between students using AAC and fellow students in primary school and to describe their characteristics.	*Participants:* Total amount of participants were 41: 7 students using AAC (1-4th grade), 10 fellow students, 6 parents of students using AAC, and 18 staff at schools. *Disabilities:* not specified other than that they use AAC.	Partially integrated, and segregated	*Qualitative "mixed perspective" (G3):* Semi-structured and yes/no interviews and participatory observations. Analyzing data using a constructivist grounded theory approach.	Students using AAC reported friendships with students in class (19) and in the special unit (11). Five reported friendships with students in both the mainstream class and the special unit. Two only reported having friends in the class, and two in just the special unit. Friends of both benders, age ranged from 3 years younger to 6 years older. Two said they had friends among staff, and one identified a doll as a friend. Five students wanted more friends at school. Parents and teachers identified friendships as superficial and that students using AAC were seldom perceived as playmates. Friendships were often unilateral.
Rossetti (2011)	To explore how friendship was enacted in high school settings when one individual experienced autism and/or severe disabilities.	*Participants:* 7 students, 3 with disabilities and 4 without, aged 15-20 years. *Disabilities:* ASD and Menkes syndrome	Segregated, partially integrated, outside of school	*Qualitative "mixed perspective" (G3):* Ethnographic methods in form of semi-structures interviews and observations. Analysis: constant comparative method, using categorical coding.	There was reciprocity in each friendship, with each friend contributing to and enjoyed each other's relationship. *Barriers:* mode of communication, difficulty initiating conversations, social anxiety, and struggling to get together due to transportation difficulties. *Friendship Work:* spend time together, recognizing and negotiating difficulties/barriers, learning about experiences of disabilities, being supportive, meaningful connections, shared humor. Friends first as opposed to being volunteers or helpers first.
Rosetti (2015)	To explore how secondary students with and without ASD or IDD enacted their friendship each day and made meaning of their interactions and relationships.	*Participants:* 7 students, 3 with disabilities and 4 without, aged 15-20 years. *Disabilities:* ASD and Menkes syndrome	Segregated, partially integrated, outside of school	*Qualitative "mixed perspective" (G3):* Interviews and naturalistic observations. Analysis: symbolic interactionism as a theoretical and analytical framework.	A perceived strength of their connection as friends. They enjoyed spending time together and share an easygoing rapport when together. Interactions did not seem forced, awkward, artificial, or hierarchical. The students' interactions manifested meaningfulness of these friendships through demonstrations of motivation to interact with each other as much as possible. *Other*

					friendship factors: shared humor, normalized support, and mutual benefits.
Salisbury and Palombaro (1998)	To examine the relations between children without disabilities and their classmates with significant disabilities may lead to understanding how and why certain friendships emerge, what sustains them, and how they might differ from acquaintance relationships.	*Participants:* 3 children, aged 5-9 years, and their peers. *Disabilities:* significant disabilities and limited verbal language; cerebral palsy	Inclusive	*Qualitative "mixed perspective" (G3):* Ethnographic approach. Semi-structured Interviews, participant observations, and sociometric ratings (social standing assessment). Analysis: sorting technique, creating categories.	One out of three was physically, socially, and instructionally included, but the other two were not. *Sally:* peers felt they could correct, give guidance, and assume the lead without repercussions. Too much affection, help and work from peers. Sally was the first and second most popular student in her class each year of the study. Close friendship with one other student. *Kelly:* limited time with peers, and physically separated from other students during instruction. Was seen as a "visitor," and received only two mentions from peers on the social-standing assessment. Had three girls who consistently chose to be with her by the end of first grade. *Tara:* one of the most popular in her kindergarten class and had a wide circle of friends. Activities outside of school.
Salmon (2013)	To understand how disabled teens establish enduring friendships despite the presence of stigma in their lives, and to create a multidimensional analysis of the friendships of disabled youth from their perspective.	*Participants:* 14 (7 boys, 7 girls) between the ages 15 to 20 years. One boy did not have a disability; and 9 adults. *Disabilities:* specific disabilities not identified, but three participants used AAC.	Inclusive	*Qualitative "mixed perspective" (G3):* Micro-ethnographic case study. Interviews and participant observations. Analysis: critical approach by coding in Atlas.ti and using a concept map.	Positive experiences of social and academic inclusion in the first few years of elementary school, but each participant had also experienced rejection by peers without disabilities at some point in mid to late elementary school. They were not recognized as potential friends by peers without disabilities. Some were teased, received derogatory messages, mocked, discriminated against, and experienced social isolation. Reciprocity arose in three sets of friends where one teen with a disability used AAC. Friendships between teens with disabilities, where they felt accepted, kinship, had fun together, and shared mutual experiences in these relationships. Choosing friendships with other peers with disabilities, instead of remaining socially isolated.
Staub, Schwartz, Gallucci, & Peck (1994)	To understand what friendships with students with disabilities mean to students without disabilities,	*Participants:* 8 children, where 4 had disabilities and 4 did not have a disability, aged 6-13 years.	Inclusive	*Qualitative "mixed perspective" (G3):* Case study. Semi-structured interviews	All four friendships had their roots in nontutorial contexts and activities. Friendships were developed in the classrooms. Peers without disabilities were

	their parents, and their teachers.	*Disabilities:* severe mental retardation and a serious seizure disorder, Down syndrome, moderate mental retardation, and limited verbal language.		and observations, videotaping. Analysis: constant-comparative method.	not asked to assume an instructional or supervisory role with their peers with disabilities before teachers recognized the friendship. Helping role developed as the friendship developed. One participant expressed dissatisfaction with this change in roles and expectations. All parents of children without disabilities were supportive of full inclusion in general, and their child's friendship in particular.
Strain (1984)	The purpose of this observation study was a) to assess the presence or absence of stated friendships between normally developing and developmentally disabled children in mainstream preschools; and b) to compare the interaction patterns in friendship dyads comprised on nonhandicapped children with those comprised of one handicapped and one developmentally disabled child.	*Participants:* 140 preschool children, aged 38-56 months: 68 of the children were normally developing (32 boys, 36 girls), and 72 children had disabilities. *Disabilities:* mental retardation and autism (ASD).	Inclusive	*Quantitative "mixed perspective" (G3):* Observations and sociometric ratings (acceptance scale). Analysis: Kappa statistic	Preschoolers without disabilities selected friends without disabilities of their same sex and age, and peers with disabilities who were older than them. They also directed more initiations of Reward-Related Activity Complimentary Verbal Statements, Play Organizers, and Shared behaviors towards other peers without disabilities than those with disabilities. Participants without disabilities directed many more episodes of Physical Assistance, Affection, and Conflict Resolution towards peers with disabilities than those without. The initiations of preschoolers without disabilities were often reciprocated by peers without disabilities, but seldom by peers with disabilities. Participants without disabilities were far more likely to initiate positive social behaviors towards peers without disabilities than those with.
Strully and Strully (1985)	This essay is about the friendship between Shawntell and Tanya.	*Participants:* Shawntell and Tanya, 13 years old. Tanya does not have a disability. *Disabilities:* not specifically mentioned, but she is nonverbal	Partially integrated	*Qualitative "mixed perspective" (G3):* Conversational interviews and observations	The friendship started at school, and they have been friends for three years. They have a strong bond and show deep affection for each other. Tanya learned Shawntell's way of communicating. They have shared interests such as swimming, music, horseback riding, Tanya specified to her principal that her friendship is not a community service, just a friendship. Each girl gives as well as takes in the relationship, and it is not a one-sided affair with Tanya doing all of the giving. Tanya has learned about unconditional acceptance.

Taheri, Perry, & Minnes (2016)	To expand upon and compare the social participation as well as both quantity and quality of friendships in three large, well matched groups: typically developing children, children with intellectual disabilities (ID), and children with both ID and ASD.	*Participants:* 418 parents of children and adolescents with ID and ASD (3 to 19 years); 210 parents of typically developing children and adolescents (4-19 years *Disabilities:* Intellectual disabilities and ASD.	Inclusive	*Quantitative "proxy perspective" (G2):* Survey/questionnaire	Overall, those with ID only and ID + ASD were reported to participate in fewer social activities than their TD peers. They also participated significantly less often in unstructured play, social outings, special occasions, sports, lessons, and community activities compared to TD peers. Those with ID + ASD participated even less often than those with ID only, when it came to special occasions with friends and in taking lessons. The TD group had substantially and significantly more friends than those with ID only and ID+ASD. Those with ID only had significantly more school friends than those with ID+ASD. Both those with ID only and the ones with ID+ASD were reported to have very poor quality of friendships.
Webster and Carter (2007)	To undertake a thorough review of existing naturalistic research on the relationship of preschool and school-aged children with DD and their peers, particularly in inclusive educational settings. It will also provide a useful framework for a deeper understanding of the social relationship of children with disabilities.	15 months – 19 years	Inclusive, segregated, partially integrated, outside of school	*Qualitative "mixed perspective" (G3):* Database searches, data extraction, and systematic review. The reviewed articles used: Interviews, observations, and sociometric ratings	36 studies were reviewed. Research on relationship between children with DD and their peers is patchy, limited in context, and non-linear in its development. There is a need for systematic and comprehensive investigations into these relationships. Existing research provides very little information on the precise nature or relationships between students with and without disabilities in inclusive settings. A number of methodological limitations have been noted in existing literature: extremely limited in both context and sampling, and many have employed sociometric measures which have either determined the reported play preferences of only one child in a dyad or acceptance rather than friendship.
Webster and Carter (2010)	To examine and describe the relationships of children with disabilities, and to compare the results across dimensions with previous research on relationships between typically developing children.	*Participants:* 25 children (5-12 years) with disabilities, and their nominated peers. *Disabilities:* developmental disabilities, intellectual disabilities, communication disorder, ASD, cerebral palsy,	Inclusive	*Quantitative "mixed perspective" (G3):* Sociometric ratings, survey/questionnaire (interviews), and scales. Analysis: statistical	Dyads were found to be high in Validation and Caring as well as Helper and Guidance, followed by slightly lower levels of Companionship. Intimate Exchange was reported lower. Conflict among dyads was also low, and Conflict Resolution was reported to be high when problems did occur. There was a clear differentiation between the

		social-emotional and learning delays, and multiple deficits.			highest- and lowest-ranked dyads for children with a disability. Overall, the features of the relationships between children with disabilities and their highest-ranking peer appeared similar in nature to those previously reported between typically developing peers.
Webster and Carter (2013)	To provide a descriptive examination of the behaviors associated with various types of relationships formed in inclusive settings	*Participants:* 25 children with developmental disabilities (5-10 years), 74 peers, parents and teachers. *Disabilities:* Intellectual disabilities, ASD, cerebral palsy, communication disorder, multiple disabilities.	Inclusive	*Quantitative "mixed perspective" (G3):* Interviews, survey/questionnaire, and scales. Analysis: statistical	Over 30% of dyads reported they always said hello to each other, treated the target student like everyone else, and did not treat the target student differently to everyone else. Target student and peer would help each other when needed. Behaviors of shared interactions, such as doing fun things together and playing together at lunch and recess, were also ranked fairly highly by a number of dyads. 67% of dyads stated that they did not meet at each other's house.

Note. 35 studies total: 19 qualitative studies (G1 = 2, G2 = 2, G3 = 15); 16 quantitative studies (G1 = 0, G2 = 6, G3 = 10).

Our Perspective

The studies in this group collected data from only adolescents with limited verbal language themselves. There were only two studies in this group, and they were both qualitative. Day and Harry's (1999) study was a case study built on participant observations and ethnographic interviews with two adolescents with cerebral palsy and "mental retardation." These two girls were 16 and 19 years of age, and they both immigrated to the United States six to seven years prior to the study. The observations occurred during an outing to the mall, and in their home during the interview process. Similar to Day and Harry, Moore-Dean et al. (2016) also used observations and interviews in their data collection. Their observations and interviews were video recorded, to better analyze the non-verbal communication occurring during these sessions. Their study consisted of nine children between the ages of 9-12 years, with three of them being non-speaking. Two of the non-speaking participants were diagnosed with ASD, and the third with Global Delay. Though the other six were classified as "speaking" their diagnoses were Cerebral Palsy, Down syndrome, Intellectual Disability, and Autism, which can affect someone's speech to a degree as well.

Perception of friendship. Day and Harry (1999) found the two girls, Asha and Sarita, to have *reciprocal* friendship, built on having fun together, intimacy, appreciation, mutual understanding and acceptance of each other, and helping each other. One of the girls, Asha, stated, "by a good friend, I mean she understands the feelings" while the other girl, Sarita (less verbal language) stated "my friend. I like her." Day and Harry also noted that their friendship was built on having a similar cultural background, with both being immigrants and teenagers, but also their disability status. Day and Harry stated that the relationship they observed between these two girls reflected what has been identified as typical features of friendship, because of their intimacy and reciprocal appreciation of each other. However, they both seemed to have a limited amount of friends outside of this friendship. Both stated that their other classmates were "boring" and that they were not able to converse with them. The participants received their education in a self-contained class in a regular education building, and within this class the authors stated Asha and Sarita to be more socially competent and verbal than their peers. Day and Harry believed this was an important factor in how their friendship developed.

Moore-Dean et al. (2016) found *proximity, similarity, and transcendence* of context to be three of the strongest and most common friendship characteristics identified among their participants. For their study, they observed for *spatial proximity*, meaning they looked for children spending time together or engaging in discussion about spending time together. *Similarity* was identified as shared characteristics that facilitated interactions between the children, such as age, gender, race, and interests. *Transcendence of context* was the setting of where the children interacted, such as birthday parties, sleepovers, e-mails, telephone conversations, and visits to one another's homes. Though Moore-Dean et al. (2016) identified all of these three as the most identified characteristics of friendship, they only include examples from the children identified as non-speaking under the proximity finding. Two of the three children, classified as non-speaking, were identified as showing proximity to their peers. One of them, Chris, interacted with peers on the playground, and he would read books while sitting next to other children in the library. The other child, Brian, was observed playing basketball with his brother and neighborhood friends. When discussing similarities, none of the participants mentioned gender or race in relation to similarity, but disability was mentioned briefly. It was also observed that two of the children would allude to spending time with other children with disabilities. However, the participants did not use disability characteristics as a rationale for their friendship or as a reason why the friendship developed. Instead, the participants mentioned common interests, experiences, and shared locations as a reason for their friendships. Though some of the characteristics of these friendships can suggest reciprocity and mutual liking, Moore-Dean et al. (2016) stated that it was difficult to know if this was true, due to the nature of the study.

The participants in both of these studies displayed behaviors and characteristics of friendship, as defined in the literature for individuals without disabilities. However, there seemed to be more focus on intimacy and reciprocal appreciation in Day and Harry's (1999) study, than in Moore-Dean et al., (2016). This could be due to the age difference, as intimacy in friendships seems to come at a later age.

Proxy Perspective

The studies in group two only collected data from parents, teachers, and/or peers ("proxies"). There were two qualitative studies and six quantitative studies collecting data in this format. The two qualitative studies (Anderson et al., 2011; Hollingsworth & Buysse, 2009) only used interviews as their methods. Anderson et al. (2011) interviewed six children and adolescents without disabilities, age 7-14 years, about their friendship with classmates with cerebral palsy and limited verbal language. Hollingsworth and Buysse (2009) collected all their data from 24 parents and 12 preschool teachers of children (age 3-6 years) with and without disabilities, about their reciprocal friendship.

The quantitative studies (Buysse, 1993; Buysse et al., 2002; Taheri et al., 2016; Guralnick, 1997; Guralnick et al., 1995; Kishi & Meyer, 1994) utilized a wider range of methods. Buysse (1993) conducted their study with 58 parents/caregivers and 48 teachers of children with a range of disabilities, with 29 children specifically having language impairments between the age of 2.2-5.5 years, using sociometric measures/ratings, questionnaires, and scales to collect their data. Buysse et al. (2002) utilized the same methods as Buysse (1993) when conducting their study with 25 general early childhood teachers and 20 early childhood special educators of 333 preschool children ranging in the age from 19 to 77 months. Out of the 333 children, 120 of them had some type of disability. Guralnick (1997) utilized scales to identify children that met the established criteria of three different developmental status groups. Further, a questionnaire was sent out to mothers of 210 boys with developmental delays, communication disorders, and children without disabilities to gain insight into their social network. Interviews were then scheduled with mothers to get a deeper insight into their children's friendships. Guralnick et al. (1995) used the same methods in their study, and the sample seemed to be almost the same, but with 52 more participants. The data for these two separate studies seemed to be collected at the same time, but the aim of the studies differed. Kishi and Meyer (1994) conducted their study with 183 adolescents; age 15-19 years without disabilities, on their attitude towards individuals with disabilities. Their data was collected through an acceptance scale, observation scale, and interviews. The last study in this group was Taheri et al. (2016), who only used surveys and questionnaires to collect their data from a total of 418 parents of children and adolescents with and without disabilities, ranging from age 3-19 years.

Perception of friendship. Among the proxies in the qualitative studies, there was a consensus that the friendships were built on shared interests, shared experiences (proximity), personal characteristics, and getting positive recognition (e.g., being a helper). Along with these factors, the older participants in Anderson et al. (2011) also mentioned trust, patience, and understanding as important friendship factors. The friendships that showed these characteristics were identified as reciprocal friendships. Anderson et al. (2011) specifically pointed out that along with natural interactions, the participant's values, knowledge of and attitudes towards disabilities contributed to why the friendships maintained and were successful. Reciprocity was shown through examples such as "he cares about me, and I care about him."

Though reciprocal or mutual friendships were identified in the quantitative studies as well, the majority of them focused more on identifying the number of friends the children and adolescents with limited verbal language had, instead of what the friendships looked like. Differently from the other quantitative studies, Buysse (1993) identified three types of friendships/relationships: mutual relationships (reciprocal), Type I unilateral relationships (where the child initiates interactions with a peer who does not reciprocate), and Type II unilateral relationships (where the child is the recipient of a peer's interactions but does not reciprocate). The parents in her study reported that out of 58 children, 46 children had reciprocal friendships; one had a type II unilateral relationship; two children had both types of unilateral relationships; and six children had no friendships or unilateral relationships. The reporting's from the teachers were slightly different, where only 32 children were stated to have reciprocal friendships, and 15 children had no friends or unilateral relationships. Though there was a discrepancy between what the parents and the teachers reported, the majority of the children was reported as having at least one mutual friend. Having at least one reciprocal friend was also found in Buysse et al. (2002) and Guralnick (1997), for children and adolescents with limited verbal language. It was also stated that for 70% of the children with disabilities who had a friend, their friend did not have a disability.

Proximity. Similar to the qualitative studies, the opportunity to spend time together and engaging in shared activities were one of the most important factors to the friendships (Buysse, 1997; Buysse et al., 2002; Guralnick, 1997; Guralnick et al., 1995; Kishi & Meyer, 1994). In

Buysse et al. (2002) and Guralnick et al. (1995) educational setting was a key to time spent together. Buysse et al. (2002) found that children with disabilities had the same number of friends as children without disabilities when placed in a childcare setting compared to a specialized setting. They also found that when placed in a childcare setting, the majority of their friends would be children without disabilities, while in a specialized setting, their friends would for the most part be other children with disabilities. Guralnick (1997) found children with disabilities to have more friends among peers who did not have disabilities, and that only 16% of the playmates were reported as having special needs. Integrated settings were also said to promote friendships in Guralnick et al. (1995), but they also had mothers of children in specialized settings reporting it as an important value to the development of their child's peer relationships and friendships as well. However, the mothers, who had children in integrated settings, said they thought their child played better and was more social because their peers did not have special needs. The researchers also stated that the integrated setting promoted increased levels of social interactions because, in this setting, individuals with disabilities were able to observe peers without disabilities more and use them as resources. Buysse (1997) also stated preschool placement or daycare center as a way for children to spend time together, but they also mentioned making friends in the neighborhood, at church, or at family gatherings. Though the majority of the participants in Kishi and Meyer (1994) also identified joint activities as an important factor in their friendships, they no longer interacted much with their friends with severe disabilities. The majority said their interactions were limited to greetings only, and 35% said they no longer interacted with these friends. The limited amount of friends were also noted in Taheri et al. (2016), who found that almost half of the participants with Autism Spectrum Disorder (ASD) and 20% of the participants with intellectual disabilities (ID) had no school friends at all, and that only 44% of those who had both ASD and ID had other friends. It was noted that participants with disabilities also engaged in significantly fewer activities than their peers without disabilities. In Buysse et al. (2002), the teachers reported that 65 of the 120 children with disabilities did not have any friends.

Personal characteristics. Other than shared time together, the proxies identified personal characteristics and positive recognition for their "helping" role as some of the key elements to how the friendships were maintained. Anderson et al. (2011) had participants stating that they enjoyed the positive recognition they got from helping friends with disabilities and that it made them feel good when they did. The mothers in Hollingsworth and Buysse (2009) study said that several of the children without disabilities would take on a "mothering" role in the relationship. The parents in Buysse (1993) elaborated on this, stating that the peer's personality, willingness to help and make adjustments to meet their child's needs was an important factor in making the friendship work. The participants in Kishi and Meyer (1994) also stated that they liked helping their peers with severe disabilities, with 50% saying they would help and 37% stating they would help if needed, as they saw individuals with disabilities as someone who needed help due to not being able to complete a task due to their limitations. But there were also a few students (7%) who said their friends with disabilities did not need help, as they were just like everyone else and were able to do things themselves.

Personal characteristics such as disability severity, age, sex, and ethnicity, also played a role in most of the studies (Buysse et al., 2002; Guralnick, 1997; Guralnick et al. 1995; Kishi & Meyer, 1994; Taheri et al., 2016). Though Buysse et al. (2002) did not find any effects based on age or sex, they found that African American children were reported to have more friends and playmates than their European-American classmates. They also did not find the severity of disability to be related to the number of reported friends, but it did predict the number of reported playmates and social developmental scores. In Guralnick (1997), it was presented that children with developmental delays or communication disorders played less with children than those without disabilities. When it came to gender, 87.9% identified having at least one male playmate, and 62.1% identified having at least one female playmate. The chronological age of the playmates was similar to their own. Type of disability was also shown to make a difference in Guralnick et al. (1995), where 80% of the mothers of children with communication disorders reported their children to have enough friends, compared only 27% of the children with cognitive delays. When it came to age, most of the children identified as friends were within one year of their own child's chronological age. In Kishi and Meyer (1994), the participants were asked if they were afraid of their peers with disabilities, where 47% said sometimes, 2% said often, and 45% said no. Though they stated this, 90% of the participants said they would be okay to be friends with someone with disabilities. They also found that girls were significantly more likely to indicate willingness for social contact with individuals with severe disabilities, than what their male classmates were. Having a disability was also a factor in Taheri et al. (2016), as they identified the children with disabilities to have a very poor average quality of friendship, compared to the majority of children without disabilities.

Mixed Perspectives

The studies in group three collected data from both the children and adolescents with limited verbal language, and proxies. This was the most common format to collect data, as there were 15 qualitative studies and 10 quantitative studies in this group. For the qualitative studies, all the studies used interviews and observations, along with sociometric measures for six of the studies (Fisher, 2001; Hall, 1994; Hall & McGregor, 2000; Østvik et al. (2017); Salisbury &

Palombaro, 1998: Webster & Carter, 2007), and survey's/questionnaires for two of them (Evans & Meyer, 2001; Geisthardt et al., 2002). For nine out of the 15 qualitative studies, there was also an attempt to interview the children and adolescents with limited verbal language themselves. Six studies did not attempt to do this (Staub et al., 1994; Fisher, 2001; Hall, 1994; Hall & McGregor, 2000; Evans & Meyer, 2001; Geisthardt et al., 2002).

The combination of methods was a bit more diverse for the ten quantitative studies, as no study collected their data with the exact same methods, and all but one study (Fujiki et al., 1999) used multiple methods. Because of this, the author would like to refer the reader back to table 2, in order to see which methods each article used and more details about the participants. However, it is interesting to note that the most utilized method for the quantitative studies was sociometric ratings (seven studies), scales (six studies), and interviews (six studies). Although the majority of the studies relied heavily on sociometric measures and scales, it is also important to underline that there were five studies that included some attempt to interview the participants with limited verbal language (Durkin & Conti-Ramsden, 2007; Ferreira et al., 2017; Fryxell & Kennedy, 1995; Webster & Carter, 2013). For the studies that did not attempt to interview the children and adolescents with limited verbal language, observations were used instead, except from Fujiki et al. (1999) who only used sociometric measures to collect their data, and Webster and Carter (2010) who used sociometric measures, scales, and who's interviews were done through a 48 item questionnaire.

Perception of friendship. Although the articles in this group consisted of multiple combinations of how the data was collected, there was still a commonality among their findings and to the findings in the other groups. Friendship was, for the most part, described as reciprocal in the majority of the articles. Reciprocal friendships were identified as relationships built on enjoying spending time together, mutual likings, shared experiences, and trust (Evans & Meyer, 2001; Fisher, 2001; Matheson et al., 2007; Østvik et al., 2017; Rossetti, 2011, 2015; Strully & Strully, 1985). Trust and loyalty was especially noted in the two studies (Evans & Meyer; Matheson et al., 2007) that both looked at friendships among adolescents. Some studies also found their participants to have unilateral friendships (Guralnick et al., 1996; Østvik et al., 2018; Salisbury & Palombaro, 1998). Østvik et al., 2018 also found participants to identify having friendships with adults, and one participant identified a doll as her friend. Though the majority of the studies explicitly used the terms *reciprocal* and *unilateral,* there were some studies who did not identify the relationships in their findings that way (Durkin & Conti-Ramsden, 2007; Evans & Meyer, 2001; Fisher, 2001; Fryxell & Kennedy, 1995; Geisthardt et al., 2002; Lee et al., 2003; Matheson et al., 2007; Nabors, 1997; Staub et al., 1994; Strain, 1984; Strully & Strully, 1985; Webster & Carter, 2013). While these studies did not explicitly use those terms in their findings, it is important to note that some of them used the term reciprocal in their literature and to discuss their findings. It is also interesting to note that half of these studies did not attempt to interview the participants with limited verbal language themselves, and three of these were studies that utilized sociometric measures as part of their methods (Fisher, 2001; Lee et al., 2003; Strain, 1984).

Amount of friends. The majority of the studies identified there to be at least one mutual friendship among their participants, but in some studies, it was found that participants had no reciprocal friendships or did not receive any peer nominations (Ferreira et al., 2017; Fujiki et al., 1999; Geisthardt et al., 2002; Hall & McGregor, 2000; Salisbury & Palombaro, 1998; Salmon, 2013). For example, in Geisthardt et al. (2002), the mothers of 14 out of 28 children reported that their child never or rarely had neighborhood children over to play, and among the eight participants in Fujiki et al. (1999), five students had no reciprocal friendships. However, the most interesting finding was how all the participants in Hall (1994) went from having reciprocal friendships, receiving several positive peer nominations, and being some of the most popular children in their class, to only one participant having a reciprocal friendship and everyone receiving fewer peer nominations in the follow-up study done by Hall and McGregor (2000) a few years later. For the most part, the studies in this review would elaborate on how friendships occurred or developed and how they were maintained.

However, not all the studies in this review elaborated much on these elements, but instead just reported on the quantity of friends. This was especially noticeable in some of the studies that did not include interviews with the participants with limited verbal language themselves, and/or that relied heavily on other methods such as observations, sociometric measures, and scales. Though Geisthardt et al. (2002) included interviews with the mothers of children with moderate to severe disabilities, the majority of the findings focused on how many children their mothers reported them to play with. Hall (1994) also reported mostly on how many positive and negative nominations the participants received, and how many reciprocal friendships that they had based on ratings from peers and their own ratings of those peers. Ferreira et al. (2017) also had limited elaboration of what the friendships looked like and instead reported that 55.8% of the children did not have any friends, 25.6% had one friend, and only 7% had two friends. Same with Fryxell and Kennedy (1995) who, for the most part, reported on which educational setting that provided higher level of social contact and friendships. With their study solely based on sociometric ratings, the findings in Fujiki et al. (1999) did not provide much detail on these friendships other than the amount of friends and the peer ratings that the participants received. Differently from these studies, Guralnick et al. (1996) found that the majority of the children formed unilateral preferences, though they also found that the amount of reciprocal friendships did not differ among children with communication disorders and those who did not have any disabilities. Though Nabors (1997) included interviews, the findings were also heavily influenced by the sociometric nominations, where they found that there were more negative than positive nominations for children with disabilities than those without disabilities. However, the majority of the articles in this review elaborated more on how friendships were established and maintained than what these studies did.

Friendship characteristics. As mentioned, the majority of the studies identified friendships to be built on elements such as proximity, shared interactions and activities, setting, personal similarities, disability type/severity, age, gender, attitudes and acceptance of each other, positive recognition (being a helper), and the role parents/teachers played. Though each of these elements played their separate role, they were also impacted by each other.

Age. Though developmental (mental) age is an element that can impact what we seek in friendship, this was not an element that was highly reported on, in the reviewed studies. Some did, however, include chronological age. In Hall and McGregor (2000), for example, the children with disabilities interacted with peers of similar age for most of the time, but during 29% of the observations, the sixth-grader Manuel interacted with fourth-grade boys. Østvik et al. (2018) found that the participants with limited verbal language, who belonged to a special unit, reported having friends ranging from 3 years younger to 6 years older than those who were in an integrated setting. In Geisthardt et al. (2002), the only real peer contact for a five-year-old boy was the 2½-year-old child of his mom's friend. And very interestingly, participants without disabilities tended to select friends with disabilities who were older than themselves (Strain, 1984). These findings indicate that age can play a factor in how children and adolescents determine friendships, but more research would be needed to determine to what degree.

Proximity and shared interactions. Differently from age, proximity, and having the opportunity to spend time together through shared activities was one of the most important factors noted, from both participants with limited verbal language themselves and the proxies when it came to establishing and maintaining friendships. For example, Lee et al. (2003) found that their participants without disabilities most frequently mentioned “the opportunity to spend time together in the classroom” in the form of playing together (e.g., singing, reading, and playing games) as factors contributing to the friendship formation with individuals with limited verbal language and disabilities. Hanging together at school and participating in classroom activities were mentioned as important factors in other studies as well (Fisher, 2001; Matheson et al., 2007; Østvik et al., 2017, Rossetti, 2011, 2015; Salisbury & Palombaro, 1998; Staub et al., 1994). Staub et al. (1994) provided an example of the social interactions occurring in a classroom looked like, by explaining how two of the girls in the study would often be found sitting together with their arm around each other, hugging and sharing. Allowing for individuals with and without disabilities to spend more time with each other in school, was found to not only allow them to enjoy each other’s company but also becoming more comfortable with and knowledgeable about those with disabilities (Lee et al., 2003; Rossetti, 2015; Salisbury & Palombaro, 1998). Matheson et al. (2007) also found that though proximity seemed to be a taken for granted factor among their participants without disabilities, it was one of the reasons why 37% of their participants with disabilities chose someone to be their friend.

Because most of the studies collected data in school settings, most of the shared interactions and activities were connected to the time spent together at school. However, multiple participants in several of the studies would also describe the shared interactions and activities they had with friends outside of school. Some of these studies actually had a deeper description of these interactions than the two studies (Geisthardt et al., 2002; Guralnick et al., 1996) that collected their data solely in an out-of-school setting. The study by Geisthardt et al. (2002) was a qualitative study that did not attempt to interview the participants with limited verbal language, but who gathered their data through interviews and questionnaires with the parents, and observations. The type of interactions the participants engaged in was, therefore, reported by proxies and was limited to how many friends they interacted with (and/or siblings and cousins), and that they would for the most part play in their bedrooms, in playrooms, living/family rooms, and in private yards. They also explained that four of the families had adaptive swings, and ten families reported having playrooms with numerous toys for the children to play with. Guralnick et al. (1996) did not interview the participants with limited verbal language either, and their data was gathered from observations and scales. They created three different playgroups, consisting of children differing in developmental status: normally developing children, children with communication disorders, and children with developmental (cognitive) delays. Because of this, we only got an insight into the play the researchers observed, such as if the children engaged in solitary, group, and parallel play; if it was dramatic, constructive, or functional; and if the children engaged in active conversations, was an onlooker, and if their behaviors were positive or negative.

Compared to these two studies, there were other studies that did not attempt to interview the participants with limited verbal language themselves, who still provided a deeper insight into interactions and shared activities among the friends (Evans & Meyer, 2001; Fisher, 2001), similar to those who did include interviews with these participants. Georgia, in Evans and

Meyer's (2001) study, for example, belonged to a Supper Club with six other girls (without disabilities) who would go out together twice a month. They would go out to eat together, hang out at the mall, play laser tag, watch movies, and go to each other's birthdays. They would also give each other feedback on what to wear and how not to behave in an embarrassing way. For Andre in Fisher (2001), his after-school social life was much richer than in school, and his mother stated that he was always hanging out with a number of friends in the neighborhood and with family friends. Andre loved going to the park with friends and kids on their bicycles. His favorite activity to do inside was playing card games. For the studies that included data gathered directly from the participants with limited verbal language, Strully and Strully (1985) gave some good examples of what their daughter did when interacting with her friend, Tanya. The girls would often spend time together each week, playing listening to music, and things that "typical friends" do. They stressed the importance of this relationship not being a "one-sided affair." In Matheson et al. (2007), over half of the adolescents saw their friends in more than one context, such as at school, the mall, and the movies. Similarly, two of the participants in Rossetti (2011, 2015) engaged in activities outside of school together by being part of a dance group called Rainbow Troup. They would often be seen together before their dance rehearsal, hanging out and laughing. Though several articles showed examples of activities done together in both a school setting and outside of school, a lot of the interactions occurring between friends, especially where one had a disability and the other did not, were often connected to helping each other.

Helper. Friends and peers of the participants with limited verbal language often took on a helping role, which often was positive but sometimes also carried a negative effect. Lee et al. (2003) for example, stated that participants without disabilities often acted as leaders instead of friends. Similarly, in Salisbury and Palombaro (1998), the peers in the classroom felt like they could correct, give guidance, and assume the lead without repercussion. This led to peers doing things for the peer with limited verbal language instead of with her, which would limit her participation in activities. Several of the friends in Staub et al. (1994) were built on helping their friend with a disability. Aaron and Cole's friendship was described as having a care-taking tone, where Aaron would help Cole with his work, watch out for him, explain Cole's behavior to other people, and explain to Cole how his behavior affected others. For Deanne and Karly, it was stated that their friendship began by helping each other. The girls in the Supper Club in Evans and Meyer (2001) also engaged in a lot of helping during their outings. They would help with locomotion, cutting up food, offering choices, eating, toileting, and helping with doing activities such as miniature golf. Though this seems a bit much for peers to help with, the positive aspect of it was that Georgia was able to spend time with her friends, without having to have an adult helping her constantly. A girl in Hall and McGregor (2000) also framed being a helper as positive, stating, "with his disability, you like to help him." Though being a helper could be seen as a positive aspect, Webster and Carter (2013) stated that these "I'll help" friendships were different than other types of relationships, as they often lacked a balance in how the help was provided and this could impact the reciprocity of the friendship. Østvik et al. (2017) also identified these helping relationships as a bit troublesome, as it can create a social power imbalance, challenging the maintenance of equality between the parties. Therefore, though helping each other is something we often see as a positive factor in our friendships, it can become negative if the friend feels more like a caretaker than a friend, and it can become a barrier to the friendship.

Barriers. Along with key factors that help develop and maintain friendships, several articles also discussed elements that could act as barriers to these relationships. When discussing barriers, elements such as disability type/severity, educational setting, and the role of teachers/parents appeared, along with the already discussed issue of "helper" friendships. It was found that peer rejections sometimes occurred due to a child's disability severity and behavior. In Geisthardt et al. (2002), six families stated that other children did not understand their child's disability or were fearful of it, and because of this, they would avoid their child. Several of these parents also seemed to accept peer rejection as inevitable. It was also found that the five children with the most severe physical limitations had friends over to play the least. Not being included was something the participants in both Evans and Meyer (2001) and Fisher (2001) experienced as well, as they were often ignored and avoided. Social isolation was also found in Salmon (2013), where adolescents without disabilities did not recognize their peers with disabilities as potential friends. The adolescents with disabilities experienced being teased, receive derogatory messages through emails, on Facebook, and bathroom walls, along with having their behavior, movements, or ways of communication mocked through imitation. Because all the participants with disabilities experienced segregation in this matter, they either chose to remain socially isolated or pursued friendships with peers who also had disabilities or other marginalized teens. Negative attitude towards individuals with disabilities was also found in Nabors (1997), where four girls and nine boys reported disliking at least one peer with disabilities due to aggressive behavior such as hitting, kicking, hair-pulling, and pushing. Aggressive behavior was also noted for Sam in Staub et al. (1994), where some of his peers were intimidated by his unpredictable and aggressive behavior. For one participant, Shaffer, in Rosetti (2011) the main barrier was his mode of communication and his difficulty initiating conversations. Durkin and Conti-Ramsden (2007), Østvik et al. (2017, 2018), and Lee et al. (2003) also mentioned communication skills as a barrier to friendship development. For example, Durkin and Conti-Ramsden (2007) found that adolescents with speech-language impairments had poorer quality of friendships overall. However, one of the more thought-provoking barriers was adults or teacher assistants/paraprofessionals' impact on friendship development. It was found in a couple of studies that because these assistants work so closely with the individuals with disabilities, they often block the chances of social interactions with peers (Evans & Meyer, 2001; Fisher, 2001). Instead of facilitating social interactions, the teacher assistant's constant shadowing made Georgia in Evans and Meyer (2001) miss out on social interactions initiated by her peers. By reviewing these elements, it is clear that friendship is built up by many factors, and in order to understand friendships in this population, it is important to take all of them into consideration when conducting research.

Discussion

The purpose of this article is to provide a systematic review of methods utilized in current research and identify how these have impacted our understanding of friendship among children and adolescents with limited verbal language. The studies included in this review identified the perception of friendship among children and adolescents with limited verbal language, along with their peers, parents, and teacher's perception. This review identified 35 studies that satisfied the inclusion criteria, including two systematic reviews. Out of the 35 studies, 19 studies were qualitative, and 16 were quantitative. The methods utilized by the reviewed articles established that there were three approaches to gather data among this population; through the children and adolescents with limited verbal language themselves, through proxies (peers, parents, and teachers), and in a mixed way, combining data from both the children and adolescents with limited verbal language themselves and the proxies.

Compared to the review by Østvik et al. (2017), who restricted their search terms to augmentative AND alternative communication, the present review utilized nine broad search term phrases, with keyword-sets describing participants and their relationships. These were combined in multiple variations, to locate a wider number of articles. Keeping the search terms broad also affected the inclusion criteria, allowing for studies to be included though they did not present an explicit theoretical framework and did not adhere to the traditional format of conducting studies (e.g., Strully & Strully). Omitting these studies would have limited the understanding of how the perception of friendship is created through different forms of data collection. Similar to the systematic reviews done by Østvik et al. (2017) and Webster and Carter (2007), the current review found there to be limited research investigating the how friendships among children and adolescents with limited verbal language might differ from their peers without disabilities, with the exception of the studies that identified their participants to have unilateral friendships (Guralnick et al., 1996; Østvik et al., 2018; Salisbury & Palombaro, 1998) and the friendships with adults and a doll (Østvik et al., 2018).

Perception of Friendship

Instead of viewing the findings from the reviewed studies as definitions of friendship, this study wanted to emphasize that these are merely perceptions of friendships. This became evident when it was found that the majority of the studies did not attempt to include interviews with children and adolescents with limited verbal language themselves. Only two studies (Day & Harry, 1999; Moore-Dean et al., 2016) collected their data solely from adolescents with limited verbal language. There were an additional 14 studies, all from group three, that stated they attempted to include interview data from the participants with limited verbal language. After reviewing these 14 studies, it was found that several of them an lacked in-depth description of the quality of the friendships, especially from the participants with limited verbal language themselves (Durkin & Conti-Ramsden, 2007; Fryxell & Kennedy, 1995; Ferreira et al., 2017; Hall & McGregor, 2000; Salmon, 2013; Strully & Strully, 1985). Though the two systematic reviews included a good description of friendship definitions, they also lacked in-depth information from the participants with limited verbal language themselves as well (Østvik et al., 2017; Webster & Carter, 2007). Instead of providing an in-depth description of friendship characteristics on how these relationships occurred and were maintained, they focused more on the quantity of friendships.

For the studies that did not attempt to include interviews with the participants with limited verbal language themselves, but gathered data through for examples observations of them, it was interesting to see that some of them provided more in-depth information than some of the ones that did attempt to include interview data (Evans & Meyer, 2001; Fisher, 2001; Salisbury & Palombaro, 1998; Staub et al., 1994; Webster & Carter, 2011, 2013). This was also seen in group two, where data was gathered only from proxies. Though the data was solely collected from proxies, some of these studies were able to provide good descriptors of what the friendships entailed (Anderson et al., 2011; Buysse, 1993; Buysse et al., 2002; Guralnick, 1997; Hollingsworth & Buysse, 2009). The qualitative studies (Anderson et al., 2011; Hollingsworth & Buysse, 2009) had a much richer presentation of the proxy's perception of friendship, then the quantitative studies. The last three quantitative focused mostly on the quantity of friendships instead of quality (Guralnick et al., 1995; Kishi & Meyer, 1994; Taheri et al., 2016).

Though the reviewed studies utilized different methods, and some lacked in-depth evaluation of the characteristics of the friendships they researched, there was a consensus among the studies that friendship or reciprocal friendships are usually built on shared interests, proximity, positive affect, intimacy, affection, transcendence of context, companionship, conflict management, trust, loyalty, and support. However, intimacy, companionship, trust, loyalty, and support were mostly noted among older adolescent participants. This adheres to Selman's five-level framework to understand the developmental trends that impact friendships. From age 12 and up, adolescents become more emotionally close with their friends, and there is an overall higher level of trust and support (Kennedy-Moore, 2012). Though age and especially developmental age can impact how friendships are perceived, there were no studies that noted this as an important factor to include in their analysis. The studies that discuss age only discussed chronological age and how that was similar or different among the friends. Østvik et al., 2017 also stated that age is something that is important, especially among younger children without disabilities, who tend to choose their friends based on similar properties (e.g., age, gender, ethnic background, interests, activities, sociability, physical appearance) (as cited in Rubin, Coplan, Chen, Bowker, & McDonald, 2011). There was limited information mentioned about age when it came to the children with limited verbal language in their study.

Limitations

The limitations in this study are based on the fact that there was only one author, who conducted the quality assessment on her own and, therefore, not able to indicate any level of agreement on the assessment criteria. Further, though the author attempted to provide in-depth examples from the studies reviewed to show how friendships are perceived, it is possible that the validity of the conclusions may be weaker than from the empirical reports themselves. When examining the limitations of the studies reviewed, the major limitation is the lack of data collected from children and adolescents with limited verbal language themselves. Without their perception on friendship, we are just adding to Goffman's (1963) "master status," where our understanding of their social experience is shaped by other people's perception, instead of their own. Further, because the studies omitted to include the perception on friendship from the children and adolescents themselves, these studies also lacked a comprehensive understanding of the quality of these friendships. This was especially evident in the articles that relied heavily on sociometric ratings, surveys/questionnaires, and scales. These studies could have benefited from conducting a mixed-methods study, where along with the date found from these methods, could have been expanded on through interviews and observations. Some studied utilized several methods in this matter but did not identify their research as a mixed-methods study.

Another major limitation was the lack of focus on chronological versus mental age. Considering children and adolescents with disabilities might have a lower mental age than their chronological age, due to their disability, they might not perceive friendship the same way as their classroom peers. Therefore, as friendship characteristics tend to develop and change with age, it is important to know if peers within the same classroom have the same mental age and if their perception of friendship can be analyzed up against each other.

Implications for Future Research

When systematically reviewing how methods in previous research have impacted our understanding of how children and adolescents perceive friendship, we see a lack of studies collecting data directly from these participants themselves. Though limited verbal language can make it complicated to gather data on these individual's perceptions, it is vital that we at least attempt to do so through their preferred mode of communication. Østvik et al. (2018) attempted this in their study, allowing for the children to use augmentative and alternative communication, graphic symbols, photographs, and asking yes/no questions for those with more limited language. To better construct a study around the participant's characteristics, abilities, and needs, researchers should consider doing practitioner research involving educators who want to improve their practice (Bogdan & Biklen, 2007). Another way is to utilize a flexible design, allowing the methods to be adapted along the way to fit the course of the study and the participants better.

Along with collecting data directly from these participants, there also needs to be a more significant focus on chronological versus mental age. For children and adolescents without disabilities, the definition of friendship develops along with their age. Considering disabilities might create a discrepancy between chronical and mental age, children and adolescents with disabilities might identify friendship differently than their same chronological aged peers. Therefore, future research needs to ensure a higher focus on this aspect, to create a better understanding of how friendship looks like for children and adolescents with limited verbal language.

Though future research needs to focus more on data collection from the participants themselves and examining if their mental and chronical age impacts their perspective on friendship, it is clearly established that this population still experiences fewer friendships than their peers without disabilities. Several studies in this review indicated proximity to peers, facilitation of social interactions by adults, and adults becoming barriers to social interactions as reasons to why these children and adolescents had few friends. Moving forward, it becomes essential to investigate these areas further to see a potential shift in the number of friends' children and adolescents with limited verbal language have. It is also important to note how most of the studies reviewed can be portrayed as *basic research*, adding to our current knowledge on the topic (Bogdan & Biklen, 2007). If researchers want to see immediate application of the knowledge produced, and for their findings to make direct practical decisions about improvements in program and practices, they need to conduct *applied research* (Bogdan &

Biklen, 2007; Schein, 1987). Considering current research is still finding individuals with disabilities and limited verbal language to have significantly fewer friends and social interactions than their peers without disabilities, after decades of studying the subject, *basic research* is not sufficient anymore if we genuinely want to see a change.

Conclusion

This review builds on the conclusions of Østvik et al. (2017) and Webster and Carter (2007) that friendship among children and adolescents with limited verbal language is not well understood and that there needs to be more research conducted on the challenges and factors impacting friendship in this population. More specifically, this review found that there needs to be a higher focus on collecting data solely from the participants with limited verbal language themselves. Though we can create a broad understanding from conducting observations and gather information from proxies, this way of collecting data increases the danger of projecting a perspective onto these individuals, which they might not have themselves.

Further, with limited focus on chronological versus mental age, we can question the accuracy of this perception. If children and adolescents with limited verbal language have a lower mental age than their classroom peers, due to their disability, they might view friendship differently than their peers. Overall, there needs to be more extensive research, including both the perception of children and adolescents with limited verbal language themselves, along with a higher focus on how mental versus chronological age might impact this. However, most research on this topic seems to be *basic research*, just adding to our pool of knowledge. If researchers want to see children and adolescents with limited verbal language have more friends, more *applied research* needs to be conducted. This will allow for more direct practical decisions about improvements in programs and practices.

CHAPTER III

SOCIAL INTERACTIONS IN A MULTIPLE IMPAIRMENTS CLASSROOM: A CASE STUDY OF THREE CHILDREN WITH LIMITED VERBAL LANGUAGE

Social Interactions in a Multiple Impairments Classroom: A Case Study of Three Children with Limited Verbal Language

Kristina Brodal Syversen

University of North Dakota

Abstract

The social interactions children have with peers play a very important role in their development, in the sense that these interactions can affect their cognitive, emotional and language development, along with social skills and positive social behaviors. These are all critical aspects to an individual's quality of life, and how well they are accepted into society. However, for children with disabilities, these interactions tend to be fewer and different, impacting their sense of belonging and acceptance. This especially affects students with more severe disabilities who spend most of their day in specialized classrooms. The current case study investigates the social interactions of three children with multiple disabilities and limited verbal language, who received most of their education in a Multiple Impairment Classroom. Qualitative participatory observations and semi-structured interviews were conducted to examine how the social context within this classroom affected the social interactions the three children engaged in. A narrative approach was utilized to reflect during the entire inquiry process and present a narrative of these three children's lived experiences within this social context. It was found that all three of the children had very limited interactions with both the peers in their specialized classroom and the peers in their general education classes. The majority of their social interactions were with adults, but these were also limited and mostly occurred when doing their schoolwork. This was heavily impacted by the classroom being understaffed and insufficient time to provide adequate training to new paraprofessionals.

Social Interactions in a Multiple Impairments Classroom: A Case Study of Three Children with Limited Verbal Language

Social belonging and social groups are dominant factors in how well individuals are accepted into society, and individual differences can impact how others determine ones belonging in social groups (Tomlinson, 2012), or peer cultures as Corsaro (1997) defines them. According to Corsaro (1997), children are exposed to different social settings from an early age through their parents, but as they get older, these cultures occur at school and in other institutional settings. In school, children encounter series of peer cultures, which becomes extremely important when it comes to how well children make sense of the world around them and how they engage in that world (Corsaro, 2011). Theories of childhood, specifically those in sociology, support the role of peer groups as important components of children´s development and ultimate success in school (Chung, Carter & Sisco, 2012; Corsaro, 2011; Suzumski, Smogorzewska & Karwowski, 2016). This is because research has found that social interactions with peers can have a positive impact on children's social skills, cognitive, emotional and language development, which are all critical aspects to an individual's quality of life (Corsaro, 2011; Gordon, Feldman, & Chriboga, 2005; Kennedy & Itkonen, 1996; Papoutsaki, Gena, & Kalyva, 2013). However, it is important to note that the theory of peer cultures is mostly based on children without disabilities, and with current research showing that children with disabilities often engage in less social interactions than their peers without disabilities, it becomes important to investigate why this is so. The purpose of the current case study is, therefore, to examine the social interactions of children with multiple disabilities and limited verbal language, and which elements that impact these interactions.

Literature Review

Though Corsaro's sociology of childhood theory (1990;2011) does not explain how children with disabilities participate in peer cultures, there have been quite a few studies on social inclusion, loneliness, peer rejection, and friendship among children with disabilities. It has been found that children with disabilities experience peer rejection and loneliness at a higher level than their peers without disabilities, which is often due to decreased opportunities for social and interpersonal interactions (Coie & Cillessen, 1997). Peer rejection can also cause depression, low self-esteem, and self-assertiveness, which can lead to developmental regression (Bauminger & Shulman, 2003). According to Doll (1996), there are five factors contributing to why these children have fewer social interactions and friendships than their peers without disabilities, and these include behaviors that harm and interrupt social interactions; limited cognitive ability to select the appropriate action or response during social interactions; limited ability to empathize emotionally with peers; social anxiety; and outside influences that prevent children from interacting. If we follow Corsaro's theory, these behavioral and cognitive factors may be tied back to limited social interactions with peers, which leads us to Doll's final factor of outside influences that prevent children form interacting interact.

Least Restrictive Environment

One outside factor influencing the amount of interactions children with disabilities have with peers is their classroom placement. Prior to 1975, students with disabilities had no legally protected right to attend public schools, and they were only offered limited educational services (Villegas, 2017). However, with the introduction of the Rehabilitation Act of 1973, the Education for All Handicapped Children Act in 1975 (now referred to as the Individuals with Disabilities Education Act (IDEA)), the Americans With Disabilities Act (ADA) of 1990, and the 2004 amendments of IDEIA, there has been a constant movement towards making the general education classroom more inclusive for individuals with disabilities (Siperstein, Glick, & Parker, 2009). With these movements came the requirement that all states have to provide Free Appropriate Public Education (FAPE) to all students, and that students with disabilities must be educated in the Least Restricted Environment (LRE) (Rueda, Gallego, & Moll, 2000). The principle of it means that students should be educated in a general education classroom to the maximum extent that is appropriate based on their needs, and placements in more restrictive and segregated specialized classes should only happen when the appropriate services to meet the student's needs cannot be offered in a general education classroom (Morin, 2019; Yell, 1995).

The term "appropriate" refers to what is suitable for the individual student, and sometimes this means that placing a student with disabilities in a general education classroom is not suitable because the service and programs the student need cannot be provided in that setting (Morin, 2019). The appropriate learning environment is identified in a student's Individualized Education Program (IEP), which is determined by the student's IEP team (i.e., parents/guardian, general education teacher, special education teacher, an expert, and the student when over 16 years old) (Morin, 2016). In a report by the U.S. Department of Education, National Center for Education Statistics (NCES) from 2019, it showed that the majority (62.5%) of all 6-21 year-old-students with disabilities received 80% or more of their school day in a general education classroom (Snyder, de Brey, & Dillow, 2019). However, for most students with intellectual and multiple disabilities, the general education classroom is not the most appropriate learning environment. The majority of these students receives 40% or less of their school day in a general education classroom, and only 16.3% students with intellectual disabilities and 13.1% with multiple disabilities spend 80% or more of their school day in a general education classroom (Snyder et al., 2019). For the percentage of time, they do not spend in a general education classroom, they are usually either participating in pull-out services such as therapy, or they are in their own specialized classroom. Though these student's individual educational needs are better met outside of the general education classroom, it also means that these students spend significantly less time with their general education classroom peers and might not benefit from everything an inclusive setting can offer.

The Importance of Inclusion

An inclusive placement for students with disabilities has been shown to have multiple benefits across academic, social, communication, self-determination, vocational, and behavioral domain, all contributing to a positive learning outcome (Agran et al., 2019; Shogren, McCart, Lyon, & Sailor, 2015). When participating in an inclusive setting, Kurt and Mastergeorge (2010) found that students showed greater growth in their academic achievement and their use of academic skills, while Fisher and Meyer (2002) found an increase in communication and social interactions. According to McDonnell, Johnson, Polychronis, and Riesen (2002), it is access to a larger social network and peer models that makes students with disabilities exhibit greater growth in social skills. This builds on Vygotsky's theory that the interactions we have with others play a vital role in how well we develop and internalize our social, cognitive, communicative, emotional, and psychological skills (Corsaro, 2011).

However, individuals with disabilities tend to struggle more than those without, when it comes to acceptance and the feeling of belonging, and their social interactions might look different than their peers (Papoutsaki et al., 2013; Coie & Cillessen, 1997; Doll, 1996). Compared to individuals without disabilities, Buysse (1993) found that their participants with disabilities and limited verbal language engaged in fewer reciprocal friendships than their peers without disabilities. Instead, their participants mostly engaged in Type 1 unilateral relationships (child initiates interactions with a peer who does not reciprocate), and Type II unilateral relationship (child is the recipient of peer’s interactions but does not reciprocate) (Buysse, 1993). The type of relationships these children had was impacted by the amount of time they could spend with peers. Østvik, Ytterhus, and Balandin (2018) also found that the majority of their participants with limited verbal language engaged in unilateral friendships, with only one-third reporting being in a reciprocal friendship. Some of their participants also identified adults as friends, and one girl identified a doll as her friend. This girl was enrolled in the school’s special education unit full time, while the other participants spent more than 50% of their school day out of the general education classroom. Though Østvik et al. (2018) did not highlight the time out of the general education classroom as a reason for why these participants had different types of friendships than their peers without disabilities, proximity to peers has been found as an important factor to the type and amount of relationships this population has with peers (Buysse, 1993; Day & Harry, 1999; Fryxell & Kennedy, 1995; Hall & McGregor, 2000; Hollingsworth & Buysse, 2009; Matheson, Olsen, & Weisner, 2007; McDonnell et al., 2002; Moore-Dean, Renwick, & Schormans, 2016).

These findings also emphasize the importance of ensuring that an appropriate educational setting should include proximity to peers, to increase the amount and types of social interactions children with multiple disabilities have. With the majority of these students spending 40% or less of their school day in a general education classroom, it is important to evaluate what sort of social interactions they engage in when they spend a limited amount of time with peers outside of their specialized services. Therefore, the current study examines the social interactions of three children with limited verbal language and multiple disabilities, who spends most of their day within their multiple impairment classroom. To better understand the social interactions occurring in this classroom, the following research questions were used as a guide to explore these student's social context:

Research Question 1: What social interactions do children with limited verbal language engage in, and how do they value these interactions?

Research Question 2: How are social interactions facilitated for these students, by teachers and adults?

Methods

Study Design

This case study utilized a qualitative methodology to examine the social context within a multiple impairment classroom, and more specifically, the social interactions of three children with limited verbal language and multiple disabilities. A narrative approach was used to explain the findings, as this would allow for a presentation of what the participants said about their social context and how it was told (Charmaz & McMullen, 2011). It was also used to as a way to reflect during the entire inquiry process because it quickly became evident how complex these lived experiences were (Moen, 2006). The social interactions of these children are not isolated to just whom they are, but it is profoundly impacted by their social and cultural context. Therefore, to better unpack this complexity, it became vital to present the findings through a meaningful narrative, where both the individuals and the context was captured (Moen, 2006). By doing so, the author hopes the reader will gain a better understanding of the social interactions these children engage in and how they affect their lives.

The data was collected in the form of participatory observations (Bogdan & Biklen, 2007), fully structured and semi-structured interviews (Robson & McCartan, 2015). This approach was chosen to build on the idea of social constructivism because to understand people as individuals, and within a social context, we need to examine their interactions with other people (Clandinin & Connell, 2000; Robson &McCartan, 2015). This also meant that it was imperative to use a flexible design. As the researcher got to know the participants better, their needs and abilities impacted how the data was collected. For example, the pre-set methods for conducting the interviews (using pictures of peers) with the focal children had to be adapted to their way of communicating. Meaning, using pictures of peers was not fitting for their way of communicating. The researcher also changed to participating observations, for the children to become more comfortable and trust the researcher more.

Recruitment

The researcher contacted the local Public-School District in a Northern Mid-Western City, presenting the current study to the Special Education Director. With guidance from the Special Education Director, six public schools were identified as having potential participants meeting the research recruitment of children or adolescents with limited verbal language. Teachers from three schools responded to the recruitment letter, providing seven potential participants. Through purposeful sampling (Creswell & Plano Clark, 2011; Robson & McCartan, 2015), two participants in a multiple impairment classroom were identified to fit the study. Recruitment and consent forms were sent to the parents of these children, who consented to have their child participate in the study. Consent forms were also provided to the teachers and paraprofessionals within this study. Early in the data collection processs, a third participant within the same classroom was identified and added to the study.

Setting

The study was conducted in a multiple impairment classroom at a combined elementary-middle school in a Northern-Midwestern City, from November 2018 to May 2019. Just a few months prior to the data collection began, the participants received their education at a smaller elementary school. To minimize the move's impact on the daily routine of the students, they received the majority of their education, services, recess, and lunch within their multiple impairment classroom for the first half of the data collection period. Adaptive physical education and some pull-out therapy services, such as speech therapy, occurred outside of their specialized classroom throughout the study. During the second half of the data collection period, integration into general education classes such as music and library was implemented.

Participants

The focal participants of this case study are Ben, Grant, and Aurora, along with their special education teacher, paraprofessionals, speech-language therapist, physical education teacher, and substitute teacher. Aurora, Ben, and Grant are three out of five children within this multiple impairment classroom, where every child uses a wheelchair as their main mode of mobility and their needs requires one-to-one attention at all time.

Aurora is a six-year-old girl, diagnosed with a chromosomal deletion syndrome, dysmorphic features, global developmental delays, diffuse hypotonia, gastroesophageal reflux disease (GERD), and asthma exacerbation. She also has generalized muscle weakness, which impacts her ability to perform tasks that require sustained muscle activation. Aurora, therefore, uses a wheelchair as her main mode of mobility, which she can maneuver independently. She spends the majority of her day in the Multiple Impairment Classroom, where she has one-on-one adult assistance throughout the school day for her safety and personal needs to be met (i.e., eating, incontinence, transitions). Though her cognitive functioning (listening skills, listening comprehension, ability compared to same-age peers) has not been measured through formal assessment, Aurora's cognitive functioning appears to be at a level well below that of her same-aged peers. Aurora’s verbal language is limited to simple words such as “hi,” Buh-bye,” and “Ni-night.” When asked yes and no questions, she at times nod her head to indicate “yes” or shake her head to indicate “no.” Her non-verbal communication occurs through mimicking the people who interact with her, smiling, laughing, and making various sounds.

Ben is a six-year-old boy diagnosed with Freeman-Sheldon Syndrome, Congenital Vertical Talus, Arthrogryposis, Brachycephaly, Skull lesions, Global Developmental Delays, Microcephaly, and consanguinity. Because of his flexion contractures, mobility, and gross motor delays, Ben uses a wheelchair as his main mode of mobility. He can get himself in and out of the wheelchair himself and walk around on his knees. Ben receives one-to-one adult assistant to help him transition, complete tasks, assist him with toileting, eat, and keep him safe. When upset, Ben often engages in negative behavior such as hitting himself in the head, biting his wrist/hand, hitting teachers, screaming, spitting, and banging his head on his wheelchair. Similar to Aurora, Ben’s level of cognitive functioning has not been measured through formal assessments but is said to be at a level that is below that of his same-age peers. Ben is the participant with the most verbal language, communicating through single words and short phrases such as “hi, bye, all done, want, help, open, magazine, thank you, mommy, yeah.” He is also able to repeat some words said to him. Along with his vocalization, Ben uses some sign language, pointing, gesturing, and facial expressions to communicate. He is also in the process of learning to communicate with a speech-generating device, using the program Language Acquisition through Motor Planning (LAMP) on the speech-language therapist’s iPad. LAMP shows pictures of an item along with the word written below it, and when Ben clicks it, the word is read out loud. The plan is for him to one day have an iPad of his own mounted to his wheelchair so that he can use it at all times.

Grant is an eight-year-old boy, diagnosed with Intractable Epilepsy, Cerebral Palsy, Global Developmental Delay, Congenitally Decreased White Matter, Thin Corpus Callosum, GERD, Cortical Vision Impairment, and Dysphasia. Grant has a severe seizure disorder and often has several seizures throughout the day. He is given medication and food through a gastrostomy tube (G-tube) inserted through the abdomen, allowing nutrition and the medicine to be delivered directly to the stomach. Due to significant underlying low muscle tone, severe weakness in his head, neck, and shoulder areas, Grant is dependent on staff for transfers and mobility. When he is not in his wheelchair, he requires total assistance to sit up and to support his head. He requires one-to-one adult assistance at all times to meet his basic and medical needs. His cognitive functioning has not been measured through formal assessment, but he appears to be at a level that is well below that of his same-age peers. Grant's dysphasia limits his communication skills to facial expressions, sighs, and answering yes and no using his eye gazes. When Grant looks to the right, he is answering "yes," and when he looks to the left, he is answering "no." Sometimes he rolls his eyes and sighs loudly when he thinks something is ridiculous or to tell you "no" and that "no" is his final answer. He will also open his mouth, look around a bit, and get a little smirk/smile when he thinks something is funny, often accompanied by vocalization and lots of smiles.

Along with the three focal children, the other participants in this study consisted of the special education teacher (Cindy), the speech-language therapist (Linda), the fulltime paraprofessional (Karen), part-time paraprofessional (Jessica), the physical education teacher, the substitute teacher, and a handful of new paraprofessionals in training. All of the adult participants were part of the observations, but only Cindy, Linda, and Karen were interviewed as well. Cindy has a master's degree in special education and has been teaching for seven years, four of them being in the current position. She was seven months pregnant when the study began and left for maternity leave in March 2019, and a substitute teacher took her place. Karen is a full-time paraprofessional with a bachelor's degree in history with a minor in sociology. She has been working with Cindy and the focal children for three years. Jessica is a part-time paraprofessional while getting her bachelor's degree in Early Childhood Education. The speech-language therapist, Linda, has her master's degree in speech pathology and has been in the school system since 2005. She became Ben and Aurora's speech-language therapist when they moved to the current school in August 2019.

Data Collection

Participating observations. Between November 2018 and May 2019, a total of 50 participating observations were conducted. Participant observations were conducted in order for the focal children to see the researcher as a member of their social context, allowing for a higher level of trust to be established, and for the participants to be more familiar with the researcher before the interview process (Robson &McCartan, 2015). To establish this, the researcher would, at times, help with work tasks, sit with the children during recess and lunch, and have conversations with both the children and the adults throughout the day. The classroom was often understaffed, so the participating observations especially occurred during these times to assist the special education teacher when it was needed. Each observation lasted between 3-6 hours and was conducted during different days of the week. The researcher found it essential to do longer observation sessions, on different days of the week, in order to construct a better understanding of the interactions the focal participants had with adults and peers throughout their week.

The majority of the observations were conducted within the multiple impairment classroom, as the children received most of their education, recess, and lunch there. Speech-language therapy and adaptive physical education occurred outside of the classroom, and observations were conducted in these settings as well, along with a couple of school assemblies. On a few occasions, children from other classes would join the focal children during their physical education class, allowing for some interactions with peers outside of their typical classroom. Towards the end of the study, the children began participating in their general education music and library classes, allowing for observational data to be collected of these contexts as well. Detailed notes were taken at all times of what was occurring in the classroom, from the work tasks the children were working on, their interactions with each other, how the adults interacted with them, and other behaviors. While taking notes on everything said and done within the classroom, the researcher also specifically looked for the social interactions occurring and how the focal participants behaved and reacted to these interactions. This was done to attempt an understanding of how they valued the social interactions they were engaged in.

Interviews. The researcher attempted to interview the focal children, by using a fully structured interview protocol with pre-determined yes/no questions (see Appendix B) (Robson & McCartan, 2015). These interviews were conducted to collect the focal children's own perspective on their social interactions and relationships, and to create a better understanding of how they valued these. The questions included all of the children and adults within the classroom, and the focal children were asked about their feelings towards these people and activities done with them. Questions included if these people were their friend; if they made them happy, sad, angry; and if they liked doing different activities and work tasks with specific staff members. At first, the questions were not open-ended due to the participant's limited verbal language. However, throughout the interview process, the protocol shifted to a more semi-structured protocol, allowing the researcher to adjust the language of the questions and how the answers were reported (Robson & McCartan, 2015).

The researcher began the interview process of December 2018, allowing for the focal participants to become more familiar with the researcher and for the researcher to become more aquatinted with their way of communicating. To ensure the children felt comfortable and safe during the interviews, they were conducted in the classroom for their teacher and/or paraprofessional to be present during the interview, especially for medical needs. However, that meant that there was usually a lot occurring around the student during the interview. Based on individual needs and abilities, the length of the interviews varied from participant to participant, and interview to interview. Some interviews were rather short (less than 10 minutes), due to attention span, behavior issues, or medical needs. This also impacted the number of interviews conducted with each focal child, as the whole interview protocol was usually not completed in one sitting. Eight interviews were conducted with Ben and Grant, while Aurora participated in six interviews. At first, their answers were recorded by highlighting yes or no on the interview protocol, but to capture behaviors and vocalization better, the majority of the interviews were audio recorded and transcribed.

Semi-structured interviews were also conducted with the special education teacher (Cindy), the full-time paraprofessional (Karen), and the speech-language therapist (Linda). An interview guide was created to serve as a checklist of topics to be covered (Appendix C), in the form of open-ended questions (Robson & McCartan, 2015). The questions were constructed around their relationship to the focal participants, their role in the classroom, and the social interactions the children engage while at school. These interviews lasted from 20-45 minutes, and were all audio recorded and transcribed verbatim.

Documents. The focal participants' Individualized Education Program (IEP) was also analyzed to extract data on diagnoses, cognitive functioning, needs, abilities, and communicative status. Together with the data gathered from the observations and interviews, the IEP information provided a better understanding of the children's needs and abilities.

Data Analysis

The field notes and the interview transcriptions were analyzed using a narrative thematic analysis (Charmaz & McMullen, 2011). Through multiple readings of the data, codes were established and developed into themes, keeping in mind the voices within each narrative and layering these voices with their interactions, to create an understanding each participant's story (Charmaz & McMullen, 2011). During the coding process, the two research questions were utilized as a guide, in order to identify themes surrounding the social interactions that the children engage in. The overarching theme of "Opportunities for interactions" emerged, including the two sub-themes: Interactions with adults and interactions with peers. A cross-case analysis was also performed, to examine if there were any patterns across the individual stories (Charmaz & McMullen, 2011).

Validity

The author attempted validity through data triangulation, by using more than one method of data collection and by keeping a full record of my activities while carrying out the study in the form of an audit trail (Robson & McCartan, 2015). By collecting data through extensive observations, interviews with both the focal participants and their teachers, and examining the information provided in the focal children's IEP created a trustworthiness across the data, in the form of triangulation. The researcher wants to recognize that observational bias occurred during the beginning of the study, in the form of interacting more with Ben than the other focal children, as he was more vocal and would seek out the researcher at a higher degree than the other focal participants. The researcher attempted to address this by making a conscious effort to distribute the attention evenly among the three focal participants (Robson & McCartan, 2015). It is important to note that the narratives in this case study are merely reflections of what is known, where the researcher's interpretation is presented through quotes and excerpts from the observations and interviews with the participants (Riessman, 2008).

Findings

The purpose of this study was to investigate the social interactions of three children with limited verbal language, and how adults facilitated social interactions for them. Overall, this study found that each of the three children had very few social interactions with peers outside of their specialized classroom. Though in more frequent proximity to their peers within their specialized classroom, these interactions were limited too. The majority of their interactions were with adults, but these were more functional in the form of directing them in their work and behavior.

The sparse interactions with peers outside of the specialized classroom was heavily influenced by a shortage of staff. Often there was only one or two adults in the classroom, making it impossible to meet the one-to-one assistant the students were required to have at all time. One of the reasons why the classroom was understaffed, was due to their move from a different school right before the study began. Only their special education teacher (Cindy), and the two paraprofessionals, Karen and Jessica, transitioned with them from the old school. To address the shortage of staff and to cover the one-to-one assistance the children were required to receive, several new paraprofessionals were introduced to the classroom. However, with the classroom already being understaffed, there was not sufficient time to provide these new paraprofessionals with adequate training to properly meet the students' needs. Many, therefore, found the classroom too challenging to work in and quit after a few days, while others were relocated to other classrooms as they were not able to adapt to the protocols established by the special education teacher (Cindy) to meet the students' needs. For the paraprofessionals that stayed, training mostly occurred in the form of observing the special education teacher, while already working with a child.

It was also found that because the classroom had a limited amount of adequately trained staff, the amount and type of social interactions occurring within the specialized classroom was impacted. Mainly, interactions occurred with adults, in the form of instructing the children through their individual schoolwork. While during group activities, recess, and lunch there was very little facilitation of interactions between the children. The impact of this on each focal child will be presented within their specific case study below. This is to ensure that their individual narrative gets presented along with their social context. The findings will be presented through the overarching theme of "Opportunities for Interactions" which contains the two sub-themes of: Interactions with Adults and Interactions with Peers.

Ben

Ben was the focal participant who had the most amount of social interactions with both peers and adults. His verbal communication skills were more developed than among the other two participants, and he would seek people's attention at a higher frequency than the other two. He could also work more independently on schoolwork than his peers. However, due to often engaging in negative behaviors and self-harm, he still needed to be closely monitored and re-directed by the adults. Yet, with there being limited adequately trained staff in the classroom, he was often left to work independently and was not re-directed when needed, allowing for negative behaviors and self-harm to escalate. As a result, this impacted his opportunities for social interactions and the type of interactions he had with both peers and adults.

Opportunities for interactions. Ben's workplace was closed off from the rest of the classroom, meaning he could not see the other children while working on his schoolwork. This was done to limit distractions, but also to shield himself and others when his behaviors would escalate to being potentially harmful. As the majority of the school day was centered around completing independent work, Ben spent a larger portion of his day within his confined space. This meant that most of his interactions were with the special education teacher or paraprofessional guiding him through his work. The following sections will highlight both the more functional and social relational interactions Ben had with adults, because of how these interactions impacted the interactions he had with his peers. This is important, to better understand the social context of the classroom and it its relation to the social interactions the children were able to engage in.

Interactions with adults. Structure and routine are highly important to Ben, because without them he often gets frustrated and his negative behaviors tend to escalate. To avoid too much deviation away from Ben's usual routines, especially after the move, none of the new paraprofessionals were assigned to him. Instead, he would mostly work with the special education teacher (Cindy), and the paraprofessionals, Karen and Jessica. In her interview, Karen noted the importance of routine and how it helped the kids understanding what they were expected to do:

> I think routine is key, doing the same things and trying not to differentiate between the different words we use. So that they [Ben and Aurora] are familiar with that verbiage we use and they know it is time to work.

However, because there was often a shortage of staff in the classroom, Jessica, Karen and Cindy were often busy juggling several children at once. Therefore, because Ben could complete tasks on his own, he would often be left alone for longer periods of times. This often triggered him to yell "ALL DONE, ALL DONE, ALL DONE!!!" over and over again, when he had completed a task or was in need of prompts on how to continue. Usually, when engaging in such behavior, Cindy, Jessica, or Karen would go over to him, count down from 5, and tell him to keep working or playing. The counting down was a method to get him back on track, and if he did not start working again or changed his behavior by the time his staff got to zero, he would be placed in a "time-out." But throughout the observations, it was often noted that the staff was not always able to provide the countdown as a way to re-direct him, because they were busy with other students. Therefore, his behavior would sometimes escalate into self-harm, which put him in an immediate time-out. Though the majority of his self-harm occurred after he was placed in a time-out. When he engaged in self-harm, Cindy would do anything to make sure he was safe, by for example putting socks on his hands so he could not scratch himself. His time-out was outside of his workspace, and he would have to stay there until he calmed down. When he had calmed down, a timer would be set for two minutes. If he stayed calm and safe until the timer went off, he could return to whatever activity he was working on prior to the time-out. If there had been sufficient staff, and all paraprofessionals were trained on each child, some of these behaviors might not have occurred as there would have been more people to redirect him when needed.

Most days he had several short time-outs, but some days he would have several longer time-outs, as he would not be safe and calm until the timer went off. The longer time-outs seemed to occur on days where he did not have constant one-to-one assistance, of someone monitoring his work and re-directing him as soon as he got off track. On the days where it took a long time for him to calm down and change his behavior, Cindy told people to not engage with him as he was "doing it for attention." She also wanted to be the only one interacting with him, so she could use the built-up routine she has had with him over the years, to find ways to re-direct him and have him calm down. Since some of these behaviors occurred before activities such as speech therapy, physical education, music therapy, and/or recess, Cindy sometimes did not allow Ben to attend them, as a consequence of not calming down and changing his behavior.

Though the majority of Ben's interactions with adults were centered on them directing him and giving corrective prompts during his work, there were a few occasions he would have more relational social interactions with adults. The fieldnote below is from during a recess session, where all the children are on a mat on the floor and the adults are sitting around them:

> Ben says, "hi." Cindy points to me and says, "that's Kristina," and Ben says "hi istina." He leans on Cindy, almost as if he is giving her a hug. He then moves around the mat and is now behind Cindy. He leans on her back. Cindy asks him "what are you doing?" He continues to lean on her. Jessica is sitting close by, and asks Ben "can I have a hug?" He walks on his knees over to her and gives her a hug. He then picks up several plastic tubes, waves them in the air, and screams "hi." In a deep dark voice, Jessica says "say hi." Ben repeats her, in a dark voice. Aurora laughs.

It was observed on several occasions that he would give hugs to his staff, whenever they were on the floor with him during recess. He also seemed to enjoy whenever they had time to sit and play with him, such as in the fieldnote below:

> Cindy is building tower with some foam blocks. This gets Ben excited and he tries to do it too. She tries to put a tall tube on top of the blocks. It falls, and Ben laughs. He tries to say the word "block," so Cindy helps him by saying it out loud for him. Cindy points to

> the block and says "blue. Can you say blue?" Ben says "blue." Ben is more talkative now, saying "hi" rather loud and several times.

However, these interactions were not frequently observed. Since Ben's behavior often delayed him in his work, he often had to do recess after his peers. This often mean that he had to do recess on his own, while the adults were busy working with the other children in the classroom. To ensure that Ben had some interactions during these times, I used the participatory observations to engage in his play and ask him questions about what he was doing. He would not always answer my questions but would often smile and say something else. After only a few of these interactions, my name became a word Ben would frequently say. He would especially say it when he was seeking attention from adults, but they would not reciprocate his interaction as they were busy with other children. He would often show me toys or books, while saying "Tina, look! Book, oooh."

The type of interactions I had during my participatory observations were infrequently observed between Ben and his staff, even when Ben had recess or engaged in other activities at the same time as his peers. I therefore found it essential to ask Cindy if the paraprofessionals were explicitly told not to interact with the children during recess, as they would mostly watch them play. Her response was as follows:

> It is the kids' time to do what they want, and I would like them to engage with the children – but not direct them. It should be the child leading and doing what the child wants, but it would be nice if they engaged more with them, instead of sitting on their phones.

She showed a clear frustration over this issue, and one could feel extra tension in the room when it occurred. Yet, the paraprofessionals did not seem to notice, and Cindy did not correct their behavior when it occurred. Instead, it was brought up at a later time, in a one-to-one setting.

Though the social interactions Ben had with his staff were limited, and they mostly consisted guiding and prompting him, I attempted to interview Ben to see how he valued the interactions he had with his staff. These interviews were conducted after he seemed to feel comfortable interacting with me, yet he did not provide any answers about who he enjoyed spending time with, in the classroom. Therefore, an understanding of how he valued the social interactions with adults were drawn from the participatory observation. Overall, the observations showed how much he enjoyed having adults join him on the floor during recess, as he would often smile, laugh, and give hugs. He would often seek people's attention by saying "hi," and "bye" whenever they were in close proximity to him, and it became evident that a lot of his negative behavior stemmed from not having constant one-to-one assistance. Cindy noted how much this had changed from when she first met him, telling me in her interview that he "had nothing to do with social interactions whatsoever. He didn't acknowledge anybody," and how fun it had been for her to help him get to that point. His interest in people also transferred to his peers, which will be examined further in this next section.

Interactions with peers. Ben was the focal participant that had the most social interactions with peers within his specialized classroom. Yet, these were still few and far between, often heavily impacted by the amount of staff that was present or how engaged the staff was with the children. Ben's tendency to engage in negative behavior also impacted this. However, as seen above, these occurred more frequently when there was not enough staff to ensure he got the one-to-one assistance he was required to have, to re-direct him when he needed it. The limited staff also meant that Ben's opportunities for interactions with peers were mostly restricted to his peers within the specialized classroom. With there not being enough staff within the classroom, there was no one to take Ben to his general education classes and have him join them during their recess. Recess outside was also not feasible during the study, as it was conducted during the winter months, and Ben's wheelchair was not easy to maneuver in the snow and it often was too cold for him to be outside. Therefore, recess was always done inside the specialized classroom. However, Cindy really wished the children could join their general education peers for recess, and stated the following in her interview:

> Just because kids are able to be free at that time and usually that's when kids come up and are able to ask the best and most meaningful questions…and that's where they kind of get that free time out of the room, you know, to be curious and learn about these guys and interact. And, you know, that's kind of where it starts.

Because Ben was not participating in activities with his general education class, interactions with peers outside the specialized classroom was limited to greetings in the hallway, during assemblies, and when other children were invited to join their adapted physical education class. He would always say "hi" to children he passed in the hallway, and if they reciprocated his staff would often encourage him to give them knuckles. He would have a big smile on his face, whenever he got to give knuckles. He also would smile a lot whenever other children joined them for physical education. During one observation, there was four girls joining their physical education class, and the teacher attempted to make it an interactive class between all the children, as seen in this field note:

> The four girls join Ben and Aurora for ball. The physical education (PE) teacher throws the ball towards Ben and he kicks it. He then goes around the gym and some of the kids

> run with him, helping him to go to the bases. Two girls are holding up a ball each. The PE teacher asks him which ball he wants to kick. He points to one that has bells inside of it. A girl helps him around the bases, pushing his chair. When the PE teacher sees this, she tells Ben "I know you can push yourself. Can you push?" The girl lets go and he goes from base to base by himself, but one girl watches him.

Though Ben was able to push himself around the classroom, this incident showed how important it is for adults to find ways for children to interact, without creating barriers. The language we use with children is very important, providing them with ways they can interact without working against the abilities of the children.

Facilitation of social interactions were also lacking during the few library and music classes Ben was able to attend with his general education class towards the end of the study. At this time, there was enough staff for him to join his class. However, the lessons being taught during these classes did not open up for much interactions between the children. Therefore, the few times he was part of these classes, he would mostly just observe his peers within the classroom, and they would smile back at him. Though, during one of his library classes he would sit on the floor with some of his peers, and the boy next to him would explain the activities to him. Ben would then attempt to participate and answer the questions being asked by the teacher, just like the other children.

Considering that Ben's interactions outside of the specialized classroom were few, the majority of the findings on interactions with peers came from those he had with his peers within the specialized classroom. Most of these interactions occurred during group activities, lunch, and recess. When Ben would join the other children during recess, he would mostly engage in parallel play, meaning he would play by himself next to his peers. But on occasions, he would give toys to the peers, either after prompts from staff or independently. Though he would interact with his peers this way, he only had reciprocal interactions with Aurora. Through observing and mimicking each other, they would engage in some verbal communication but mostly through body language and facial gestures. They would also often smile and laugh at each other. This type of interaction is displayed in the fieldnote below, where Ben and Aurora were placed in a playpen together during recess:

> Cindy moves Aurora a little, for there to be more space between her and Ben, but Ben follows and sits next to her. He gives her a ball and says, "thank you." I tell him he should say "you're welcome" instead, and he attempts to say it. He then moves around to the other side of Aurora, where there is even less space for him. Aurora doesn't indicate that she recognized that he is there. Ben moves over to the Hanging Activity Mobile (HAM) and plays with some of the instruments on it. Aurora looks at him and laughs.

They don't play together, but whenever Ben pushes the HAM toward Aurora, she laughs. Similar to other observations done during recess, the paraprofessionals did not engage much with Ben, though they were sitting in close proximity. Instead, they would mostly observe or be on their phone, and Cindy was busy with paperwork. Overall, there was very little adult facilitation of interactions between Ben and his peers. Therefore, Ben had hardly any reciprocating social interactions with his peers, even when in close proximity to them

Aurora

Aurora was the last participant to join the study and was added after the data collection began, when it was noticed that she was the one Ben interacted the most with. Overall, Aurora had fewer social interactions than Ben, as she would not reciprocate most of the interactions both peers and adults had with her. Instead, she would mostly just observe the people around her, and laugh and smile if she found something entertaining. On rare occasions, she would also wave her hand and say “hi” to people in close proximity to her. Her interactions with adults were also quite functional instead of relational, meaning most of the time the interactions she had with adults were related to promoting her through her work. However, since she was often assigned new paraprofessionals these interactions were rather few as well, compared to when she was working with Cindy or Karen. While interviews were attempted to understand how Aurora valued the interactions she had with her staff and peers, the majority of the findings below comes from the observations conducted on the interactions she had with peers and adults.

Opportunities for interactions. Aurora’s workplace was not blocked of like Ben’s workplace, meaning she was able to observe her peers at a higher rate and adults would communicate with her more frequently. However, she would rarely reciprocate these interactions, unless people were in very close proximity and actively attempted to engage with her through both verbal communication and body language. As Aurora did not engage in negative behavior, other than sometimes crying when she did not want to work and eating on her hands, her routines and schedule was usually not affected. This meant that she would always have lunch, recess, physical education, and music therapy with her peers. She would also always have a staff member close by, as she needed hand-over-hand assistance to complete her schoolwork.

Interactions with adults. The majority of Aurora’s interactions in the classroom were with the adults, and she was the participant who received most adult engagement. The main reason for this, was because she was unable to complete her schoolwork independently and needed hand-over-hand assistance to complete her work. She also needed one-to-one assistance to make sure she did not eat on her hands, as she would often touch her wheelchair wheels and then put them in her mouth. However, since she did not have medical needs and did not engage in negative and self-harming behaviors, she was often assigned new paraprofessionals to work with her. This became an interesting factor, when comparing how they would interact with her compared to Cindy.

Her work routine consisted of completing two tasks, and then have a free choice. This model was followed to give her a routine schedule and teach her the difference between work and leisure. During the study, she would engage in the following work tasks: put-in activities, puzzles, and fine motor skills. The fieldnote from the following observation shows how Cindy would typically interact with Aurora during her work

> Cindy says to Aurora, “ok let’s do this. Get the last two beanbags out. Get the yellow one. Why are you grabbing my…no grab the beanbag.” She finishes the beanbag task in three minutes. Aurora seems to be in a rather good mood today; very alert and active. She is smiling a lot and making a lot of vocal sounds. She is laughing a lot too. She is now working on throwing balls into a bucket. Cindy is helping her throw them in, telling her “good job” when she gets them in.

Cindy would always be very vocal throughout Aurora’s work, ensuring she was giving positive feedback and actively engaging with her. The more engaged Cindy was, the more Aurora reciprocated the interaction. This was well noticed during my interviews with her as well, where the more I mimicked her and used body language along with verbally engaging with her, the more she engaged back. In a few interviews I asked her if Cindy was her friend, and during one of the interviews she would slowly turn her body towards Cindy, and then she smiled. When I asked about Karen, in the same interview, she put her head down on the table and started reaching for her water bottle. While for Jessica, Aurora would turn away from me in her chair. I also asked if I was her friend, where she shook her head "no," while laughing. This was the only time during her interviews, where she used her nodding/shaking her head method to answer.

Though Aurora somewhat answered these questions about her staff, she would for the most part not answer the questions I asked her. However, she was very interactive in the form of mimicking, smiling, and observing what I was doing. This type of engagement was, however, not observed much, when Aurora was working with paraprofessionals. Compared to how Cindy would work with Aurora, the paraprofessionals were far less verbally interactive with Aurora. They would occasionally encourage her to keep going, and it was easy to notice that when there was fewer verbal prompts and encouragement, the less Aurora would reciprocate. The following field note was a common observation of how the newer paraprofessionals would work with Aurora:

> Aurora is working with puzzle pieces that she needs to pull out of their spot, and the para says, "wrong one, try again." Aurora pulls them out, and then the para does hand over hand to put them back in. Grant keeps coughing and Aurora turns around to look at him several times. The para tells her "no, turn around…do your work." She does some but turns again. Aurora starts watching Cindy putting out lights. The para tells her to keep working…Aurora finishes her task, so the para says, "well done, all done" and puts away the puzzle.

Though the paraprofessional praised Aurora at the end of the task, the prompts throughout the task were short and not as positively phrased. Outside of working tasks, several newer paraprofessionals would often call Aurora "so cute" and "adorable" as they observed her. Other than that, their interactions were rather limited, and this was well noticed during recess as well. As mentioned in Ben's section, Cindy's response to this was "it would be nice if they engaged more with them, instead of sit on their phones." It was frequently observed that the paraprofessionals would be on their phones, instead of engaging with the children during recess. This became especially evident when looking at how the adults would facilitate interactions between the children, as Aurora does not seek attention from her peers in the way Ben does. She was also not encouraged to interact with her peers the same way as adults would encourage Ben. This next section will examine Aurora's interactions with her peers.

Interactions with peers. When it came to opportunities for social interactions with peers, these would mostly occur during recess, and sometimes during lunch and group activities. Aurora did not seek attention from her peers as much as Ben did, but on occasions she would look at them, smile, laugh, wave, and say "hi." She and Ben would often interact through mimicking each other, either through vocal sounds or body language. When I asked her if Ben was her friend during one of her interviews, she would laugh and smile, then look over at him wiggling her arms. However, most of the time she would just play in proximity to her peers, playing independently next to them and often not showing any interest in their presence. Though she would smile every time I asked her during the interviews, if a specific peer was her friend. On a few occasions, she was observed having more physical interactions with peers, such as in this fieldnote from an observation done during recess:

> Aurora picks up the yellow ball and bounces it…The ball is so close to the other student, that Aurora's hair is touching his arm when she leans in to grab it…She lays back down and is looking at the other student while shaking the bells. Karen says, "do you feel like someone is watching you x. Oh so cute! You are so cute," as Aurora is lying close to him…Aurora then leans in and puts her arm on his chest while she watches him. It looks

> like she is going to give him a hug. She then lays down on his arm and lays there for a bit. Karen says, “you are so cute.” Para with glasses says, “this warms my heart.”

Aurora also had a physical interaction with the same peer in a different observation, where she would put her hand on his face, but as she was not doing it as gently as she should have, Karen moved her hand away from his face. These were the only occasions Aurora was observed initiating physical interactions with a peer. Most of the observations instead consisted of her communicating through vocal sounds, laughing, and smiling to her peers, when in close proximity to them. This type of interactions especially occurred during group activities, such as sensory bins. The following observation is from when Aurora and Ben were placed around a table to play with water beads and different utensils

> Ben is holding up both the whisk and the tong and is making some sound. Aurora looks at him and Kate says, “what is Ben doing?” Ben says something that sounds like pizza over and over again. While trying to put the whisk inside of the measuring cup. Aurora is watching him and makes a sound. Karen grabs the tong and claps it around his hand, he laughs. Aurora is watching and makes a sound. Ben picks up a broken bead and says oh-o while showing it to Jennifer. Jennifer says “oh-o” back. Aurora is chewing on the side of her bowl and is looking at Ben a lot. Both of them are making a lot of noises so the new para with glasses says, “are you guys competing who can make the funniest noises?”

This interaction between Aurora and Ben was very interesting to observe, as you could see how they were reciprocating each other’s communication by reacting to what they observed the other person did. It also showed that by asking Aurora what Ben was doing, Karen was able facilitate engagement between the two children. Having that adult stimuli seemed to be very important when it came to Aurora’s interactions with both peers and adults. It also impacted Aurora’s opportunities to interact with peers outside of the specialized classroom, as the nature of the general education classes were less open for peer interactions.

Aurora's peer interactions outside of the specialized classroom were very limited. Before Aurora started joining her general education class for music and library, interactions with peers without disabilities only occurred when other children would join their physical education class. For the most part, Aurora would not interact with these children either, except from one observation where they played with a big parachute. A boy would push Aurora in her wheelchair under it, and Aurora would smile and laugh each time he did it. This was also the case for when she joined her general education class for music and library classes towards the end of the study. She would mostly just be in proximity to her peers, without interacting with them and them attempting to interact with her. However, the following fieldnote shows a rare interaction that occurred during music class:

> They are singing a "skipping song" and a girl picks Aurora to skip around with…The brown-haired paraprofessional pushes Aurora in her wheelchair around the circle, next to the girl who picked her. When finish, it is Aurora's turn to pick someone to skip around with. The brown-haired para does not ask Aurora who she wants to pick, but picks Ben for her. They go around the circle twice. Aurora is smiling the entire time.

Though it was nice to see the paraprofessional including Ben, this became a missed opportunity for Aurora to have an interaction with a peer she saw less frequently than Ben. Missed opportunities also occurred when she attended her general education library class, as the paraprofessional working with her would not lift her out of her chair and down on the floor, for her to sit next to her peers. Instead, she would sit to the side and behind the rest of the class. So, despite being in close proximity to peers, the opportunities for social interactions were not sought-out by Aurora or her staff.

Grant

Grant was the focal participants with the least amount of both peer and adult interactions throughout his day. One of the major reasons for this was his medical needs, which often kept him home from school and other times he would have heavy seizures while at school. These would often cause him to fall asleep, and sleep for extended periods of time throughout the day. However, it was also noted during several observations that he would sometimes wake up while the staff was busy working with other children, meaning he would often sit by himself until someone could work with him. This also impacted the amount of social interactions he would have with peers, as he often would be asleep during group activities, recess, and lunch.

Opportunities for interactions. Grant requires constant one-to-one assistance to ensure he is safe during medical situations, and to do his work. Though he can move his hands and arms off objects placed in his hand, he needs hand-over-hand and hand-under-hand assistance to complete his work. Because of how his wheelchair is designed, his work is always presented to him on a tray, held up in front of him, or put in his lap. This means that he can work from anywhere in the classroom and is often in proximity to staff and peers.

Interactions with adults. Grant interacted almost exclusively with adult, and for the most part this occurred in a functional way, assisting him with schoolwork. This was often affected by him having to catch up on work, after having missed schooldays or needing to rest after having a seizure, leaving little time for other types of interactions. However, if he had been gone for a few days, Cindy would make sure her focus was on him, while having paraprofessionals cover the other children. She would also be very attentive to him, no matter if he was just relaxing or working with other adults. If Grant coughed or indicated he was uncomfortable, she would stop what she was doing and either go over to check on him or ask him how he was doing. However, there were also days where he would sit with little interactions for over an hour at the time, with maybe an occasional “how are you” if he was supposed to rest. This was especially noticed on busier days, where due to his seizure he would be put off to the side to rest, but he did not fall asleep and the staff was too busy to notice he was awake. Being cautious of not overstimulating him when he was supposed to rest, I sometimes used these moments as a participatory observer to sit next to him and talk to him a little. This was also done to indicate to the staff, that he was awake and though they were busy, he had someone by his side. Often, this would lead to Cindy moving him over to where she was working with another student.

Grant would mostly work with Cindy, Karen, and Jennifer as they were more familiar with him and knew how to detect his seizures. All three would work very similarly with Grant, making sure he could see the tasks he was working on, giving him choices, encouraging him to move his hand, and provide him with positive feedback throughout the work task. The fieldnote below shows how Cindy worked with Grant, on an activity where he was spelling his name:

> She gives him his name page and pulls off all strips with the letters in his name. She shows him each letter strip, says the letter out loud, and then places it in his hand. Then, hand-over-hand, Grant places the letters down on the sheet.

These types of functional interactions were mostly observed when Grant was completing his schoolwork, where the focus was mostly on getting his work done. However, this following fieldnote was from an observation done during art, which shows a more relational interaction between Grant, Karen, Jessica, and Cindy:

> Cindy comes over to Grant and Karen, and says, “oooh, I really like that butterfly.” Karen says “yeah, we put some silver in there.” Cindy replies “oh is that what it is?” Karen tells Grant “two more to go. We are a great team Grant.” Cindy leaves and Karen cleans off the brush. Karen says, “we got to get red out for the apple.” Jennifer enters the room and comes over and says “oooh Grant is doing his art.” Karen says “yeah” in a happy way. Karen tells Grant “let’s see. Let us do pumpkin first.” She paints his palm with the neon orange, saying “this is just the palm stuff, so it is easy.” Jennifer says “the easy stuff [peer name]. You’re not [peer], Grant.” Karen asks Grant “who are you?” as a way to correct Jennifer in a joking way. Karen tells Grant “last one. We made it. Apple! Here we go. Ready?” she then sings “aaaaal done Graaaant. Look at that apple” She washes his hand off… Karen says “I am going to clean this really good. No blue fingernails today. You are all done Grant. All done. Did you like doing art?” Grant’s eyes gazes to the left, so Karen says, “No? ok, then I am sorry?”

Karen, Cindy, and Jessica were always observed being very interactive with Grant, asking him questions and making sure they verbally explained everything he was doing. To get a better understanding of how Grant valued these interactions, I asked him during his interviews if he enjoyed specific activities and which staff, he enjoyed doing them with. In most of the interviews, Grant would answer “yes,” when I asked him if Cindy, Karen, and Jessica were his friend and if they made him happy. He also answered “yes,” every time I asked if he wish he could spend more time with them throughout the day. The activities he answered he liked to do with them was tumbler books, being read to, and watching the magic school bus. But schoolwork and art were activities he most frequently answered “no” to.

However, since Cindy, Karen, and Jessica also had to work with other students, there were times he had to work with the new paraprofessionals. These paraprofessionals usually received limited training, because of the classroom already being so understaffed. Their training, therefore, mostly consisted of shadowing and observing Cindy, Karen, or Jessica for a day or less, before independently working with a student. Cindy would also explicitly explain how important it was for them to verbally communicate every step of an activity, to do hand-over-hand, and show him each item he would be given in his hand. She also explained that when working on activities such as sensory bins, he would have to move his hand before getting a new item and that they needed to give him a few minutes to do so. Though giving him some time, they were also told to continually encourage him to move his hand, so he could get a new item.

Despite being told these instructions, the paraprofessionals were often observed not being very engaged with him, rarely communicating throughout the activity, not encouraging him to move his hand, and often forgetting to show him what he was working on. This was specifically seen during an observation where Grant was working on a sensory bin:

> Grant is working on a sensory bin full of fall items (fabric leaves, pumpkins, etc.). The paraprofessional shows him two pumpkins, tells him what they are, and places on in each of his hands. She lets him sit there for a little bit, before changing them out. For the next two items, she does not show them to him or tell them what they are. She sits quietly, while he is holding them, with no encouragement for him to move his hands. Instead, she is on her phone and not observing him to see if he is moving his hands.

Later that day, Cindy told me she was very frustrated and that the paraprofessional would not come back. The reason was that the paraprofessional had not followed the instructions she had been given, when it came to how important it was for her to be engaging and interact with Grant throughout the activity. This was the fifth paraprofessional she had been given since August, she told me, who did not follow the instructions she had given the. She also said, “this must be interesting data for you, as how are these kids going to get any social interactions, when the paraprofessionals don’t even interact with them.” This concern was definitely something I noted as an important factor to how the children interacted with both the adults and peers in the classroom. The following section shows the social interactions Grant had with his peers, and what role the adults played when it came to these interactions.

Interactions with peers. Grant’s interactions with peers were very limited, often due to him sleeping or relaxing after a seizure. Therefore, most of his interactions with peers were with his peers in the specialized classroom, despite sometimes being in proximity to his general education peers. Overall, his interactions with peers were more in the form of unilateral interactions, where a peer would interact with him but he would not reciprocate. Most of the time he would also just be in proximity to his peers, without any interactions occurring, such as during lunch and recess. For recess, he had to stay in his wheelchair due to his medical needs, while the other children were on a mat on the floor. This created a height difference between him and the children, and he would have to play with toys while in his chairs. However, because of how interactive Ben was with everyone around him, the adults would often encourage him to give toys to Grant, creating a little bit of peer interaction. There were also times where Ben would do this without any prompts from the adults, such as in this fieldnote

> Ben is lying quietly on the mat…He then gives a block to Grant. Cindy tells Grant to say, “thank you.” Which prompts Ben to says, “thank you.” So Cindy tells Ben that it is Grant who is supposed to say “thank you,” and that he should say “you’re welcome.” He tries to

> say it a few times, but it is not very clear. Cindy says he said it a lot better before. Ben then gives a plastic toy to another child. Cindy says "thank you" to Ben.

Similar interactions were observed between the two on occasions, but they happened rather infrequently, as all the children in the classroom would mostly play independently and not interact with each other. Some facilitation between the children occurred when the adults would include Grant in a conversation they were having with another student, such as in this fieldnote where Cindy is working with both Aurora and Grant at the same time:

> Cindy tells Aurora "say hi Grant. Let's do Grant's name page." Cindy shows both of them the letters in his name, while saying them out loud. She then places them on his name sheet. When they have gone through all the letter, she shows the finalized page to both of them, and tells Aurora, "say Grant." Aurora answers "momomo." Cindy then goes over to pick out some books for them and says, "we are going to read some stories. Grant is going to join us. Say hi Grant. You ready Grant?" She reads the book to them, holding it so they can see the pictures. She also asks them if they see certain things on the page. Aurora now and then looks over at Grant.

Cindy would often create interactions like these, by bringing Grant over to other students she was working with, especially when she was working with Aurora. This type of facilitation of interactions allowed for there to be a non-verbal interaction between the children. To see how Grant valued these interactions, I asked him during his interviews which of his peers he saw as a friend. He answered "yes" most of the times for Aurora and another girl in the classroom, but he would not answer when I asked if Aurora made him happy. He did, however, answer "yes" when I asked if the other girl made him happy. For Ben, he answered "no" each time except once, but yes when I asked him if it made him happy when Ben would share his toys with him. I also asked if he missed his friends from the other school, and if he wish he could see them more, and during most of the interviews he answered yes.

When it came to his new general education peers, he did not have any interactions with them. Though he joined them for music class towards the end of the study, he did not have any interactions with them during the lesson. He was often placed off to the side of where his peers, who were sitting on the floor. Most of the time he would also not be part of the more interactive activities, as he had fallen asleep. However, during one interactive activity, where the class moved around to music and had to freeze when it stopped, Karen would move him around the room. The other children would interact with each other, but not with Grant. Similar to Aurora, this became a missed opportunity for interactions, as instead of having the children moving around with Grant, he was doing it with his staff. Therefore, though often in close proximity to peers, Grant unfortunately had very limited social interactions with both peers in his general education class and his specialized classroom.

Cross – Case Analysis

Interactions with adults. When examining the children's interactions with their staff, there was easy to see that most of these interactions were centered around prompting the children through their work, making the interactions more functional and static. Only on occasions, did they have more relational interactions, which allowed for more reciprocal interactions from the children. However, there was quite a difference in how the adults would speak to the children. For Ben, the tone was usually very strict in order to keep him on track. However, this strict tone was also in the form of frustration and impatience, because his behavior not changing. This was quite different from how they would interact with Aurora and Grant, where there was a lot more praise and positive feedback being given. It was also noted that staff would frequently call Aurora “cute” or “adorable,” while similar wording was never registered for Ben and Grant.

Interactions with peers. When looking at how the adults would facilitate interactions between a focal participant and peers, they would mostly do this for Ben. They would often encourage him to give toys to his friends, which he would also do independently at times. Aurora and Grant, however, were never encouraged to interact with their peers during recess. But Cindy would often have them work next to each other and facilitate conversations between the two. Aurora was given the most opportunities to interact with peers in the form of always having recess with others, but with no facilitation occurring from the adults she would mostly play just by herself. Though Grant was often in the proximity to peers, he would be up in his chair while the other children were playing on the floor, limiting his opportunity to have interactions with his peers. Ben on the other hand had less opportunities for social interactions during recess, as he sometimes missed out on them due to behavioral issues. However, since he was able to seek interactions with peers on his own, he had a few more social interactions with his peers than the other two. But he as well would often play by himself and could have needed adult facilitation of interactions.

Neither of the participants had much interactions with peers outside of the classroom, due to there not being enough staff to take them to their separate general education classes. Towards the end of the study this changed, and they were able to participate in their general education library and music classes. However, during these classes, the lessons being taught often did not allow for social interactions among the children. When activities that allowed for more interactions to occur, the paraprofessional often became a barrier instead of a facilitator of social interactions. Instead of encouraging the general education peers to do these activities with them, the paraprofessionals would do it themselves. This mostly occurred for Grant but was also noticed for Aurora and Ben. Yet, Ben was probably the child that had most interactions with his general education peers, mostly because he would seek their attention and because he was able to join them on the floor during several activities.

Discussion

The purpose of this case study was to investigate the social interactions of three children with multiple disabilities and limited verbal language. This was done by examining what sort of interactions they had with their staff and peers, how the adults facilitated interactions for them, and how the children valued the interactions they engaged in. The three children received the majority of their education within a multiple impairment classroom, along with two other students. All five of the students had transferred from a smaller school, just months prior to the study began. They transferred along with their special education teacher (Cindy), full-time paraprofessional (Karen), and part time paraprofessional (Jessica). However, as each child required one-to-one assistant, the classroom became understaffed because of the move. New paraprofessionals were hired to join the classroom, but with insufficient time to train them, many left after a short time in the classroom. They either found the disabilities of the children too severe to work with, or they were not able to adapt to the classroom based on the limited training. Therefore, the classroom was understaffed for the majority of the study. This impacted the children's opportunity to join their general education classes, as there was not enough staff to take them to their individual classes. Also, with the paraprofessionals not receiving sufficient training, they seemed to not comprehend the importance of continually interact and engage with the students. The limited adequately trained paraprofessionals played an important role, when it came to the social interactions of the focal participants.

When it comes to classroom placement, the literature mentions the importance of placing children in the least restrictive environment, based on what is appropriate for their needs (Morin, 2019). However, little is said about the importance of having enough staff who has adequate knowledge about the importance of social interactions when it comes to educational and developmental growth. Instead, the literature discusses the importance of inclusion and how this can benefit students across academic, social, communication, self-determination, vocational, and behavioral domain, all contributing to a positive learning outcome (Agran et al., 2019; Shogren et al., 2015). Since the participants did not receive much of their education in an inclusive classroom, the current study allowed for better insight into the social interactions occurring in a specialized classroom and what role the adults play.

Though the three participants all experienced different types of social interactions with their peers and the adults in the classroom, all three of them had very limited interactions with peers both in their classroom and outside of their classroom. It seemed like the more limited language the children had, the less social interactions they had. For example, Ben was the most vocal child, and would seek attention from both peers and adults to a higher degree. These interactions were often reciprocated from adults, but overall most of his interactions with adults were in the form of corrective prompts and guiding him through his work. For Aurora, the interactions with adults were more positive and encouraging, though also mostly during the time she was doing her schoolwork. When it came to Grant, he was the participant with the least verbal language (none), and he received the least amount of interactions from both adults and peers. This was often due to his seizures, which made him fall asleep or needing to rest afterwards. However, there were times he would sit alone for extended periods, despite being awake, while the adults were busy with other children. There was definitely room for ensuring that he did not spend that much time alone, even when being cautious of not overstimulating him.

When it came to interactions with peers, the facilitation from adults was minimal. The best opportunity for interactions with peers was during recess. This was done on a mat on the floor, and different toys would be put out for them to play with. As recess was at a set time each day, Ben was not always able to join his peers, because his negative behaviors had made him behind on his schoolwork. The times Ben joined everyone for recess, he would often be encouraged by the adults to give toys to his peers. Aurora usually always had recess with other peers, but she rarely attempted to interact with her peers. Neither was she encourage to interact with them, like Ben was. On a few occasions she would have physical interactions with peers, without prompting from adults, and when she did the paraprofessionals would comment on "how cute" the interaction was. When it came to Grant and recess, he would sometimes be asleep and not be able to join. The times he was awake, they would place his wheelchair next to the mat. With Grant being up in the wheelchair, it created quite a height difference between him and the rest of the children who were on the floor. This limited his opportunities to have interactions with his peers. Overall, these findings showed the importance of adapting the environment to allow all the children to have recess together, either all on the floor together or up in their wheelchair. Though Cindy said this was a time for the children to have free time, she also wished she would see more interactions between the children, facilitated by the paraprofessionals. Therefore, it would have been nice to see them facilitating more inclusive activities to create interactions between the children. But instead, the paraprofessionals would mostly just observe the children or be on their phone during recess.

When it came to peer interactions outside of the classroom, they all had very limited interactions, even when they started joining their general education classes for music and library. It seemed like both the teachers and peers were not very familiar with Ben, Grant, and Aurora, and therefore the teacher did not facilitate interactive activities that would be inclusive. Therefore, it was not easy for the focal participants to get to know their general education peers during these classes. But it was also noted that the paraprofessionals became some sort of a barrier to social interactions, when these classes on occasions offered more interactive activities. Instead of having the peers do the activities with the focal participants, the paraprofessionals would do it with them. This showed how important it is to facilitate interactions where children can engage with each other, without adult interaction.

Overall, this study shows that children with multiple disabilities and limited verbal language mostly engages in unilateral relationships, either in the form of their interactions not being reciprocated or not reciprocating interactions from others (Buysse, 1993). Though their placement limited their interactions with peers, it was the limited sufficiently trained staff that had the biggest impact on these relationships. The lack of sufficient training impacted the paraprofessional's understanding of how important continually communicate and interacts are, even if the child is not able to reciprocate this. This was especially noted, when observing how the paraprofessional would interact with the children, compared to the newer paraprofessionals. It also showed that they did not see the importance of social interactions between peers, as they either did not facilitate them or became a blockage to social interactions. Proximity alone will not provide quality social interactions between these students and their peers or staff.

Implications

This study has several important implications for children with multiple disabilities and limited verbal language, when it comes to their social interactions in school. First, as made clear, it is very important that no matter what learning environment they receive their education in, there needs to be an adequate amount of staff, making sure that they are given the assistance they are required to receive. But even more importantly, these paraprofessionals need to have a good understanding of what it entails to work with a population like this prior to entering the classroom. This should be done by giving them the appropriate amount of training before they start working, and ongoing training when working in the classroom. This was also mentioned by the special education teacher in this study, where she highlighted the importance of schools hiring with the specific classroom and students in mind. There needs to be a way to ensure that the paraprofessionals are able to work in the environment they are placed in, and that they want to be there. Another implication is to make sure that there is room for social interactions with peers outside of recess, lunch, and physical education, and that the adults see the importance of providing the children with peer interactions. There needs to be a higher focus on how adults can facilitate social interactions at any time, and that these are still important though a child might not be able to reciprocate them.

Limitations

There were several limitations to this study. The biggest limitation was the short time frame of the study. This limited data gathered from interactions occurring with general education peers, and how their interactions were impacted by becoming more accustomed to their new school. The limited timeframe also impacted how well the researcher was able to establish a good interview method and protocol for each child. Another limitation was combining the three children into one case study, instead of creating three individual case studies. There was a lot of data on each child, and individual case studies could have better showcased how the social context affected each of the children individually. However, as the reasons for limited social interactions were the same for each child, the researcher decided to combine the three

Future Research

When conducting research with a population like this, it became evident that one needs to follow a flexible design, as there are always a lot of factors impacting the study and sometimes these cannot be foreseen. If one is not familiar with the participants prior to the study, it is also important to calculate in appropriate time for both the participants to get to know the researcher, and the other way around. This can help when determining interview protocols and other methods. Also, since social interactions among children changes quite a bit depending on age, future research should extend over a longer period of time to see how relationships evolves depending on age. However, with there being an established knowledge about students with multiple disabilities and limited verbal language having fewer social interactions, future research needs to go beyond this. As seen in this study, adequately trained paraprofessionals became an important factor in the type and amount of social interactions these children had. Therefore, future research should investigate how providing paraprofessionals more training on the importance of social interactions and how they can help facilitate these.

CHAPTER IV

THE RESEARCH TO PRACTICE GAP: FRIENDSHIP AND SOCIAL INTERACTIONS AMONG CHILDREN WITH SEVER DISABILITIES AND LIMITED VERBAL LANGUAGE

The Research to Practice Gap: Friendship and Social Interactions Among Children with Severe Disabilities and Limited Verbal Language

Kristina Brodal Syversen

University of North Dakota

Abstract

Research has shown that social interactions with peers play an essential role in our development, specifically our social skills, cognitive and language development, which can impact our quality of life and contribute to a positive academic learning outcome. However, students with severe disabilities and limited verbal language have fewer social interactions and friendships than their peers without disabilities. Minimal social interactions with peers still occur today, despite the implementation of the Least Restrictive Environment (LRE) legislation in 1978. One of the goals of the LRE was to maximize the opportunities children with disabilities have when it comes to social interactions with peers in the general education classroom. However, as the general education classroom is not always deemed the most appropriate learning environment for students with severe needs, they receive very little of their education outside of their specialized classrooms. Considering current research has found inclusion and social interactions with peers without disabilities to be an essential factor in how well children develop and learn, this indicates a gap between research and practice.

This article examines the elements contributing to why research findings are not implemented into practice, when it comes to social interactions and friendships among children with severe disabilities and limited verbal language. It evaluates how the history of special education laws have impacted our way of educating children with disabilities today, how this might have impacted the way researchers conduct their research, and why their findings are not being implemented into practice on a larger scale.

The Research to Practice Gap: Friendship and Social Interactions Among Children with Significant Disabilities and Limited Verbal Language

Research has shown social interactions with peers to be an important element to our development, specifically, our social skills, cognitive and language development (Kennedy & Itkonen, 1996; Papoutsaki, Gena, & Kalyva, 2013), which can impact our quality of life (Gordon, Feldman, & Chriboga, 2005) and contribute to a positive academic learning outcome (Agran et al., 2019; Kurt & Mastergeorge, 2010; Shogren et al., 2015). However, research also shows students with disabilities, especially those with more severe disabilities and limited verbal language, to have fewer social interactions and friendships than their peers without disabilities (Ferreira et al., 2017; Fujiki et al., 1999; Geisthardt, Brotherson, & Cook, 2002; Hall & McGregor, 2000; Salisbury & Palombaro, 1998; Salmon, 2013). This still occurs, despite the efforts of implementing legislations such as the least restrictive environment (LRE). One of the main goals of LRE is integrated children with disabilities into general education classrooms, to maximize their social interactions with peers without disabilities (Morin, 2020; Rueda, Gallego, & Moll, 2000). But for many students with severe disabilities and limited verbal language, the general education classroom has not been deemed suitable, as their specific services and programs cannot be appropriately provided there (Morin, 2020; Yell, 1995). Therefore, these students spend significantly less time in proximity to their general education classroom peers, which is one of the reasons why they are experiencing fewer social interactions and friendships than their peers (Fryxell & Kennedy, 1995; McDonnell et al., 2002).

Along with the importance of creating proximity to peers without disabilities, it has also been found important that peers without disabilities have a disability awareness (Anderson, Balandin, & Clendon, 2011). However, unless teachers and paraprofessionals create this, students with disabilities will often be socially isolated, and their peers might have negative attitudes towards them (Evans & Meyer, 2001; Fisher, 2001; Geisthardt et al., 2002; Nabors, 1997). Sometimes this is also caused by their lack of communication skills, which is an essential factor in how well some people build relationships (Durkin & Conti-Ramsden, 2007, Østvik, Ytterhus, & Balandin, 2017, 2018; Lee, Yoo, & Bak, 2003). But overall, all these elements tie back to the involvement of teachers and paraprofessionals (Causton-Theoharis & Malmgren, 2005). In their study, they specifically highlighted the importance of providing paraprofessionals with proper training, because without it, they can often act in a way that isolates and segregate the students they support. Though these studies and findings have become recommendations for classroom practice, newer research indicates a lack of implementation of these into practice. Current research is still finding this population to experiencing fewer social interactions and friendships than their peers without disabilities. This raises the question of what is hindering research findings and their recommendations from becoming part of special education practice.

This article will examine why there is a gap between research and practice when it comes to social interactions and friendships among children with severe disabilities and limited verbal language. To get a better understanding of how children with disabilities are educated today, this article will first provide a brief introduction to the history of special education laws. Together with the impact of laws and policies within special education, this article will also examine how recommendations of providing higher quality research have influenced the way research is conduct and construct in this field. Finally, this article will look at how these elements contribute to why the recommendations from research findings are not implemented into practice at a larger scale.

History of Special Education Laws

In 1973, the Rehabilitation Act, Section 504, was passed to ensure that any recipient of federal financial assistance (including private and local education agencies) could no longer discriminate in the offering of its services to individuals with disabilities (Martin, Martin, & Terman, 1996). Section 504 protects all students with a physical or mental impairment, which substantially limits one or more major life activities such as eating, sleeping, and walking (Lee, 2020). It took two more years, before students with disabilities in the United States had the legal protected right to attend public schools, which came with the passing of The Education for All Handicapped Children Act (EHA) (PL 94-142) in 1975 (Villegas, 2017). Before this, most states provided limited educational services to children with disabilities, and they allowed school districts to refuse enrollment of any students they deemed "uneducable" (Martin et al., 1996). For the students who did receive education, some were placed in regular classrooms without special services, while others were served in special programs where the service was often inadequate (Martin et al., 1996). The EHA became effective in 1978, and within this act was a provision stating that students with disabilities should be educated in the LRE (Martin et al., 1996; Villegas, 2017). This meant that students with disabilities should be educated in the general education classroom as much as possible, depending on if their supplementary aids and services can be appropriately provided in such a setting (Morin, 2020; Rueda et al., 2000). The LRE is also meant to maximize the opportunities for social interactions between children with and without disabilities (Villegas, 2017). However, for some students, being placed in a general education classroom is not appropriate, as their specific service and program cannot be provided there (Morin, 2019).

When the EHA was reformulated as the Individuals with Disabilities Education Act (IDEA) in 1990, a broader focus was given to including children with disabilities in regular classes and on providing parents with more rights when it came to the educational decisions affecting their children (Villegas, 2017). IDEA also required the implementation of Individualized Education Programs (IEP), to better meet the individual needs of students (Villegas, 2017). To do so, IEPs are created within a team consisting of parents, teachers, special education teachers, specialists, and the student themselves if over the age of 16 (Villegas, 2017). The key aspects of an IEP identifies a student's present level of performance, annual goals, and what support, services, accommodations, modifications, and measures are needed for the child to meet and/or show progress toward their goals (Morin, 2016). Some of these elements came with the reauthorization of IDEA in 1997, where the act also emphasized on raising the academic expectations for students with disabilities, to better support students who followed the general curriculum, and help states determine appropriate outcomes, such as school-to-work transition planning (Villegas, 2017). Along with this, came the No Child Left Behind (NCLB) Act in 2001, which made schools accountable for providing routine academic skill assessments of all students, whether they had a disability or not (Master in Special Education Degree Program, 2020). In 2004 the word "improvement" was added, making the term IDEIA, but it is still commonly referred to as IDEA. Along with the name change, the reauthorization reiterating the importance of special education and related services being designed to meet students' unique needs and giving them access to the general curriculum in the regular classroom to the maximum extent possible (Villegas, 2017). There was supposed to be another reauthorization of IDEA in 2009, but it was delayed due to the changes to NCLB (Villegas, 2017). NCLB was replaced by the Every Student Success Act (ESSA) in 2015, which eliminated some of NCLB's most controversial provisions (Lee, 2015). For example, it removed relying too much on standardized tests and giving schools harsh penalties if all their students were not on track to reach proficiency on state tests (Lee, 2015).

A report by the U.S Department of Education, National Center for Education Statistics (NCES) in 2019, shows how these legislations and policies have increased the amount of time students with disabilities spend in the general education classroom (Snyder, de Brey, & Dillow, 2019). Based on data collected from IEP of students with disabilities, the majority (62.5%) of all 6-21 year-old-students with disabilities receive 80% or more of their education in a general education classroom (Snyder et al., 2019). However, only 16.3% of students with intellectual disabilities and 13.1% of students with multiple disabilities receive 80% or more of their education in a general education classroom (Snyder et al., 2019). Among the 13 disability categories listed by the NCES (based on the 13 disability areas included in IDEA), students with intellectual disabilities (ID) and multiple disabilities (MD) are the ones to receive the least amount of education in a general education classroom, with half of these students only receiving 40% or less of their education in such a setting (Snyder et al., 2019). Despite current research indicating the importance of proximity to peers without disabilities, these numbers show that there is still a big gap between research and practice when it comes to social inclusion and friendships among students with severe disabilities and limited verbal language. Therefore, this next section will expand on which factors impact how researchers conduct their research and what implication these have on applying findings into practice.

Conducting Research within Special Education

Special education researchers tend to examine the lived experiences of their participants, their social life and social system, and how it relates to policies and initiatives (Robson & McCartan, 2016). Often, this leads to a focus on issues and problems consisting within this population, and how a better understanding of these can create improvement (Robson & McCartan, 2016). This is either done through *basic research* or *applied research* (Bogdan & Biklen, 2007). The concern of *basic research* is to add to our general knowledge and not for immediate application of the knowledge produced, while *applied research* uses the findings to make direct practical decisions about improvements in program and practices (Bogdan & Biklen, 2007; Schein, 1987). Though these might seem like two different approaches, Bogdan and Biklen (2007) suggest they should be seen as complementary and intertwined. The reason they thought so was because *applied research* can add to theory and the pool of knowledge, and *basic research* provides implications that can be applied to a particular class or student. By melding the two, it decreases the problem educators face when theory and practice are too sharply divided (Bogden & Biklen, 2007). However, policies such as the NCLB compels educators to use "teaching practices that have been proven to work" such as evidence-based practices (U.S. Department of Education, 2003). This makes it harder for implications from *basic research* to be applied to practice, as *basic research* does not always qualify as evidence-based practices (Odom et al., 2005).

When it comes to research on social interactions among children with severe disabilities and limited verbal language, this becomes especially evident, as one of the biggest challenges and what makes these studies more complex is the variability of the participants (Odom et al., 2005). There are 13 disability categories identified by IDEA, and within each of these categories, individual's severity and needs might differ (Office of Special Education and Rehabilitation Services [OSERS], 1997; Odom et al., 2005). Additionally, to this comes the complexity of educational context as these student's needs and abilities determine which educational environment is most appropriate for them to receive their education (Odom et al., 2005; Rueda et al., 2000; Snyder et al., 2019). Though most of the students with severe disabilities spend the majority of their day in a specialized classroom, some still attend general education classes for parts of their day. Having to investigate across social contexts, adds another layer of complexity to the investigation of social interaction and friendships among this population (Odom et al., 2005). These factors often make it challenging to choose methodologies that require a large number of participants to build the power of the analysis, which has raised a concern about the quality of the research and what type of scientific evidence are acceptable for evidence (Odom et al., 2005). With that, the U.S. Department of Education implemented an initiative to improve the quality of educational research, by establishing the IES in 2003, whose mission is to expand fundamental knowledge about education and to improve practice (Whitehurst, 2003; Institute of Education Sciences, 2004; Odom et al., 2005).

Though the IES acknowledges different methodologies are important for addressing different questions, they rely heavily on Randomized Control Trials (RCT) as a way to produce high-quality research (Mosteller & Boruch, 2002; Odom et al., 2005; Whitehurst, 2003). When conducted well, RCT can enhance the quality of special education, as rigorously conducted RCT studies have a greater capacity to control threats to internal validity than what quasi-experimental designs do (Odom et al., 2005). But because this methodology might not apply to all research questions, the Council for Exceptional Children's (CEC) Division for Research established a task force, emphasizing the importance of using different methodologies to build and document the effectiveness of practice (Odom et al., 2005). They identified the following types of methodologies to be used for research within special education: experimental group, correlation, single subject, and qualitative designs (Odom et al., 2005). They also established quality indicators for each methodology and how evidence could be used to identify and understand effective practices in special education (Odom et al., 2005). These quality indicators represent the rigorous application of the methodology to questions of interest, helping reviewers to evaluate the believability of the findings (Odom et al., 2005). Further, they can be used by consumers to determine the usability of the findings, and as a guide for researchers on how they should design and conduct their research (Odom et al., 2005).

However, as methodologies and quality indicators are often only briefly described in textbooks on educational research, it makes it hard for individuals who are less familiar with different methodologies to find appropriate methods for their research topic (Odom et al., 2005). The Council for Exceptional Children (CEC) Division task force, therefore, produced four individual articles for the methodologies mentioned above, to describe the quality indicators and guidelines for how each methodology can provide evidence of effective practices in special education (Odom et al., 2005). In their article, Gersten et al. (2005) provides detailed information on both essential and desirable quality indicators for group-and-quasi-experimental research in special education that research proposals or studies need to meet to be considered a high-quality study. An examination of the importance of single-subject research in the development of evidence-based practice in special education is provided by Horner et al. (2005), which also includes quality indicators and standards researchers should follow to produce a study that can be validated as evidence-based. The last two articles look at the quality of evidence from correlation research for evidence-based practice (Thompson et al., 2005), and Brantlinger et al. (2005) evaluated quality indicators for qualitative designs and how to use the research for evidence for effective practice in special education.

Though these articles contribute to the efforts professional and governmental organizations have made toward establishing standards for quality in research, the WWC, established by the IES, still requires effective practices to be verified through RCTs (Odom et al., 2005; WWC, 2003). Despite the effort to highlighting how different methodologies can provide high-quality research, the type and magnitude of evidence needed to verify a practice as evidence-based still seem to be an issue in the discussion of scientific research and effective educational practices, which overall impacts policymakers, practitioners, educational researchers, and consumers (Odom et al., 2005). Considering there are such rigorous standards for research to qualify as evidence-based practice, it raises the question of how this impacts research on social interactions of friendship among students with severe disabilities and limited verbal language.

When examining the list of evidence-based practices approved by the WWC, there were only three studies listed, meeting their standards within social skills training (U.S. Department of Education, 2020). These were found when looking at their Children and Youth with Disabilities category, and this list has not been updated since 2013. The article by Ferention (1991) was under the outcome domain of cognition and looked at teaching social skills to preschool children in a special education program (U.S. Department of Education, 2020). Ferention's article was also listed under the outcome domain of social-emotional development, along with two other studies. The two other studies were Guglielomo and Tryon (2001), who looked at social training in an integrated preschool program, and LeBlanc and Matson (1995) looking at a social skills training program for preschoolers with developmental delays: generalization and social validity (U.S. Department of Education, 2020). Because there were only three articles listed in this category, the search was expanded to look at other elements affecting social integrations and friendships in this population. Teacher and paraprofessional's involvement have been found to impact inclusion and social interactions between children with and without disabilities (Causton-Theoharis & Malmgren, 2005; Evans & Meyer, 2001; Fisher, 2001; Koegel, Kim & Koegel, 2014; Ledford et al., 2017; Malmgren et al., 2005; McEvoy et al., 1990). Therefore, the teacher excellence category was examined, as well. However, none of the studies listed were directed towards students with disabilities, nor towards social skills and inclusion. Even though the WWC claim their work helps teachers, administrators and policymakers make evidence-based decisions, by reviewing evidence of effectiveness of programs, policies, or practices by using a consistent and transparent set of standards (U.S. Department of Education, 2020b), their website provides very little information for students with disabilities.

This raises the question about how well the standards of WWC fits the research being done in the field of special education, and if their standards are too rigorous when it comes to research on social interactions and friendships among this population. As research in this field does not qualify under the standards of WWC, how can we, as researchers of this topic, ensure our findings get implemented into practice and be part of improving educational policies for this population? This next section will provide some suggestions on how researchers themselves can ensure that their findings get implemented into practice.

Recommendations for Future Research

By reviewing the current literature on social interactions and friendships among children with severe disabilities and limited verbal language, an abundant amount of research is found to support the importance of social interactions and relationships with peers, despite these not being listed on the WWC website. The reason for this could be because the WWC and Department of Education use RCT methodology as the "golden standard for research" (Odom et al., 2005). This also impacts research funding, as the Department of Education invests most of its funding towards this type of research (Odom et al., 2005). However, Berliner (2002) warns that science should not be confused with a specific method or technique (as cited in Odom et al., 2005). To ensure a broader picture of how one can improve education for students with disabilities, Odom et al. suggest we produce research on a continuum instead of a fixed point. They also suggest Levin, O'Donnell, and Kratochwill's (2003) model of conducting educational research through four stages, as it can contribute to higher quality evidence. According to Odom et al. (2005), the four stages are: 1. using observational, focused explorational and flexible methodology, which can be used for both quality and correlational methods; 2. classroom experiments, observational studies of classrooms, and teacher-researcher collaborative experiments, in the form of quality methodology, single-subject designs, quasi-experimental and/or RCT design; 3. research incorporating knowledge generated from the previous stages to develop a well-documented intervention, proving the effectiveness through well-controlled RCT studies (or single-subject design) implemented in the classroom by teachers; and 4. ensuring that this evidence-based research moves into practice by the teachers, by determining the factors that lead to the adaptation of effective practices in a typical school system under naturally existing conditions. Odom et al. (2005) suggest qualitative, correlational, mixed-methods, RCT, and large-scale single-case designs to be the methodologies to enhance such a procedure best. These procedures correlate well with Bogdan and Biklen's (2007) suggestion of intertwining basic and applied research. Though Bogdan and Biklen (2007) provide how to conduct qualitative applied research in the areas of evaluation and policy research, action research, and practitioner research, these can also be conducted with the methodologies and steps suggested by Odom et al. (2005).

The three types of applied research presented by Bogdan and Biklen (2007) have different ownerships to change and are participated in by different people for various reasons. The best-known form of applied research is evaluation research, and which, along with policy research is most often hired by a contactor (a government agency or upper-level administrator) to describe and assess a particular program of change to improve or eliminate it (Bogdan & Biklen, 2007). Policy research is also done to provide information to authorities, to help develop programs and make policy changes (Bogdan & Biklen, 2007). Action research can be done in the form of political action or practitioner research, where political action research is conducted by researchers acting as citizens attempting to influence the political process through collecting information and promote social change. In contrast, in practitioner research, the researcher is often a practitioner (a teacher, an administrator, or an educational specialist) who wants to improve their practice (Bogdan & Biklen, 2007). So how can these approaches be applied explicitly to the research topic of social interactions and friendship among children with severe disabilities and limited verbal language? First, one can look at what has already been done, and their suggested implications for practice and future research. The three systematic reviews by Webster and Carter (2007), Østvik et al. (2017), and Brodal Syversen (2020) gives a good overview of what research that has been done in the area of social interactions, peer relationships, and friendships for children with disabilities and limited verbal language.

In their study, Webster and Carter (2007) specifically looked at the social relationships and friendships of children with developmental disabilities and the implications for inclusive settings. They also looked at the general methodological limitations of existing research, finding that most studies omitted quality indicators such as the participant's characteristics (disability, range/level of disability severity), along with the data mostly being gathered from non-natural inclusive settings. Webster and Carter (2007) also raises the concern that most research on this topic has been conducted in North America and has mostly focused on middle-class and Caucasian populations. They found this to be problematic, as studies of Australian Aboriginal and Islander Children (Searle, 1989), American children from Hispanic backgrounds (Turnbull, Blue-Banning, & Preira, 2000), and Asian American Children (Harry et al., 1998) in their review showed how culture can play a very important part in the way children form relationships with each other. For future research, they find it crucial for researchers to conduct comprehensive and systematic studies to describe the social relationship between children with and without disabilities.

Similar to Webster and Carter (2007), Østvik et al. (2017) found a lack of systematic development of knowledge and fragmentation in topics, in their systematic review of friendship between children using augmentative and alternative communication and peer. Østvik et al. (2017) conducted a quality assessment of the extracted studies, following a seven-criteria assessment proposed by Harden et al. (2004). The seven criteria were (1) an explicit theoretical framework and/or literature review, (2) aims and objectives clearly stated, (3) a clear description of context, (4) a clear description of sample and how it was recruited, (5) a clear description of methods used to collect and analyze data, (6) attempts made to establish the reliability or validity of data analysis, and (7) inclusion of sufficient original data to mediate between evidence and interpretation. Based on the assessment and their review, they suggested future researchers to conduct a more comprehensive investigation of the social relationships and the different types of relationships these students encounter. Areas of investigation should include how to increase the presence of interactions with peers, communication training interventions directed at peers, physical access to activities with peers, and how parents and adults can use leisure time to increase relationships outside of school.

Brodal Syversen (2020) builds on the other two systematic reviews, by looking at the perception of friendship among children and adolescents with limited verbal language, along with what impact specific research methods had on the findings. A limited amount of research was found on the perception of friendship gathered from participants with limited verbal language themselves. Instead, the majority of the findings were based on the perception of proxies (peers, teachers, and parents), and observations of the interactions these students had with their peers. Similar to Østvik et al. (2017), Brodal Syversen (2020) conducted the seven-criteria quality assessment proposed by Harden et al. (2004) on the extracted studies for the review. However, because some of the criteria were two-folded, some articles met one part but not the other. Overall, several articles had room for improvement on several measures. This showcased the importance of researchers constructing their research methodology around quality indicators, such as the ones presented in the four articles produced by the CEC Division task force or the seven quality criteria suggested by Harden et al. (2004).

All three of the systematic reviews identified a discrepancy in how well current research is meeting quality indicators, and a lack of comprehensive research around the topic of social inclusion and friendship. Instead of providing research on a continuum, most of these studies occurs as a fixed point. Therefore, the extracted studies in these systematic reviews mostly add to our knowledge on the topic, that children with severe disabilities and limited verbal language experience fewer social interactions and friendships than their peers. Though these studies provide a comprehensive illustration of what is occurring in the social context being examined, applied research on a continuum could have provided direct practical decisions about improvements in program and practices (Bogdan & Biklen, 2007; Odom et al., 2005; Schein, 1987).

Conclusion

In this article, the purpose was to examine the gap between research and practice on the topic of social inclusion and friendship among children with severe disabilities and limited verbal language. Overall, there is no simple answer to why this is occurring, because it is a rather complex problem. Intricate variables such as special education policies, classroom placement, and disability severity impact how researchers construct and conduct their research on this topic. How well a study is conducted determines its quality, and most of the time, research within special education does not reach the requirements to be validated as an evidence-based practice.

Based on the information provided by Odom et al., (2005) a major reason for this is the rigorous requirements set by the IES, on what qualifies as a high-quality study. Though these standards are set to improve the quality of educational research and improve practice, the high focus on effective practices to be verified through RCT seems to limit the amount of evidence-based practice available for special education teachers. Currently, only three studies meet the standards for social skill training for children and youth with disabilities, and this list has not been updated since 2013 (U.S. Department of Education, 2020). This indicates the requirements are too rigorous, as researchers in this field do not find RCT to be an appropriate methodology on this topic. Considering quality scientific research impacts policymakers, practitioners, educational researchers, and consumers (Odom et al., 2005), there needs to be an adjustment on how IES qualifies research to become evidence-based practice, and researchers need to enhance the quality of their work.

To minimize the gap between the rigorous requirements set by the IES, the CEC Division for Research established a task force, emphasizing the importance of using different methodologies to build and document the effectiveness of practice (Odom et al., 2005). They also provided four articles, explaining in detail how researchers could provide quality studies using the following methodologies: experimental group, correlation, single subject, and qualitative designs (Odom et al., 2005). However, as seen in the systematic reviews by Webster and Carter (2007), Østvik et al. (2017), and Brodal Syversen (2020), there is still a discrepancy in how well current research is meeting quality indicators, and there is a lack of comprehensive research around the topic of social inclusion and friendship. But it is essential to note that a majority of these studies were published before 2005 when the CEC published these detailed articles.

However, there has been 42 years since the legislation LRE was implemented, which was meant to include children with disabilities into general education classrooms to maximize their social interactions with peers. Along with this legislation, decades of research highlight the importance of ensuring quality social interactions with peers and creating inclusive learning environments. Yet, the majority of children with severe disabilities and limited verbal language are experiencing minimal inclusion in general education classrooms and social interactions with peers. This shows a clear need for change when it comes to ensuring research being implemented into practice. Though there are rather complex variables affecting how researchers conduct their studies on this topic, there still needs to be a higher focus on meeting quality indicators. But more importantly, researchers should conduct more applied research on a continuum instead of a fixed point, as suggested by Odom et al. (2005). This will allow for more immediate changes for the participants being studied. However, to see a more significant large-scale change and potential policy changes, the IES needs to ensure research reaches practitioners by validating studies that use different methodologies than RCT.

CHAPTER V

CONCLUSION

The purpose of this three-article dissertation was to provide a holistic understanding of why students with disabilities and limited verbal language are still experiencing minimal social interactions and friendships with peers, even though decades of research indicate how important these are to development, learning, and overall quality of life. Therefore, the aim of the study was to explore how past, current, and future research on social interactions and friendship impacts how we educate students with disabilities and limited verbal language. Specifically, this was done to encourage educators, policymakers, and researchers to have a higher focus on the importance of social interactions and peer relationships, by providing a more inclusive learning environment for all students. To accomplish this, the three articles build on each other.

The systematic literature review created a good understanding of how research on the perception of friendship among children and adolescents with limited verbal language has been conducted in the past. By systematically reviewing the methods used in the extracted studies, it allowed for a more in-depth insight into how methods impact findings, and what is missing from current literature. It also highlighted which methods might be more applicable to this population, when examining their perception of friendship, and what friendship means to them. Thirty-five studies met the inclusion criteria, including two systematic reviews. Out of the 35 studies, 19 studies were qualitative, and 16 were quantitative. The methods utilized by the reviewed articles established that there were three types of way to gather data among this population; through the children and adolescents with limited verbal language themselves, through proxies (peers, parents, and teachers), and in a mixed way, combining data from both the children and adolescents with limited verbal language themselves and the proxies. Eight studies collected data from just proxies, and there were only two studies that collected data from just the adolescents with limited verbal language themselves. The last 25 studies included data from both the children/adolescents with limited verbal language and proxies. Yet, only 14 of these studies attempted to interview the children and adolescents with limited verbal language themselves. Further, reviewing these 14 studies found that several of them lacked in-depth description of the quality of the friendships, especially from the participants with limited verbal language. The last eight studies collected data from just the proxies.

These findings showed there needs to be a higher focus on collecting data solely from the participants with limited verbal language themselves. Though we can create a broad understanding from conducting observations and gather information from proxies, this way of collecting data increases the danger of projecting a perspective onto these individuals, which they might not have themselves. Therefore, it became evident that the second article had to collect data directly from the children in the case study, along with observations and interviews with their teachers.

The case study examined the social interactions of three children with limited verbal language and multiple disabilities, who spent most of their day within a multiple impairments classroom. This was done by examining the interactions they had with their staff and peers, how the adults facilitated interactions for them, and how the children valued these interactions. The three children received the majority of their education within a multiple impairment classroom, along with two other students. Data was collected through participant observations, semi-structured interviews, and document analysis of their Individualized Education Program (IEP).

Participant observations were conducted for the focal children to see the researcher as a member of their social context, allowing for a higher level of trust to be established, and for the participants to be more familiar with the researcher before the interview process. The majority of the observations were conducted within the multiple impairments classroom, as the children received most of their education, recess, and lunch. Speech-language therapy and adaptive physical education occurred outside of the classroom, and observations were conducted in these settings as well, along with a couple of school assemblies. Towards the end of the study, the children began participating in their general education music and library classes, allowing for observational data to be collected from these contexts as well.

Interviews with the focal children were attempted by using a fully structured interview protocol with pre-determined yes/no questions. The questions included all of the children and adults within the classroom, and the focal children were asked about their feelings towards these people and activities done with them. Questions included if these people were their friend; if they made them happy, sad, angry; and if they liked doing different activities and work tasks with specific staff members. Throughout the interview process, the protocol shifted to a more semi-structured protocol, allowing the researcher to adjust the language of the questions and how the answers were reported. However, it is important to note that these interviews did not provide much in-depth data on whom they saw as friends. Semi-structured interviews were also conducted with the special education teacher (Cindy), the full-time paraprofessional (Karen), and the speech-language therapist (Linda).

The findings showed all three of the focal participants to have very few social interactions with peers outside of their specialized classroom. They also had limited interactions with the peers inside their classroom as well, though they were in frequent proximity to them.

However, in the interviews with the focal participants, all three would indicate one of the other participants to be their friend. The majority of their interactions were with adults, but these were more functional in the form of directing them in their work and behavior. Only on occasions, did they have more relational interactions with adults, which allowed for more reciprocal interactions from the children. The sparse interactions with peers outside of the specialized classroom were heavily influenced by insufficient staff. Considering there was never enough staff to make sure all five of the students in the specialized classroom had the one-to-one assistance they were required to have, it meant they were not able to go to their general education classes because of this. Several new paraprofessionals were introduced to the classroom to address the shortage of staff and cover the one-to-one assistance the children were required to receive. However, with the classroom already understaffed, there was not sufficient time to provide these new paraprofessionals with adequate training to adequately meet the students' needs. This impacted the amount of social interaction occurring in the classroom, as new paraprofessionals rarely facilitated social interactions between the children. Though the special education teacher attempted to encourage the paraprofessionals to facilitate and engage in interactions at a higher frequency, by showing how she interacted with the children, they did not seem to realize its importance. There was a huge difference in how interactive the children were, depending on how engaging the adults were with them. The more engaged and verbal the adults were, the more the children would reciprocate the behavior.

While the literature discusses the importance of inclusion and how this can benefit students academically, developmentally, and their overall quality of life, there is a lack of studies examining how much paraprofessionals and special education teachers know about this. The case study highlights how much the lack of knowledge on this topic can impact the amount and types of social interactions these children have. It also showed how important it is for a researcher to know the participants' needs and abilities to a maximum extent when constructing a study on this topic. One of the goals of this study was to incorporate more direct data from the focal participants themselves. However, it quickly became evident to the researcher that she did not know how to properly interview the focal participants based on their communication needs. This self-reflection correlated with the findings from the systematic review, where it was found that research on this topic needs to be constructed in a better matter. This sparked an interest in investigating why there is a gap between research findings and practice, which leads us to the third and final article.

The Research to Practice Gap article examined elements contributing to why research findings are not implemented into practice when it comes to social interactions and friendships among children with severe disabilities and limited verbal language. It evaluated how the history of special education laws have impacted our way of educating children with disabilities today, how this might have impacted the way research is conducted, and why their findings are not being implemented into practice on a larger scale. Overall, there is no simple answer to why this is occurring, because it is a rather complex problem. Intricate variables such as special education policies, classroom placement, and disability severity impact how researchers construct and conduct their research on this topic. How well a study is conducted determines its quality. Most of the time, research within special education does not reach the requirements to be validated as an evidence-based practice. This is because the Institute of Education Science (IES) has rather rigorous requirements on what qualifies as a high-quality study. For a study to qualify as evidence-based practice, the IES requires it to be verified through Randomized Control Trials (RCT), which is a methodology rarely used within special education research. Especially on the topic of social interactions among children with severe disabilities and limited verbal language. Considering quality scientific research impacts policymakers, practitioners, educational researchers, and consumers, there needs to be an adjustment on how IES qualifies research to become evidence-based practice. However, researchers within special education also need to enhance the quality of their work.

To enhance research within special education, the Council for Exceptional Children's (CEC) Division for Research established a task force, emphasizing the importance of using different methodologies to build and document the effectiveness of practice. They produced four articles, explaining in detail how researchers could provide quality studies using the following methodologies: experimental group, correlation, single subject, and qualitative designs. Along with enhancing the quality of how methodologies are implemented, it was also found that researchers should conduct more applied research on a continuum instead of a fixed point. This will allow for more immediate changes for the participants being studied.

Final thoughts. After finalizing these three studies, it became evident how important it is for a researcher to construct a study after having done proper preparations. Instead of doing the systematic review simultaneously with the case study, and writing the third article at the end, the case study would have been of higher quality if done last. There were elements from both the systematic review and the third article that could have strengthened how the case study was constructed, such as finding better methods of interviewing the children and having the study be applied research. By doing so, my recommendations could be implemented in the classroom more immediately. Further, instead of having the case study be a fixed point, it would have been interesting to follow up with further research within this social context. Specifically, I think it would be very beneficial to conduct further research on paraprofessionals' understanding of the importance of social interactions.

APPENDIX A

Search Terms

1. (children OR adolescents OR youth OR child OR kid*) AND ("social interaction" OR "social skills" OR "social behavior") AND ("augmentative communication" OR "augmentative alternative and communication")
2. (“Augmentative Communication” or “Augmentative and Alternative Communication”) AND (friendship OR peer relationship OR social interaction)
3. (children or adolescents or youth or child or kid*) AND (“Nonverbal Communication”) AND (“Social Interaction”)
4. (children or adolescents or youth or child or kid*) AND (“Nonverbal Communication”) AND (“Friendship”)
5. (children OR adolescents OR youth OR child or kid*) AND selective mutism AND friendship OR peer relationship OR social interactions
6. (children OR adolescents OR youth OR child or kid*) AND nonverbal communication OR intellectual disability AND friendship OR peer relationship
7. (children OR adolescents OR youth OR child or kid*) AND nonverbal communication AND friendship OR peer AND mental retardation
8. (children OR adolescents OR youth OR child or kid*) AND nonverbal communication AND loneliness OR lonely OR alone AND mental retardation
9. (children OR adolescents OR youth OR child or kid*) AND nonverbal communication AND loneliness OR lonely OR alone AND intellectual disability

Appendix B

Interview Protocol: Focus Participants

Friends:

- Is Aurora your friend? Yes/no
    - Is she your friend because she makes you happy? Yes/no
        - Would it make you happy if she shared toys with you? Yes/no
    - Does she ever make you angry? Yes/no
    - Does she ever make you sad? Yes/no
    - Does she treat you nicely? Yes/no
    - Do you want to spend more time with her, when you're at school? Yes/no
- Is x (another girl in the class) your friend? Yes/no
    - Is she your friend because she makes you happy? Yes/no
        - Would it make you happy if she shared toys with you? Yes/no
    - Does she ever make you angry? Yes/no
    - Does she ever make you sad? Yes/no
    - Does she treat you nicely? Yes/no
    - Do you want to spend more time with her, when you're at school? Yes/no
- Is Grant your friend? Yes/no
    - Is he your friend because she makes you happy? Yes/no
        - Would it make you happy if he shared toys with you? Yes/no
    - Does he ever make you angry? Yes/no
    - Does he ever make you sad? Yes/no
    - Does he treat you nicely? Yes/no

    - Do you want to spend more time with him, when you’re at school? Yes/no
- Is x (another boy in the class) your friend? Yes/no
    - Is he your friend because she makes you happy? Yes/no
        - Would it make you happy if he shared toys with you? Yes/no
    - Does he ever make you angry? Yes/no
    - Does he ever make you sad? Yes/no
    - Does he treat you nicely? Yes/no
    - Do you want to spend more time with him, when you’re at school? Yes/no
- Is Ben your friend? Yes/no
    - Is he your friend because she makes you happy? Yes/no
        - Does it make you happy when he shared toys with you? Yes/no
    - Does he ever make you angry? Yes/no
    - Does he ever make you sad? Yes/no
    - Does he treat you nicely? Yes/no
    - Do you want to spend more time with him, when you’re at school? Yes/no
- Is Cindy your friend? Yes/no
    - Is she your friend because she makes you happy? Yes/no
        - Does it make you happy when she reads to you? Yes/no
    - Does she ever make you angry? Yes/no
    - Does she ever make you sad? Yes/no
    - Does she treat you nicely? Yes/no
    - Do you want to spend more time with him, when you’re at school? Yes/no
- Is Karen your friend? Yes/no

    - Is she your friend because she makes you happy? Yes/no
        - Does it make you happy when she reads to you? Yes/no
    - Does she ever make you angry? Yes/no
    - Does she ever make you sad? Yes/no
    - Does she treat you nicely? Yes/no
    - Do you want to spend more time with her, when you’re at school? Yes/no
    - Do you want to spend more time with her, when you’re at school? Yes/no
- Is Jennifer your friend? Yes/no
    - Is she your friend because she makes you happy? Yes/no
        - Does it make you happy when she reads to you? Yes/no
    - Does she ever make you angry? Yes/no
    - Does she ever make you sad? Yes/no
    - Does she treat you nicely? Yes/no
    - Do you want to spend more time with her, when you’re at school? Yes/no
- Is Linda your friend? (not for M) Yes/no
    - Is she your friend because she makes you happy? Yes/no
        - Does it make you happy when she reads to you? Yes/no
    - Does she ever make you angry? Yes/no
    - Does she ever make you sad? Yes/no
    - Does she treat you nicely? Yes/no
    - Do you want to spend more time with her, when you’re at school? Yes/no
- Is your mom your friend? Yes/no
    - Is she your friend because she makes you happy? Yes/no

  - Does she ever make you angry? Yes/no
  - Does she ever make you sad? Yes/no
  - Does she treat you nicely? Yes/no
- Is your dad your friend? Yes/no
  - Is he your friend because he makes you happy? Yes/no
  - Does he ever make you angry? Yes/no
  - Does he ever make you sad? Yes/no
  - Does he treat you nicely? Yes/no
- Is your sister/brother/…your friend? Yes/no
  - Is he/she/they your friend because he/she/they makes you happy? Yes/no
  - Does he/she/they ever make you angry? Yes/no
  - Does he/she/they ever make you sad? Yes/no
  - Does he/she/they treat you nicely? Yes/no
- Is your animal(s) your friend? Yes/no
  - Is he/she/they your friend because he/she/they makes you happy? Yes/no
  - Does he/she/they ever make you angry? Yes/no
  - Does he/she/they ever make you sad? Yes/no
  - Does he/she/they treat you nicely? Yes/no

What do you like to do in school? Yes/no

- Do you like being at school? Yes/no
- Do you like sitting with your friends at lunch? Yes/no
- Do you like watching videos? Yes/no
  - Does it make you happy/sad/angry? Yes/no

- Do you like art? Yes/no
    - Does it make you happy/sad/angry? Yes/no
    - Do you like doing it with Cindy/Karen/ Jennifer? Yes/no
- Do you like doing schoolwork? Yes/no
    - Does it make you happy/sad/angry? Yes/no
    - Do you like doing it with Cindy/Karen/ Jennifer/ Linda? Yes/no
- Do you like relaxing time? Yes/no
    - Does it make you happy/sad/angry? Yes/no
- Do you like being under the sensory ring (find the right word for it) Yes/no
    - Does it make you happy/sad/angry? Yes/no
- Do you like PE? Yes/no
    - Does it make you happy/sad/angry? Yes/no
- Do you like PE better when other kids from other classes join you? Yes/no
    - Does it make you happy/sad/angry? Yes/no
- Or do you like PE better when it is only your friends in this classroom and the adults? Yes/no
    - Does it make you happy/sad/angry? Yes/no

Do you miss your friends from your other school? (just for Grant, but will attempt for Ben too maybe) Yes/no

Does it make you sad, that you don't see your friends from your other school every day? (just for Grant, but will attempt for Ben too maybe) Yes/no

Do you wish you saw your friends from your other school more? (just for Grant, but will attempt for Ben too maybe) Yes/no

Do you ever feel lonely or sad? Yes/no

- Does it cheer you up/make you not sad when Cindy/Karen/ Jennifer/ Linda talks to you? Yes/no

Appendix C

Interview Protocol: Teachers/Adults

1. What is your educational background, and how you ended up where you are today?
2. Can you tell me the ups and downs of this profession? What are some things you like and what are some things you wish were different?
3. Can you talk about any training you received through the school, for this job?
4. Are there elements to this training you wish were different?
5. Can you describe what you do in a typical school day?
6. Can you tell me a bit about Aurora, Ben, and Grant? Such as how long you have known them, their communication abilities, what you have worked on with them etc.
7. What would you say is the difference when working with each of them?
    a. I noticed with myself that when I first came into the classroom, it was easier to engage with Ben than Grant, and then Aurora when I added her. How would you say your interactions differ with the three of them?
8. Can you tell me a little about the different social interactions your students participate in and how switching schools might have impacted this?
9. What is your role, when it comes to social interactions between your students and you, and your students and other individuals?
10. Describe some experience in which you identified the social needs of your students and successfully developed a way to address this. Did you experience any challenges?
11. Who does your students interact the most with?

12. Are there people you would like to see these students interact more or less with? Please explain why
13. Are there areas outside of this classroom you wish these students would have more social interactions in?
14. Do you know if Aurora, Ben, and Grant have friends outside of school and if so how much they interact with them?
15. Do you think Aurora, Ben, and Grant perceive other children and adults as friends, in a way that for example you and I do?
16. What does inclusion look like to you and what significance would you say it plays in these student’s lives?
17. What is important for you, when it comes to inclusion?
18. Who benefits from inclusion?
19. When it comes to inclusion into the general education classroom, do you foresee it happening down the road somehow for these students and if so, how would you and this school approach this for these students?
    a. If there was enough staff, for them to go to a general education classroom for part of the day, how do you think that would go for them and how would it be to work with them there compared to in here

REFERENCES

CHAPTER I

Bogdan, R., & Biklen, S. (2007). Qualitative research for education: An introduction to theory and practice

Charmaz, K., & McMullen, L. M. (2011). *Five ways of doing qualitative analysis: Phenomenological psychology, grounded theory, discourse analysis, narrative research, and intuitive inquiry*. Guilford Press.

Chung, Y. C., Carter, E. W., & Sisco, L. G. (2012). Social interactions of students with disabilities who use augmentative and alternative communication in inclusive classrooms. *American Journal on Intellectual and Developmental Disabilities*, *117*(5), 349-367.

Clandini, D. J., & Connely, F. M. (2000). *Narrative inquiry: Experience and story in qualitative research.* San Francisco, CA: Jossey-Bass.

Coie, J. D., & Cillessen, A. H. (1993). Peer rejection: Origins and effects on children's development. *Current Directions in Psychological Science*, *2*(3), 89-92.

Corsaro, W. A. (1990). Children´s peer cultures. *Annual review of sociology, 16*(1), 197-220.

Corsaro, W. A. (1997). *The sociology of childhood* (pp. 4-5). Thousand Oaks, CA: Pine Forge Press.

Corsaro, W. A. (2011). *The Sociology of Childhood.* Thousand Oaks, CA: Pine Forge Press

Creswell, J. W. & Plano Clark, V. L. (2011). *Designing and conducting: Mixed methods* *research* (2nd ed.). Thousand Oaks, CA: Sage.

Doll, B. (1996). Children without friends: Implications for practice and policy. *School Psychology Review*.

Freeman, S. F., Gulsrud, A., & Kasari, C. (2015). Brief report: linking early joint attention and play abilities to later reports of friendships for children with ASD. *Journal of autism and developmental disorders*, *45*(7), 2259-2266.

Fryxell, D., & Kennedy, C. H. (1995). Placement along the continuum of services and its impact on students' social relationships. Journal of the Association for Persons with Severe Handicaps, 20(4), 259-269.

Gordon, P. A., Feldman, D., & Chiriboga, J. (2005). Helping children with disabilities develop and maintain friendships. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children*, *28*(1), 1-9.

Hestenes, L. L., & Carroll, D. E. (2000). The play interactions of young children with and without disabilities: Individual and environmental influences. *Early Childhood Research Quarterly*, *15*(2), 229-246.

Kennedy, C. H., & Itkonen, T. (1996). Social relationships, influential variables, and change across the lifespan. *Positive behavioral support: Including people with difficult behavior in the community*, 287-304.

McDonnell, J., Johnson, J. W., Polychronis, S., & Risen, T. (2002). Effects of embedded instruction on students with moderate disabilities enrolled in general education classes. *Education and Training in Mental Retardation and Developmental Disabilities*, 363-377.

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Prisma Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS medicine*, *6*(7), e1000097.

Morin, A. (2020). Least Restrictive Environment (LRE): What You Need to Know. Understood. Retrieved from https://www.understood.org/en/school-learning/special-services/special-education-basics/least-restrictive-environment-lre-what-you-need-to-know

Odom, S. L., Brantlinger, E., Gersten, R., Horner, R. H., Thompson, B., & Harris, K. R. (2005). Research in special education- Scientific methods and evidence-based practices. Exceptional children, 71(2), 137-148.

Østvik, J., Ytterhus, B., & Balandin, S. (2017). 'So, how does one define a friendship?': Identifying friendship among students using AAC in inclusive education settings. *European Journal of Special Needs Education*, 1-15.

Papoutsaki, K., Gena, A., & Kalyva, E. (2013). How do children with mild intellectual disabilities perceive loneliness? *Europe's Journal of Psychology*, *9*(1), 51-61.

Robson, C., & McCartan, K. (2016). *Real world research* (4th ed.). West Sussex: UK. John Wiley & Sons.

Rueda, R., Gallego, M. A., & Moll, L. C. (2000). The least restrictive environment: A place or a context?. *Remedial and Special Education*, *21*(2), 70-78.

Schein, E. H. (1987). *The clinical perspective in fieldwork*. Sage Publications, Inc.

Snyder, T. D., de Brey, C., & Dillow, S. A. (2019). Digest of Education Statistics 2017 (NCES 2018-070). Washington: National Center for Education Statistics, Institute of Education Sciences, US Department of Education.

Szumski, G., Smogorzewska, J., & Karwowski, M. (2017). Academic achievement of students without special educational needs in inclusive classrooms: A meta-analysis. *Educational Research Review*.

Taheri, A., Perry, A., & Minnes, P. (2016). Examining the social participation of children and adolescents with Intellectual Disabilities and Autism Spectrum Disorder in relation to peers. Journal of Intellectual Disability Research, 60(5), 435-443.

Tomlinson, S. (2012). *A sociology of special education (RLE Edu M)*. Routledge.

Villegas, T. (2019). A brief history of special education. Think Inclusive. Retrieved from https://www.thinkinclusive.us/brief-history-special-education/

CHAPTER II

Anderson, K., Balandin, S., & Clendon, S. (2011). “He cares about me and I care about him.” Children's experiences of friendship with peers who use AAC. *Augmentative and Alternative Communication, 27*(2), 77-90.

Banks, J., & McGee-Banks, C. A. (2020). *Multicultural education: Issues and perspectives* (10th ed.). Indianapolis, IN: John Wiley & Sons.

Bass, S., & Walker, K. (2015). *Early childhood play matters : Intentional teaching through play: Birth to six years.* Australia: ACER Press

Bogdan, R., & Biklen, S. K. (2007). *Qualitative research for education* (5th ed.). Boston, MA: Pearson Education Inc.

Buysse, V. (1993). Friendships of preschoolers with disabilities in community-based child care settings. *Journal of Early Intervention, 17*(4), 380-395.

Buysse, V., Goldman, B. D., & Skinner, M. L. (2002). Setting effects on friendship formation among young children with and without disabilities. *Exceptional Children, 68*(4), 503-517.

Coie, J. D., & Cillessen, A. H. (1993). Peer rejection: Origins and effects on children's development. *Current Directions in Psychological Science*, *2*(3), 89-92.

Day, M., & Harry, B. (1999). "Best friends": The construction of a teenage friendship. *Mental Retardation*, *37*(3), 221-231.

Durkin, K., & Conti-Ramsden, G. (2007). Language, social behavior, and the quality of friendships in adolescents with and without a history of specific language impairment. *Child development, 78*(5), 1441-1457.

Evans, I. M., & Meyer, L. H. (2001). Having friends and Rett syndrome: How social relationships create meaningful contexts for limited skills. *Disability and rehabilitation, 23*(3-4), 167-176.

Ferreira, M., Aguiar, C., Correia, N., Fialho, M., & Pimentel, J. S. (2017). Social Experiences of Children With Disabilities in Inclusive Portuguese Preschool Settings. *Journal of Early Intervention, 39*(1), 33-50.

Fisher, M. (2001). Andre's story: Frames of friendship. Lessons learned in inclusive education, 91-111.

Freeman, S. F., Gulsrud, A., & Kasari, C. (2015). Brief report: linking early joint attention and play abilities to later reports of friendships for children with ASD. *Journal of autism and developmental disorders*, *45*(7), 2259-2266.

Fryxell, D., & Kennedy, C. H. (1995). Placement along the continuum of services and its impact on students' social relationships. Journal of the Association for Persons with Severe Handicaps, 20(4), 259-269.

Fujiki, M., Brinton, B., Hart, C. H., & Fitzgerald, A. H. (1999). Peer acceptance and friendship in children with specific language impairment. *Topics in language disorders*, *19*(2), 34-48.

Geisthardt, C. L., Brotherson, M. J., & Cook, C. C. (2002). Friendships of children with disabilities in the home environment. Education and Training in Mental Retardation and Developmental Disabilities, 235-252.

Goffman, E. (1963). Stigma: notes on the management of spoiled identity Simon and Schuster. *New York*, NY

Guralnick, M. J. (1997). Peer social networks of young boys with developmental delays. *AJMR-American Journal on Mental Retardation*, *101*(6), 595-612.

Guralnick, M. J., Connor, R. T., & Hammond, M. (1995). Parent perspectives of peer relationships and friendships in integrated and specialized programs. AJMR-American Journal on Mental Retardation, 99(5), 457-475.

Guralnick, M. J., Gottman, J. M., & Hammond, M. A. (1996). Effects of social setting on the friendship formation of young children differing in developmental status. *Journal of Applied Developmental Psychology*, *17*(4), 625-651.

Hall, L. J. (1994). A descriptive assessment of social relationships in integrated classrooms. Journal of the Association for Persons with Severe Handicaps, 19(4), 302-313.

Hall, L. J., & McGregor, J. A. (2000). A follow-up study of the peer relationships of children with disabilities in an inclusive school. *The Journal of Special Education*, *34*(3), 114-126.

Harden, A., Garcia, J., Oliver, S., Rees, R., Shepherd, J., Brunton, G., & Oakley, A. (2004). Applying systematic review methods to studies of people's views: an example from public health research. *Journal of Epidemiology & Community Healht, 58*(9), 794-800.

Hestenes, L. L., & Carroll, D. E. (2000). The play interactions of young children with and without disabilities: Individual and environmental influences. *Early Childhood Research Quarterly*, *15*(2), 229-246.

Hollingsworth, H. L., & Buysse, V. (2009). Establishing friendships in early childhood inclusive settings: What roles do parents and teachers play? *Journal of Early Intervention, 31*(4), 287-307.

Kennedy-Moore, E. (2012). Children's growing Friendships: How children's understanding of friendship changes and develops with age. *Psychology Today. Dostupné z https://www. psychologytoday. com/blog/growing-friendships/201202/childrens-growingfriendships.[cit. 21. 2. 2016].*

Kishi, G. S., & Meyer, L. H. (1994). What children report and remember: A six-year follow-up of the effects of social contact between peers with and without severe disabilities. *Journal of the association for persons with severe handicaps*, *19*(4), 277-289.

Lee, S., Yoo, S., & Bak, S. (2003). Characteristics of friendships between children with and without mild disabilities. Education and training in developmental disabilities, 157-166.

Light, J. C., Arnold, K. B., & Clark, E. A. (2003). Finding a place in the "social circle of life". *Communicative competence for individuals who use AAC: From research to effective practice*, 361-397.

Matheson, C., Olsen, R. J., & Weisner, T. (2007). A good friend is hard to find: Friendship among adolescents with disabilities. *American Journal on Mental Retardation*, *112*(5), 319-329**.**

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Prisma Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS* *medicine*, *6*(7), e1000097.

Moore-Dean, A., Renwick, R., & Schormans, A. F. (2016). Friendship Characteristics of Children with Intellectual/Developmental Disabilities: Qualitative Evidence from Video Data. Journal on Developmental Disabilities, 22(1), 39.

Nabors, L. (1997). Playmate preferences of children who are typically developing for their classmates with special needs. Mental Retardation, 35(2), 107-113.

Østvik, J., Ytterhus, B., & Balandin, S. (2017). Friendship between children using augmentative and alternative communication and peers: A systematic literature review. Journal of Intellectual & Developmental Disability, 42(4), 403-415.

Østvik, J., Ytterhus, B., & Balandin, S. (2018). 'So, how does one define a friendship?': Identifying friendship among students using AAC in inclusive education settings. European Journal of Special Needs Education, 33(3), 334-348.

Papoutsaki, K., Gena, A., & Kalyva, E. (2013). How do children with mild intellectual disabilities perceive loneliness? *Europe's Journal of Psychology*, *9*(1), 51-61.

Petrina, N., Carter, M., & Stephenson, J. (2014). The nature of friendship in children with autism spectrum disorders: A systematic review. *Research in Autism Spectrum Disorders*, *8*(2), 111-126.

Rossetti, Z. S. (2011). "That's how we do it": Friendship work between high school students with and without autism or developmental disability. Research and Practice for Persons with Severe Disabilities, 36(1-2), 23-33.

Rossetti, Z. (2015). Descriptors of friendship between secondary students with and without autism or intellectual and developmental disability. *Remedial and Special Education*, *36*(3), 181-192.

Saenz, C. (2003). Friendships of Children with Disabilities. (Unpublished masters thesis). Northeastern Illinois University, Chicago, Illinois.

Salisbury, C. L., & Palombaro, M. M. (1998). Friends and acquaintances: Evolving relationships in an inclusive elementary school. *Making friends: The influences of culture and development*, 81-104.

Salmon, N. (2013). 'We just stick together': how disabled teens negotiate stigma to create lasting friendship. *Journal of Intellectual Disability Research*, *57*(4), 347-358.

Siegler, R. S. (1992). The other Alfred Binet. *Developmental psychology*, *28*(2), 179.

Schein, E. H. (1987). *The clinical perspective in fieldwork*. Sage Publications, Inc.

Staub, D., Schwartz, I. S., Gallucci, C., & Peck, C. A. (1994). Four portraits of friendship at an inclusive school. Journal of the Association for Persons with Severe Handicaps, 19(4), 314-325.

Strain, P. S. (1984). Social behavior patterns of nonhandicapped and developmentally disabled friend pairs in mainstream preschools. Analysis and Intervention in Developmental Disabilities, 4(1), 15-28.

Strully, J., & Strully, C. (1985). Friendship and our children. Journal of the Association for Persons with Severe Handicaps, 10(4), 224-227.

Taheri, A., Perry, A., & Minnes, P. (2016). Examining the social participation of children and adolescents with Intellectual Disabilities and Autism Spectrum Disorder in relation to peers. Journal of Intellectual Disability Research, 60(5), 435-443.

Webster, A. A., & Carter, M. (2007). Social relationships and friendships of children with developmental disabilities: Implications for inclusive settings. A systematic review. Journal of Intellectual and Developmental Disability, 32(3), 200-213.

Webster, A. A., & Carter, M. (2010). Characteristics of the closest relationships between children with developmental disabilities and peers in inclusive settings. *Australasian Journal of Special Education*, *34*(1), 61-78.

Webster, A. A., & Carter, M. (2013). A descriptive examination of the types of relationships formed between children with developmental disability and their closest peers in inclusive school settings. Journal of Intellectual and Developmental Disability, 38(1), 1-11.

CHAPTER III

Agran, M., Jackson, L., Kurth, J. A., Ryndak, D., Burnette, K., Jameson, M., ... & Wehmeyer, M. (2020). Why aren't students with severe disabilities being placed in general education classrooms: Examining the relations among classroom placement, learner outcomes, and other factors. *Research and Practice for Persons with Severe Disabilities*, 1540796919878134.

Anderson, K., Balandin, S., & Clendon, S. (2011). "He cares about me and I care about him." Children's experiences of friendship with peers who use AAC. *Augmentative and Alternative Communication, 27*(2), 77-90.

Bauminger, N., & Shulman, C. (2003). The development and maintenance of friendship in high-functioning children with autism: Maternal perceptions. *Autism*, *7*(1), 81-97.

Bogdan, R., & Biklen, S. K. (2007). *Qualitative research for education* (5th ed.). Boston, MA: Pearson Education Inc.

Buysse, V. (1993). Friendships of preschoolers with disabilities in community-based child care settings. *Journal of Early Intervention*, *17*(4), 380-395.

Charmaz, K., & McMullen, L. M. (2011). *Five ways of doing qualitative analysis:*

Phenomenological psychology, grounded theory, discourse analysis, narrative research, and intuitive inquiry. Guilford Press.

Chung, Y. C., Carter, E. W., & Sisco, L. G. (2012). Social interactions of students with disabilities who use augmentative and alternative communication in inclusive classrooms. *American Journal on Intellectual and Developmental Disabilities*, *117*(5), 349-367.

Clandini, D. J., & Connely, F. M. (2000). *Narrative inquiry: Experience and story in qualitative research.* San Francisco, CA: Jossey-Bass.

Coie, J. D., & Cillessen, A. H. (1993). Peer rejection: Origins and effects on children's development. *Current Directions in Psychological Science*, *2*(3), 89-92.

Corsaro, W. A. (1997). *The sociology of childhood* (pp. 4-5). Thousand Oaks, CA: Pine Forge Press.

Corsaro, W. A. (2011). *The Sociology of Childhood.* Thousand Oaks, CA: Pine Forge Press.

Creswell, J. W. & Plano Clark, V. L. (2011). *Designing and conducting: Mixed methods research* (2nd ed.). Thousand Oaks, CA: Sage.

Day, M., & Harry, B. (1999). “Best friends”: The construction of a teenage friendship. *Mental Retardation*, *37*(3), 221-231.

Doll, B. (1996). Children without friends: Implications for practice and policy. *School Psychology Review*.

Durkin, K., & Conti-Ramsden, G. (2007). Language, social behavior, and the quality of friendships in adolescents with and without a history of specific language impairment. *Child development, 78*(5), 1441-1457.

Fisher, M., & Meyer, L. H. (2002). Development and social competence after two years for students enrolled in inclusive and self-contained educational programs. *Research and Practice for Persons with Severe Disabilities*, *27*(3), 165-174.

Fryxell, D., & Kennedy, C. H. (1995). Placement along the continuum of services and its impact on students' social relationships. Journal of the Association for Persons with Severe Handicaps, 20(4), 259-269.

Gordon, P. A., Feldman, D., & Chiriboga, J. (2005). Helping children with disabilities develop and maintain friendships. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children*, *28*(1), 1-9.

Hall, L. J., & McGregor, J. A. (2000). A follow-up study of the peer relationships of children with disabilities in an inclusive school. *The Journal of Special Education*, *34*(3), 114-126.

Harper, D. (2002). Talking about pictures: A case for photo elicitation. *Visual studies*, *17*(1), 13-26.

Hollingsworth, H. L., & Buysse, V. (2009). Establishing friendships in early childhood inclusive settings: What roles do parents and teachers play? *Journal of Early Intervention, 31*(4), 287-307.

Kennedy, C. H., & Itkonen, T. (1996). Social relationships, influential variables, and change across the lifespan. *Positive behavioral support: Including people with difficult behavior in the community*, 287-304.

Kurth, J., & Mastergeorge, A. M. (2010). Individual education plan goals and services for adolescents with autism: Impact of age and educational setting. *The Journal of Special Education*, *44*(3), 146-160.

Light, J. C., Arnold, K. B., & Clark, E. A. (2003). Finding a place in the "social circle of life". *Communicative competence for individuals who use AAC: From research to effective practice*, 361-397.

Matheson, C., Olsen, R. J., & Weisner, T. (2007). A good friend is hard to find: Friendship among adolescents with disabilities. *American Journal on Mental Retardation*, *112*(5), 319-329**.**

McDonnell, J., Johnson, J. W., Polychronis, S., & Risen, T. (2002). Effects of embedded instruction on students with moderate disabilities enrolled in general education classes. *Education and Training in Mental Retardation and Developmental Disabilities*, 363-377.

Moen, T. (2006). Reflections on the narrative research approach. *International Journal of Qualitative Methods*, *5*(4), 56-69.

Moore-Dean, A., Renwick, R., & Schormans, A. F. (2016). Friendship Characteristics of Children with Intellectual/Developmental Disabilities: Qualitative Evidence from Video Data. Journal on Developmental Disabilities, 22(1), 39.

Morin, A. (2016). Questions to ask about your child's IEP goals. Understood. Retrieved from https://www.understood.org/en/school-learning/special-services/ieps/checklist-what-to-consider-when-developing-annual-iep-goals?_ul=1*g41xmq*domain_userid*YW1wLXlaUnBOckdadFE2VnIzT2xwcFhLSEE.

Morin, A. (2019, October 18). Least Restrictive Environment (LRE): What You Need to Know. Retrieved from https://www.understood.org/en/school-learning/special-services/special-education-basics/least-restrictive-environment-lre-what-you-need-to-know

Østvik, J., Ytterhus, B., & Balandin, S. (2018). 'So, how does one define a friendship?':

Identifying friendship among students using AAC in inclusive education settings. *European Journal of Special Needs Education*, *33*(3), 334-348.

Papoutsaki, K., Gena, A., & Kalyva, E. (2013). How do children with mild intellectual disabilities perceive loneliness. *Europe's Journal of Psychology, 9*(1), 51-61

Riessman, C. K. (2008). *Narrative methods for the human sciences.* Thousand Oaks, CA: Sage.

Robson, C., & McCartan, K. (2016). *Real world research* (4th ed.). West Sussex: UK. John Wiley & Sons.

Rueda, R., Gallego, M. A., & Moll, L. C. (2000). The least restrictive environment: A place or a context?. *Remedial and Special Education*, *21*(2), 70-78.

Siperstein, G. N., Glick, G. C., & Parker, R. C. (2009). Social inclusion of children with intellectual disabilities in a recreational setting. *Intellectual and Developmental Disabilities*, *47*(2), 97-107.

Shogren, K. A., McCart, A. B., Lyon, K. J., & Sailor, W. S. (2015). All means all- Building knowledge for inclusive schoolwide transformation. Research and Practice for Persons with Severe Disabilities, 40(3), 173-191.

Snyder, T. D., de Brey, C., & Dillow, S. A. (2019). Digest of Education Statistics 2017 (NCES 2018-070). Washington: National Center for Education Statistics, Institute of Education Sciences, US Department of Education.

Szumski, G., Smogorzewska, J., & Karwowski, M. (2017). Academic achievement of students without special educational needs in inclusive classrooms: A meta-analysis. *Educational Research Review*.

Tomlinson, S. (2012). *A sociology of special education (RLE Edu M)*. Routledge.

Yell, M. L. (1995). The least restrictive environment mandate and the courts- judicial activism or judicial restraint? *Exceptional children, 61*(6), 578-581.

Zamani, Z. (2017). Young children’s preferences: What stimulates children’s cognitive play in outdoor preschools?. *Journal of Early Childhood Research*, *15*(3), 256 274.

CHAPTER IV

Agran, M., Jackson, L., Kurth, J. A., Ryndak, D., Burnette, K., Jameson, M., ... & Wehmeyer, M. (2020). Why aren’t students with severe disabilities being placed in general education classrooms: Examining the relations among classroom placement, learner outcomes, and other factors. *Research and Practice for Persons with Severe Disabilities*, 1540796919878134.

Anderson, K., Balandin, S., & Clendon, S. (2011). “He cares about me and I care about him.” Children's experiences of friendship with peers who use AAC. *Augmentative and Alternative Communication*, *27*(2), 77-90.

Berliner, D. C. (2002). Comment: Educational research: The hardest science of all. *Educational researcher*, *31*(8), 18-20.

Bogdan, R., & Biklen, S. K. (2007). *Qualitative research for education* (5th ed.). Boston, MA: Pearson Education Inc.

Brantlinger, E., Jimenez, R., Klingner, J., Pugach, M., & Richardson, V. (2005). Qualitative studies in special education. *Exceptional children*, *71*(2), 195-207.

Brodal Syversen, K. (2020). Perception of Friendship Among Children and Adolescents with Limited Verbal Language, and the Impact of Research Methods: A Systematic Literature Review. Unpublished manuscript, University of North Dakota.

Causton-Theoharis, J. N., & Malmgren, K. W. (2005). Increasing peer interactions for students with severe disabilities via paraprofessional training. *Exceptional children*, *71*(4), 431-

444.

Durkin, K., & Conti-Ramsden, G. (2007). Language, social behavior, and the quality of friendships in adolescents with and without a history of specific language impairment. *Child development, 78*(5), 1441-1457.

Evans, I. M., & Meyer, L. H. (2001). Having friends and Rett syndrome: How social relationships create meaningful contexts for limited skills. *Disability and rehabilitation, 23*(3-4), 167-176.

Ferentino, S. C. (1991). Dissertation Abstracts International, 52(08B), 223-4490.

Ferreira, M., Aguiar, C., Correia, N., Fialho, M., & Pimentel, J. S. (2017). Social Experiences of Children With Disabilities in Inclusive Portuguese Preschool Settings. *Journal of Early Intervention, 39*(1), 33-50.

Fisher, M. (2001). Andre's story: Frames of friendship. Lessons learned in inclusive education, 91-111.

Fryxell, D., & Kennedy, C. H. (1995). Placement along the continuum of services and its impact on students' social relationships. Journal of the Association for Persons with Severe Handicaps, 20(4), 259-269.

Fujiki, M., Brinton, B., Hart, C. H., & Fitzgerald, A. H. (1999). Peer acceptance and friendship in children with specific language impairment. *Topics in language disorders*, *19*(2), 34-48.

Geisthardt, C. L., Brotherson, M. J., & Cook, C. C. (2002). Friendships of children with disabilities in the home environment. Education and Training in Mental Retardation and Developmental Disabilities, 235-252.

Gersten, R., Fuchs, L. S., Compton, D., Coyne, M., Greenwood, C., & Innocenti, M. (2005).

Quality indicators for group experimental and quasi-experimental research in special education. Exceptional Children, 71, 149-164.

Gordon, P. A., Feldman, D., & Chiriboga, J. (2005). Helping children with disabilities develop and maintain friendships. *Teacher Education and Special Education*, *28*(1), 1-9.

Guglielmo, H. M., & Tryon, G. S. (2001). School Psychology Quarterly, 16(2), 158–175. Retrieved from: https://eric.ed.gov/?id=EJ632105

Hall, L. J., & McGregor, J. A. (2000). A follow-up study of the peer relationships of children with disabilities in an inclusive school. *The Journal of Special Education*, *34*(3), 114-126.

Harden, A., Garcia, J., Oliver, S., Rees, R., Shepherd, J., Brunton, G., & Oakley, A. (2004). Applying systematic review methods to studies of people's views: an example from public health research. *Journal of Epidemiology & Community Health, 58*(9), 794-800.

Harry, B., Park, H.-S., & Day, M. (1998). Friendships of many kinds: Valuing the choices of children and youth with disabilities. In L. H. Meyer, H.-S. Park, M. Grenot-Scheyer, I. S. Schwartz, & B. Harry (Eds.), Making friends: The influences of culture and development (pp. 393–402). Baltimore: Paul H. Brookes.

Horner, R., Carr, E., Halle, J., McGee, G., Odom, S., & Wolery, M. (2004). The use of single-subject design research to identify evidence-based practice in special education. Exceptional Children, 71, 165-179.

Institute of Education Sciences. (2004). Director's introduction. Washington, DC: Author. Retrieved from http://www.ed.gov/ about/offices/list/ies/director.html.

Kennedy, C. H., & Itkonen, T. (1996). Social relationships, influential variables, and change across the lifespan. *Positive behavioral support: Including people with difficult behavior in the community*, 287-304.

Koegel, R. L., Kim, S., & Koegel, L. K. (2014). Training paraprofessionals to improve socialization in students with ASD. *Journal of autism and developmental disorders*, *44*(9), 2197-2208.

Kurth, J., & Mastergeorge, A. M. (2010). Individual education plan goals and services for adolescents with autism- Impact of age and educational setting. The Journal of Special Education, 44(3), 146-160.

LeBlanc, L. A., & Matson, J. L. (1995). Behavior Modification, 19(2), 234–246. Retrieved from: https://eric.ed.gov/?id=EJ513091

Ledford, J. R., Zimmerman, K. N., Chazin, K. T., Patel, N. M., Morales, V. A., & Bennett, B. P. (2017). Coaching paraprofessionals to promote engagement and social interactions during small group activities. *Journal of Behavioral Education*, *26*(4), 410-432.

Lee, A. M.I., (2015). No Child Left Behind Comes to an End with the Passage of the Every Student Succeeds Act. Understood. Retrieved from https://www.understood.org/~/link.aspx?_id=9FD1E3448BA44613ABD9CBABB4DD1D82&_z=z&_ul=1*5zt0qt*domain_userid*YW1wLXlaUnBOckdadFE2VnIzT2xwcFhLSEE.

Lee, A. M. I. (2020). Section 504 of the Rehabilitation Act of 1973: What you need to know. Understood. Retrieved from https://www.understood.org/en/school-learning/your-childs-rights/basics-about-childs-rights/section-504-of-the-rehabilitation-act-of-1973-what-you-need-to-know?_ul=1*stpfvx*domain_userid*YW1wLXlaUnBOckdadFE2VnIzT2xwcFhLSEE.

Lee, S., Yoo, S., & Bak, S. (2003). Characteristics of friendships between children with and without mild disabilities. Education and training in developmental disabilities, 157-166.

Levin, J. R., O'Donnell, A. M., & Kratochwill, T. R. (2003). Educational/psychological intervention research. In W. Reynolds & G. Miller (Eds.), Handbook of Psychology, Vol. 7: Educational Psychology (pp. 557- 581). Hoboken, NJ: John Wiley & Sons.

Malmgren, K. W., Causton-Theoharis, J. N., & Trezek, B. J. (2005). Increasing peer interactions for students with behavioral disorders via paraprofessional training. Behavioral Disorders, 31(1), 95-106.

Martin, E. W., Martin, R., & Terman, D. L. (1996). The legislative and litigation history of special education. *The future of children*, 25-39.

Masters in Special Education Program Guide. (2020). 5 Important Special Education Laws. Retrieved from https://www.masters-in-special-education.com/lists/5-important-special-education-laws/

McDonnell, J., Johnson, J. W., Polychronis, S., & Risen, T. (2002). Effects of embedded instruction on students with moderate disabilities enrolled in general education classes. *Education and Training in Mental Retardation and Developmental Disabilities*, 363-377.

McEvoy, M. A., Shores, R. E., Wehby, J. H., Johnson, S. M., & Fox, J. J. (1990). Special education teachers' implementation of procedures to promote social interaction among children in integrated settings. *Education and Training in Mental Retardation*, 267-276.

Morin, A. (2016). Questions to ask about your child's IEP goals. Understood. Retrieved from https://www.understood.org/en/school-learning/special-services/ieps/checklist-what-to-consider-when-developing-annual-iep-goals?_ul=1*g41xmq*domain_userid*YW1wLXlaUnBOckdadFE2VnIzT2xwcFhLSEE.

Morin, A. (2019, October 18). Least Restrictive Environment (LRE): What You Need to Know.

Understood. Retrieved from https://www.understood.org/en/school-learning/special-services/special-education-basics/least-restrictive-environment-lre-what-you-need-to-know

Mosteller, F., & Boruch, R. F. (Eds.). (2002). *Evidence matters: Randomized trials in education research*. Brookings Institution Press.

Nabors, L. (1997). Playmate preferences of children who are typically developing for their classmates with special needs. Mental Retardation, 35(2), 107-113.

Odom, S. L., Brantlinger, E., Gersten, R., Horner, R. H., Thompson, B., & Harris, K. R. (2005). Research in special education- Scientific methods and evidence-based practices. Exceptional children, 71(2), 137-148.

Office of Special Education and Rehabilitation Services. (1997). Individuals With Disabilities Education Act, 1997 Reauthorization. Washington DC: Author. Retrieved from http://www.ed.gov/offices/OSERS/Policy/IDEA/the_law.html.

Østvik, J., Ytterhus, B., & Balandin, S. (2017). Friendship between children using augmentative and alternative communication and peers: A systematic literature review. Journal of Intellectual & Developmental Disability, 42(4), 403-415.

Østvik, J., Ytterhus, B., & Balandin, S. (2018). ‘So, how does one define a friendship?’: Identifying friendship among students using AAC in inclusive education settings. *European Journal of Special Needs Education*, *33*(3), 334-348.

Papoutsaki, K., Gena, A., & Kalyva, E. (2013). How do children with mild intellectual disabilities perceive loneliness? *Europe’s Journal of Psychology*, *9*(1), 51-61.

Robson, C., & McCartan, K. (2016). *Real world research* (4th ed.). West Sussex: UK. John Wiley & Sons.

Rueda, R., Gallego, M. A., & Moll, L. C. (2000). The least restrictive environment: A place or a context?. *Remedial and Special Education*, *21*(2), 70-78.

Salisbury, C. L., & Palombaro, M. M. (1998). Friends and acquaintances: Evolving relationships in an inclusive elementary school. *Making friends: The influences of culture and development*, 81-104.

Salmon, N. (2013). 'We just stick together': how disabled teens negotiate stigma to create lasting friendship. *Journal of Intellectual Disability Research*, *57*(4), 347-358.

Schein, E. H. (1987). *The clinical perspective in fieldwork*. Sage Publications, Inc.

Searle, A. (1989). Cross-cultural perspectives on children's friendships in early childhood. Australian Journal of Early Childhood, 14, 35–38.

Shogren, K. A., McCart, A. B., Lyon, K. J., & Sailor, W. S. (2015). All means all- Building knowledge for inclusive schoolwide transformation. Research and Practice for Persons with Severe Disabilities, 40(3), 173-191.

Snyder, T. D., de Brey, C., & Dillow, S. A. (2019). Digest of Education Statistics 2017 (NCES 2018-070). Washington: National Center for Education Statistics, Institute of Education Sciences, US Department of Education.

Thompson, B., Diamond, K., McWilliam, R., Snyder, P., & Snyder, S. (2004). Evaluating the quality of evidence from correlational research for evidence-based practice. Exceptional Children., 71, 181-194.

Turnbull, A. P., Blue-Banning, M., & Pereira, L. (2000). Successful friendships of Hispanic children and youth with disabilities: An exploratory study. Mental Retardation, 38, 138–153.

U.S. Department of Education. (2003). Proven methods: Questions and answers on No Child

Left Behind. Washington, DC: Author. Retrieved from http://www.ed.gov/nclb/methods/whatworks/doing.html.

U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, What Works Clearinghouse. (2020). Social Skills Training. Washington, DC: Author. Retrieved from https://ies.ed.gov/ncee/wwc/Intervention/763

U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, What Works Clearinghouse. (2020b). What we do. Washington, DC: Author. Retrieved from https://ies.ed.gov/ncee/wwc/WhatWeDo

Villegas, T. (2019). A brief history of special education. Think Inclusive. Retrieved from https://www.thinkinclusive.us/brief-history-special-education/

Webster, A. A., & Carter, M. (2007). Social relationships and friendships of children with developmental disabilities: Implications for inclusive settings. A systematic review. *Journal of Intellectual and Developmental Disability*, *32*(3), 200-213.

What Works Clearinghouse. (2003). Standards. Washington, DC: Author. Retrieved from http://www.w-wc.org/standards.html.

Whitehurst, G. J. (2003). The Institute of Education Sciences: New wine, new bottles. Paper presented at the annual conference of the American Educational Research Association, Los Angeles. Retrieved from http//www.ed.gov/rschstat/research/pubs/ies.html.

Yell, M. L. (1995). The least restrictive environment mandate and the courts- judicial activism or judicial restraint?. Exceptional children, 61(6), 578-581.