Effects of a Teacher Training Paraprofessionals to Support and Implement Peer Support Arrangements for Elementary Students with Multiple Disabilities

Thesis

Presented in Partial Fulfillment of the Requirements for the Degree Master of Arts in the Graduate School of The Ohio State University

By:

Kelsey Jean Trausch, B.S.

Graduate Program in Educational Studies

The Ohio State University

2021

Thesis Committee:

Matthew Eric Brock. Advisor

Sheila Alber Morgan

Abstract

Although research shows that peer support arrangements are a promising practice for increasing social interactions between students with severe disabilities and their peers, additional research is needed to further examine paraprofessional implementation for elementary students with multiple disabilities. In this study, researchers used a multiple-probe-across participants design to examine the effects of teacher delivered training for paraprofessionals on their ability to facilitate peer support arrangements, peer interactions for elementary students with multiple disabilities, and student independence with following classroom routines. Five paraprofessionals received teacher-directed training that enabled them to facilitate peer support arrangements, which increased peer interactions and decreased the level of adult support required for classroom routines for four students with multiple disabilities. We discuss implications for research and practice, including recommendations aimed at enhancing paraprofessional implementation of peer support arrangements and improving outcomes for students with multiple disabilities.

Dedication

Dedicated to my family who have always supported me and all the students I have had the pleasure of working with in my career as a teacher. You have made such a positive impact on my life.

Acknowledgements

I would like to acknowledge Dr. Matthew Brock and Eric Anderson for their support during my time at The Ohio State University, especially during this research study. I have learned a lot from the both of you and am grateful to have worked together on this project.

Vita

December 2013……Colerain Elementary School

June 2014……B.S. Education, The Ohio State University

2014 to present……Intervention Specialist for Upper Arlington Schools

Fields of Study

Major Field: Educational Studies

Specialization; Special Education

Table of Contents

List of Tables

List of Figures

Introduction

For most young children, school is full of rich social opportunities to interact with others and develop friendships with peers. When interacting with friends, children are found to engage in more prosocial and conflict-resolution behaviors (Rubin et al., 2013). Children's interactions with peers become increasingly complex as they develop. As a result, children's social skills continue to improve with age and these skills aid in developing and maintaining friendships with individuals outside of their family. These friendships serve many adaptive functions throughout the child's life. For example, social support helps children cope with stress and adjust during transitional periods. As adolescents, these relationships help develop an individual sense of self, learn about common goals, cooperation, and how to function as part of a larger group (Rubin et al. 2013). Lansford et al. (2014) found that children that were well-liked by their classroom peers, grew up to develop higher quality friendships in early adulthood. Developing friendships during childhood help to improve self-esteem, provide emotional security, and promote growth of interpersonal skills across the course of their life.

For students with multiple disabilities (i.e., students who receive special education services under the label of multiple disabilities), interacting with peers and developing peer relationships can be very challenging. The Individuals with Disabilities Education Act (IDEA) defines multiple disabilities as, "concomitant impairments (such as intellectual disability-blindness or intellectual disability-orthopedic impairment), the combination of which causes such severe educational needs that they cannot be accommodated in special education programs solely for one of the impairments." Cadwallader & Wagner (2003) found that children in the multiple disability category experience different levels of interaction compared to their same-age

peers without disabilities. Students with multiple disabilities were also found to have the least number of active friendships when compared to students in other disability categories. In this study, one-third of children with multiple disabilities, 44% of those with autism, reported never interacting with friends outside of class. 60% of students with multiple disabilities and over 80% of students with Autism, rarely or never receive phone calls from friends. About half of students with multiple disabilities were invited to a social event by a peer in the last year. 18% of students with multiple disabilities reported they participated in none of the friendship forms targeted in the study. Rubin et al. (2013) identified one defining feature of friendship to include reciprocity and a feeling of perceived equality between individuals. Children who are accepted by their peers and develop quality friendships are said to fare better than children who are excluded by their peer group or are lacking friendships.

Educational placement is often an obstacle to peer interactions for students with severe disabilities. Approximately 66% of students ages 6-21 with multiple disabilities spend less than 40% of the school day in an inclusive setting. Even for students with multiple disabilities who do spend substantial time in general education classrooms, there are still a number of barriers to peer interaction. First, these students are often supported by paraprofessionals who have little or no training on how to support students with complex disabilities in inclusive placements (Carter et al., 2009). One-to-one paraprofessional support has been associated with inadvertent detrimental effects including dependence on adults, creating a barrier to peer interactions, and interference with teacher involvement in the inclusive setting. In a study conducted by Giangreco & Broer (2005), nearly 70% of paraprofessionals reported that they often made decisions about instruction and student participation in activities without professional oversight from a teacher or

special educator. This resulted in students with multiple disabilities receiving a substantial amount of their instruction directly from paraprofessionals. Furthermore, paraprofessionals reported spending approximately 86% of their time in close proximity (within 3 ft.) to the student. Nearly half of paraprofessionals reported that student with disabilities thought of them as their primary "friends" at school rather than their classmates. While a high percentage of their time was spent in close physical proximity to students, only 15% of paraprofessionals indicated concern that the close proximity may be unnecessary or interfere with peer interactions (Giangreco & Broer, 2005).

Second, these students often have complex communication needs and use augmentative and alternative communication devices (AAC) AAC devices include any low or high-tech device used as an alternative to spoken communication. The extent to which students' school teams implement AAC services and instruction often varies (Biggs et al., 2017). In order to communicate in class, students must be in close proximity to their AAC device, which at times is not the case. In a study by Andzik et al. (2016), researchers found that students' AAC devices were not within reach for nearly half of all communication opportunities. In addition to inconsistent AAC support and instruction from adults, students with multiple disabilities, especially those with severe communication needs utilizing AAC devices, have been found to communicate almost exclusively with paraprofessionals and special educators, despite their close proximity to peers in inclusive settings (Chung et al., 2012). Similarly, Andzik et al. (2016) found that only 3% of communication opportunities involved students' peers. This could be due to several factors including the barrier created by close paraprofessional proximity, limited opportunities for peer interactions, and the peer's level of confidence engaging with an AAC-

user. Biggs et al. (2017), found that prior to adult instruction, peers demonstrated low levels of interactions with students who used AAC devices. Researchers also noted a difference in peer interactions based on the type of AAC device that the student used. This was assumed to be influenced by both peer characteristics and the differences in technology between low and high-tech devices.

Interventions are needed that address these barriers and promote interaction between elementary students with multiple disabilities and their peers. Peer support arrangements, an evidence-based practice for middle and high school students with severe disabilities (Brock & Huber, 2017), might also be an effective means to promote interactions for young students with multiple disabilities. Brock and Huber define peer support arrangements as one or more peers without developmental disabilities provide support to a student with a severe disability in a general education class. This support entails individualized strategies for support based on the needs of the student with a disability and the classroom context that are documented in a peer support plan. This support plan is focused on promoting both social and academic outcomes. A critical feature of peer support arrangements is that an adult facilitator—typically a paraprofessional—provides initial training and ongoing support to peers. In this way, the paraprofessional shifts her role from providing direct support to facilitating support between the peers and target student.

According to Brock and Huber (2017), peer support arrangements are an evidence-based practice for increasing social interactions between students with severe disabilities and their peers. It is also a promising practice for promoting academic engagement for both populations of students. Indeed, there are at least eleven studies published through 2016 that support the

efficacy of peer support arrangements for students with severe disabilities in general education classrooms.

Although the research support for peer support arrangements is strong, there are some limitations. First, all eleven studies focus on delivering peer support arrangements to middle and high school-aged students. There are zero studies that focus on delivering peer support arrangements to elementary-aged students. In their review of the literature, Brock & Huber (2017) also note that the eleven studies were conducted by a small number of authors. This limitation shows a need for others to replicate and build on the present research to form a more robust evidence base.

Second, there are only two studies that focus on how paraprofessionals could be trained to implement peer support arrangements by the special education teachers who supervise them. In all other studies, researchers delivered the training to paraprofessionals and special educators. In Brock et al. (2016), behavior skills training was delivered to paraprofessionals to teach them how to prompt interactions and academic support between students with disabilities and their peers. When given paraprofessional facilitation and feedback, peers increased their rates of prompting and reinforcement towards students with disabilities. The results of this study showed the when given teacher-delivered training, paraprofessionals are able to implement peer support arrangements successfully.

In the second study, Brock and Carter (2015) developed an intervention-training package in order to provide a framework for educational professionals to deliver instruction to paraprofessionals. The package incorporated modeling, performance feedback, and accountability for paraprofessionals to acquire the ability to correctly deliver instruction to peers.

Both teachers and paraprofessionals found this training package to be much more effective than their previous methods. Findings of Brock and Carter's study also showed that paraprofessionals were able to implement peer support arrangements with fidelity, resulting in improved outcomes for students with severe disabilities including increased interactions and social engagement.

Despite these positive findings, the number of published studies involving successful training of paraprofessionals to implement peer supports for students with severe disabilities is limited. Results of the studies were also not consistent across all paraprofessional participants. In addition to this, both studies focused on paraprofessional implementation of peer support arrangements for students with severe disabilities in middle school inclusive settings, not elementary. Although students were identified as having severe disabilities, only three out of eight of the student participants were identified as having Multiple Disabilities. Given these limitations, there is a need for further research of paraprofessional implemented peer support arrangements for elementary-aged students with multiple disabilities.

Third, despite peer support arrangements being described as a means to promote student independence, zero studies have actually measured the degree to which students with severe disabilities increased their independence after receiving peer support. Students that receive paraprofessional support, specifically one-to-one support, may experience inadvertent detrimental effects including unnecessary dependence, which negatively impacts their independence (Giangreco & Broer, 2005). Giangreco & Broer (2005) found that of 153 paraprofessionals, nearly 37% reported concerns that the student they worked with was unnecessarily dependent on them and over 46% of paraprofessionals reported that their support appeared to be unwanted by students through their communication, body language, or behavior.

This demonstrates a need for further examination of the effects of peer support arrangements on paraprofessional support with daily routines and student independence.

I designed this study to address these three limitations. In the present study, I replicate the teacher-delivered training from Brock and Carter (2016) to train paraprofessionals to implement peer-support arrangements with elementary-aged students with multiple disabilities. In addition to measuring peer interactions, I also measure the degree to which students independently navigated classroom routines. Specifically, I addressed the following research questions:

1. What are the effects of teacher-delivered training on paraprofessional implementation of peer support arrangements with elementary students with multiple disabilities?
2. What are the effects of paraprofessional-implemented peer support arrangements on the frequency of social interactions for these students?
3. What are the effects of peer support-arrangements on (a) paraprofessional prompting during classroom routines, and (b) student independence with classroom routines?
4. How do participants (i.e., paraprofessionals, target students, and peers) and stakeholders (i.e., parents) perceive the feasibility, efficacy, and desirability of peer support arrangements?

Method

Participants: Paraprofessionals and Students with Disabilities

After receiving institutional approval, we recruited 5 paraprofessionals, 4 students with disabilities, and 8 same-aged peers. To be included in the study, paraprofessionals had to a) be 18+ years of age; b) hold a paraprofessional position at the elementary school; c) agree to participate in this research study. To be included target students needed to a) attend the elementary school where the study took place; b) be in 1st-5th grade; c) be receiving special education services under the category of multiple disabilities, intellectual disability, or autism spectrum disorder (ASD); d) be eligible for the state's alternate assessment; e) be enrolled in at least one general education class; f) receive direct support from the paraprofessional participant and g) have parent permission to participate.

Katherine and Owen. Katherine was a White female with a Bachelor's degree in an unrelated field. She had four years of previous experience as a paraprofessional. Katherine was supervised by this experimenter, as were the rest of the paraprofessional participants. Katherine supported Owen in the classroom setting 1:1.

Owen was an eleven-year-old, White male in the fifth grade receiving special education services under the multiple disabilities category. Owen had ASD and a seizure disorder. Owen participated in the state's alternate assessment. He communicated using 1-2 word verbalizations and his AAC device for up to 4 word phrases. Owen participated in general education activities including related arts, morning meeting, general worktime on modified reading and science content, and the end-of-day routine. Owen's IEP included goals targeting improved functional communication, increased engagement, working independently on simple classroom activities,

and basic math and reading skills. Owen also received speech, occupational therapy, physical therapy, and adapted physical education services in the school setting.

Anne and Mason. Anne was a Black female with a high school degree and two years of experience as a paraprofessional. Anne was paired with Mason at the start of the school year and supports him 1:1 in the general education setting.

Mason was a 10-year-old, White male in the third-grade receiving special education services under the multiple disabilities category. Specifically, Mason was diagnosed with ASD and cognitive and communication delays. Mason received instruction from the alternate curriculum and participated in the alternate assessment. He communicated using verbalizations and his AAC device. Mason participated in general education activities including related arts (i.e. art, music, library, physical education), morning meeting, general worktime on modified reading content, and the end-of-day routine. Mason's individualized education program (IEP) included goals targeting improved functional communication, increased engagement, working independently on simple classroom activities, and basic math and reading skills. Mason also received speech, occupational therapy, and adapted physical education services in the school setting.

Margaret and Hannah. Margaret was a White female with a Bachelor's degree in early-childhood education and ten years of experience in early childhood education. Margaret was a paraprofessional for four years prior and was also supervised by the experimenter. Margaret was paired with Hannah, who she supported 1:1 in the general education setting.

Hannah was a 10-year-old, White female in the fourth grade receiving special education services under the multiple disabilities category. Hannah had a genetic condition resulting in

physical, cognitive, and communication delays. She also had a seizure disorder. Hannah participated in the state's alternate assessment. She communicated using verbalizations of single words and up to 3-word phrases using her AAC device. Hannah participated in general education activities including related arts, morning meeting, general worktime on modified reading and social studies content, and the end-of-day routine. Hannah's IEP included goals targeting improved functional communication, increased engagement, working independently on simple classroom activities, and basic math and reading skills. Hannah also received speech, occupational therapy, physical therapy, and adapted physical education services in the school setting.

Sarah, Julie, and Bobby. Sarah and Julie were both White females who "job-shared" a paraprofessional position, meaning Sarah worked two days a week and Julie worked the other three days of the week. Sarah was a paraprofessional for seven years and had thirty years of previous experience as a kindergarten teacher. She had a Bachelor's degree in education. Julie also had her Bachelor's in education and twelve years of previous experience teaching kindergarten. She had been a paraprofessional for seven years. Sarah and Julie were also supervised by the experimenter. They supported Bobby in the classroom setting and provided support to another student in the classroom next door. Bobby was the only student in this study who did not receive 1:1 paraprofessional support.

Bobby was a 10-year-old, White male in the fourth grade receiving special education services under the multiple disabilities category. Bobby had down syndrome and attention deficit disorder. Bobby participated in the state's alternate assessment. He communicated verbally. Bobby participated in general education activities including related arts, morning meeting,

general worktime on modified reading and social studies content, and the end-of-day routine. Bobby's IEP included goals targeting improved functional communication and social skills, increased engagement, working independently on simple classroom activities, and basic math and reading skills. Bobby also received speech, occupational therapy, and physical therapy services in the school setting.

Participants: Peers Without Disabilities

Teachers selected peers who a) attended the elementary school; b) were in 1st-5th grade; c) were in the same general education class as the target student and d) had parent permission to participate in this research study. Eight students were identified to support students with disabilities. Two peers supported Mason in his second and third-grade multi-age classroom. One peer was a white male in the third grade and one peer was a white female in the third grade. Both peers had participated in a lunch-buddy peer group in the past and had experience interacting with Mason in this structured social setting. Two peers supported Hannah in her fourth-grade classroom. Both peers were white males in the fourth grade. One of the peers had past experience participating in a peer support program. Margaret reported that both peers seemed interested in interacting with Hannah and sat near her during whole group activities. Two peers supported Bobby, including one white male and one white female, both in the fourth grade. Sarah and Julie reported that the peers showed interest in interacting with Bobby, and occasionally helped give him reminders during the morning meeting routine. Two peers supported Owen. One peer was a white male and one was a white female in the fifth grade. Katherine also reported that these peers demonstrated interest in interacting with Owen in the classroom.

Setting

The setting for this study was the Midwest United States at a suburban public elementary school. Of the students at the school, approximately 90% of students were white, 4% were Asian, 2% were Hispanic, 1% were Black. Mason was in a second and third grade multi-age general education classroom, where he was the only student with multiple disabilities. Hannah was in a fourth grade general education classroom, where she was the only student with multiple disabilities. Bobby was in a fourth-grade general education classroom, where he was the only student with multiple disabilities. Owen was in a fifth-grade general education classroom, where he was also the only student with multiple disabilities.

All students attended a 45-minute morning meeting routine in their individual classrooms including unpacking, attendance, general worktime and a whole group meeting. They also attended a 60-minute general worktime including whole and small-group instruction and individual work time. Lastly, they participated in the 20-minute end-of-day routine including a whole-group closing meeting and pack-up. Students unpacked and packed-up their belongings in the general education classroom where they shared a locker space with 1 or 2 other students. For whole-group instruction, students typically sat on the floor on a rug in a circle or group facing the teacher. For small-group instruction and individual work, students sat at one of several small tables with chairs or on the rug. Occasionally, students sat on the floor out in the hallway for small-group work if additional space is needed.

Experimenter

The first author served as the experimenter, providing training to paraprofessionals and making decisions about phase changes. At the time of the study the first author served as the teacher, or intervention specialist, for student participants, and supervised the paraprofessionals.

The author had 6 years of experience teaching K-5 elementary aged students with multiple disabilities, a Bachelor's degree in special education, and was pursuing her Master's degree in applied behavior analysis.

Data Collection Procedures

The dependent variables were:

1. The frequency that paraprofessionals implemented peer support arrangements by demonstrating facilitative behaviors following training. Facilitative behaviors were defined as prompting or reinforcing social interactions, prompting or reinforcing academic support, providing information relating to a social interaction or academic skill, checking-in with peers, prompting peer proximity to the student, and prompting peers to use a previously taught strategy. The paraprofessional could point to a visual to prompt the student to answer a question from the peer, which would be considered prompting a social interaction. The paraprofessional could also say a positive statement to the peer or a positive gesture (e.g. thumbs-up) to provide reinforcement. Paraprofessionals were also able to check-in by communicating with the peer to ensure they are comfortable. They could say something along the lines of, "You look unsure of what to do next. How can I help you?" Paraprofessionals could prompt proximity by asking the student and peer to sit by each other so they can work together. Paraprofessionals could also remind peers to use a visual cue card they were previously taught as a support strategy. All of these interactions are examples of paraprofessional facilitative behaviors that were targeted and recorded.

2. The frequency of social interactions with peers and engagement with classroom activities for students with disabilities was also examined. This was defined as interactions

initiated by the student with a disability with the peer, students being at least two feet in proximity to peers without an adult positioned in between them, and consistent engagement which was defined as the target student's body oriented towards the teacher/group, peer, or presented work. Social interactions also included peers initiating an interaction with the student with a disability, peers prompting or reinforcing the student with a disability, and peers using a previously taught strategy to support their classmate with a disability. This included students greeting peers when they enter the classroom, peers initiating a conversation with a student about a shared interest, and peers and students sitting near each other during classroom activities.

3. The level of independence with daily morning unpacking routines for students with disabilities was the last measure. This variable was analyzed for the level of independence for daily routines during baseline and following intervention. Specifically, the daily routine of unpacking was targeted for each student. The level of support the target student required to complete each step of their morning routine was recorded. The levels of support included independent completion of a step, completion with support from a peer, or completion with support from a paraprofessional.

Two-five times each week, data were collected in the general education classroom. All data was collected in a paper-pencil format utilizing the data collection checklist and coding manual from Brock and Carter's study (2016). Data collection occurred from the moment the target student enters the classroom until the moment the student leaves the classroom. Partial interval recording was used to observe the paraprofessional with the target student and peer for 10 seconds and then take 10 seconds to record whether target behaviors occurred (i.e paraprofessional use of facilitation strategies and student-peer interactions). The exception to this

was whole interval recording being used to measure peer proximity and student engagement. All measures were converted to a percentage of intervals in which the behavior occurred.

Interobserver Agreement

To obtain interobserver agreement, two graduate students were trained by the experimenter reviewing the training manual with observers and providing them with examples and non-examples of the data codes. Observers were cleared to collect data when they met criteria of least 90% overall agreement with an expert coder on all variables in a live setting. This second observer collected data on 25% of classroom observations across participants and conditions. Agreement was calculated by dividing the number of intervals of the primary and secondary observer codes matched by the total number of intervals. Agreement ranged from 94.4-98.8% across all variables.

Design and Study Conditions

The experimental design was a multiple-probe-across participants design, including repeated intermittent measurement of the dependent variable and staggered introduction of the independent variable across participants. Baseline data was collected at the start of the school year on all four paraprofessional and student pairings. A random number generator was used to select the order that intervention was implemented with each tier of paraprofessional and student pairings. Once the first identified tier of participants demonstrated steady state responding, the training intervention was implemented. Once the first tier showed a demonstrated effect, the other pairings were probed. The next randomly identified tier was started once demonstrating steady state responding. This procedure was repeated until all paraprofessional and student pairings had entered the intervention phase.

Baseline Condition. During baseline, students with disabilities received direct support from paraprofessionals in their general education classroom setting. Experimenters first observed what occurred in the classroom without additional paraprofessional training. Any existing peer arrangements were noted in each setting. The extent to which paraprofessionals facilitated peer interactions in the baseline phase was limited, as shown in Figure 1. In addition, the majority of student daily routines were completed with paraprofessional support, as shown in Figure 2. Also during baseline, 2 peers who met the criteria for participation were identified in each classroom given general education teacher and paraprofessional feedback. The length of baseline was different for all participants, as explained in the experimental design.

Intervention Condition. Following the baseline phase, the experimenter provided the paraprofessionals with an initial 1-hour training session. During the session, a description for peer support arrangements and the rationale behind peer support was provided. The training outlined the implementation steps associated with peer support including preparing and planning, the initial meeting with peers, and an explanation of implementing facilitation including specific strategies for facilitating peer interactions through peer support arrangements. The paraprofessionals were guided through completing preparation and planning steps for peer support arrangements. This involved reflecting on classroom activities, generating ideas for peers supporting their classmates, and creating a specific peer support plan for the target student. This involved paraprofessional identifying 3 peer support strategies for each target student to train peers to use during implementation of peer support arrangements. Owen's strategies were use of visual cue cards to prompt the desired behavior, delivering behavior specific praise paired with a token economy system, and promoting student communication using AAC. Mason's strategies

were the same as Owen's. Hannah's strategies included use of visual cue cards to prompt the desired behavior, delivering behavior specific praise paired with a token economy system, and using a least-to-most prompting hierarchy. Bobby's strategies were the same as Hannah's.

After meeting the initial training criteria of completing these steps, paraprofessionals held an orientation meeting with the 2 peers identified during the baseline phase. Paraprofessionals introduced the peer support arrangements using an initial meeting checklist of 10 steps. These initial meeting steps included introductions, rationale for peer supports, background about the specific target student including their interests, general goals of the peer support program, confidentiality and respectful language, expectations specific to the general education classroom, three previously identified specific target strategies to use with the student with a disability (i.e. visual supports, least-to-most prompting, use of token boards, supporting AAC communication, etc.), when to seek assistance from an adult, any additional questions and next steps.

Paraprofessionals then began implementation of peer support arrangements. This involved experimenter observations 2-5 times a week. After, conducting the observation, the experimenter provided paraprofessionals with feedback using a feedback form. This included examples of excellent implementation, missed opportunities, and next steps to improve facilitation of peer support. If paraprofessional performance showed three consecutive data points below their initial performance following the training, then the paraprofessional received a booster session and a peer facilitation self-monitoring checklist. The booster session involved further modeling and role-playing of examples and non-examples of facilitative behaviors.

Treatment Integrity. To determine treatment integrity, a checklist was utilized to measure the degree to which the experimenter implemented the paraprofessional training

package with fidelity. Another graduate student was present and measured fidelity for 50% of experimenter-paraprofessional trainings. Implementation fidelity was calculated as the number of steps implemented correctly divided by the total number of steps. Implementation fidelity for experimenter-paraprofessional trainings was 100%.

A 10-step implementation checklist was used to measure paraprofessional fidelity with peer training during the initial orientation meeting. A graduate student was present and measured fidelity for 25% of paraprofessional-peer trainings. Implementation fidelity was calculated by the number of steps correctly implemented divided by the total number of steps. Implementation fidelity for paraprofessional-peer trainings was 98%.

Social Validity. To measure social validity, paraprofessionals, peers, students with disabilities, classroom teachers and parents were interviewed to determine the significance of peer support arrangements. Paraprofessionals completed a questionnaire asking questions to assess how they viewed the acceptability and feasibility of the training package and peer support arrangements. The likelihood paraprofessionals might participate in a similar training and implement peer support arrangements in the future was also determined. Peers were asked interview questions including their thoughts about supporting a classmate with multiple disabilities, the likelihood they would participate in the future, and how the experience impacted them (i.e. academic engagement, confidence). Students with multiple disabilities were also interviewed utilizing a modified questionnaire including visual supports in a multiple-choice format to determine how they felt about being supported by and interacting with peers. Classroom teachers were provided with a questionnaire to determine their thoughts about peer support arrangements and paraprofessional facilitation in their classroom. Lastly, parents were

provided with a questionnaire to assess their thoughts about peer support arrangements (i.e. how are peer support arrangements viewed by parents of the peers and parents of the students with multiple disabilities).

Results

Functional relations were demonstrated between teacher-delivered training and paraprofessional facilitation of peer support arrangements, and between peer support arrangements and increased peer interactions, and decreased paraprofessional support during classroom routines. There were no clear effects demonstrated on level of student independence on classroom routines. The teacher-delivered training enabled all five paraprofessionals to implement all components of peer support arrangements with fidelity, all four target students with disabilities experienced increased interactions with peers and decreased the level of support for classroom routines. In the following sections, I summarize results by dependent variable, including visual analysis of each variable in terms of level, trend, variability, and immediacy of effect. Data on paraprofessional facilitation behavior and peer interactions are displayed in Figure 1, and data on student independence with classroom routines are displayed in Figure 2.

Paraprofessional Implementation of Peer Support Arrangements. All five paraprofessionals successfully completed a peer support plan. Four paraprofessionals (Anne, Margaret, Sarah and Julie) implemented all 10 steps (100%) of the initial training meeting with peers correctly. One paraprofessional (Katherine) implemented 9 steps correctly (90%). Katherine did not clearly explain confidentiality and respectful language without prompting. All five paraprofessionals increased their facilitation of peer support arrangements during the intervention condition, although data patterns and level of change varied.

Katherine demonstrated some facilitation of peer support arrangements during baseline, but at a low level (i.e., mean = 6%). Anne, Margaret, Sarah and Julie showed little to no facilitation of peer support arrangements during the baseline condition. The level and variability

of facilitation increased for all five paraprofessionals immediately following training and the implementation of peer support arrangements. All paraprofessionals maintained increased levels of facilitation during intervention except for Sarah and Julie. Sarah and Julie provided paraprofessional access and support to another student in addition to Bobby, which required them to leave the classroom periodically. The percentage of time they were present in the classroom to facilitate peer support for Bobby is shown in the graph. After an initial increase in facilitative behavior following training, Sarah and Julie demonstrated a decrease in the amount of time they were present as well as in their facilitative behavior. This overlapped with baseline data and resulted in a booster session and implementation of a self-monitoring checklist for Sarah and Julie. Following the booster session and implementation of the checklist, Sarah and Julie showed an increase in levels of facilitation and being present in the classroom. They maintained higher levels and variability for the remainder of the intervention condition.

Peer Interactions. Peer interactions were infrequent for all four students during the baseline condition (i.e., mean= 14%). Although students varied in their level and variability of interactions, these all remained far below the average range of social interaction when compared to three students without a disability in each class (range= 30-70%). All four students experienced a substantial increase in the level of interactions immediately after the introduction of peer support arrangements. For Owen, Mason, and Hannah there was no overlap in level between the baseline and intervention conditions. The level of their peer interactions and support remained high and was at or above the peer range for the majority of the intervention phase. There was some overlap, however, for Bobby. This overlap coincided with paraprofessionals not being present in the classroom to facilitate peer support arrangements. After a booster session

was delivered and the self-monitoring checklist was implemented, peer interactions and support increased to a level comparable with the normative peer range and remained at this higher level for the remainder of the intervention.

Independence with Classroom Routines. In the baseline condition, all four students completed their morning unpacking routine, which was targeted for data collection, with varying levels of paraprofessional prompting. Mason started with the highest levels of paraprofessional prompting (i.e. mean= 58%). Hannah and Owen both received paraprofessional support that was more variable (mean=36%). Bobby received the lowest levels of paraprofessional support (i.e. mean=11%). When the intervention phase began, all students immediately decreased the level of paraprofessional prompting they received to complete their morning routines. All four students received little to no paraprofessional prompting throughout the intervention phase.

During the baseline phase, there were low levels of prompting provided by peers for all four students. Owen and Mason consistently received no peer prompting during baseline. For Hannah and Bobby, several peers began trying to support them with their morning routine after being asked to participate in this study, prior to training occurring. This is seen in the variability of peer prompting during baseline for Hannah and Bobby. Levels of peer prompting immediately increased for all students in the intervention phase and remained at a higher level throughout the intervention. One student, Hannah, did have some overlapping points with peer prompting occurring for 83% of steps in both baseline and intervention, due to students beginning to assist prior to training. For these peers, the paraprofessional focused on improving the quality of their prompting following a least-to-most prompting hierarchy.

All students' levels of independence with classroom routines varied throughout the baseline phase. Hannah especially demonstrated low levels of independence (i.e. mean=12%), while Owen, Mason, and Bobby all demonstrated low to mid-levels of independence (i.e. mean=64%, 42%, 60% respectively). During the intervention phase, all four students' levels of independence remained variable and at a similar level as during baseline. However, their independence did not appear to be negatively impacted during the intervention phase when peers began providing the majority of prompting to their classmates with a disability.

Social Validity. Paraprofessionals were asked to provide their feedback on the training package provided and their experience facilitating peer support arrangements. All five paraprofessionals perceived the training package to be effective in informing and preparing them to implement peer support arrangements. Three paraprofessionals, "strongly agreed" peer support arrangements were feasible to implement with staff support and two paraprofessionals, "agreed". All five paraprofessionals indicated they understood the procedures of this strategy following training, and would implement these strategies again with students. Paraprofessionals also perceived that students with disabilities and their peers both enjoyed participating in peer support arrangements. Paraprofessionals felt that peer support arrangements generated positive outcomes for students with disabilities. When asked if their focal student with a disability increased social interactions as a result of peer support arrangements, two paraprofessionals, "strongly agreed" and three, "agreed". When asked if focal students increased their independence and decreased their paraprofessional support in the classroom, three paraprofessionals, "strongly agreed" and two, "agreed". When asked if focal students increased academic engagement as a result of peer support arrangements, responses were more varied. Two paraprofessionals

indicated they, “strongly agreed” with this statement, one, “agreed”, one said they, “did not know”, and one, “disagreed”. Their various perceptions of academic engagement could have been impacted by differing classroom expectations and the definition of what engagement looks like for each individual student. All paraprofessionals, however, felt that they were effective in their role as a facilitator and indicated they would continue using peer support arrangements after this research project concluded.

Students with disabilities were asked to provide their feedback on working and interacting with a peer. All four focal students were asked several questions about their experience and were able to respond verbally, through use of an AAC device, or by pointing to a low-tech communication board (i.e. printed visual with the options yes, no, and I don’t know). All four students indicated that they enjoyed going to their general education classroom. Three of the students indicated that they liked when friends helped them. The answer for the fourth student was unclear, as he had trouble responding and indicating his answer clearly. When asked if they liked doing work with their friend (i.e. peer buddy) and would like to continue working with them, three of the students answered, “yes”. One student answered, “no”, however, this student has previously struggled with answering yes/no questions clearly. During observations, this student appeared to enjoy working with peers as well. All four students indicated that they considered their peer buddy their friend and appeared to perceive peer support arrangements positively.

Peers were asked to provide their feedback on supporting their classmate with a disability. Eight peers responded to questionnaires and answered brief interview questions. When asked if they understood and felt confident using the strategies they learned to support their

buddy, all eight students said they, “agreed”. When asked about their perception of how peer support arrangements impacted their classmate with a disability, seven students indicated they felt their support helped their buddy to learn. Half of the peers indicated that their support helped their buddy make more friends in class, while the other half said they were, “not sure”. However, all eight students said they considered their buddy to be a friend and seven of the students said they would spend time with their buddy outside of class. All eight students indicated they enjoyed being a peer buddy and would like to participate again in a peer support arrangement as a peer buddy in the future.

Parents of both students with disabilities and peers were asked to provide feedback on their child’s experience participating in a peer support arrangement. Six parents of peers participated in the social validity questionnaire. Five parents said they, “strongly agreed” and one parent said they, “agreed” that their child enjoyed being a peer buddy and that the experience had a positive impact on their child. Five parents indicated that being a peer buddy did not take away from their child’s learning and one parent said they, “didn’t know”. All parents indicated that they would allow their child to participate in peer support arrangements in the future. Three parents of a student with a disability participated in answering the social validity questionnaire. All parents indicated that their child enjoyed working with peers and coming to school. All three parents also indicated that they “agreed” their child was an accepted member of his/her classroom community. When asked if they perceived peer support arrangements as an effective strategy for their child and would recommend this strategy for other children with disabilities, two parents said, “strongly agree” and one said, “agree”. Parents also indicated that they would like their child to continue receiving peer support in the classroom.

General Education teachers were asked to provide feedback on peer support arrangements being utilized with students in their classroom. All four teachers participated and provided their feedback. When asked about paraprofessional implementation and facilitation of peer support arrangements, all teachers indicated that paraprofessionals appeared confident in their role. All four teachers said they, “strongly agree” that peer support arrangements are an effective strategy and increase engagement for students with disabilities in their classroom. All four teachers indicated that peer support arrangements were feasible to implement in the classroom setting. Teachers also perceived that peers enjoyed participating as a peer buddy. When asked what they liked about the use of peer support arrangements in their classroom, teachers said, “students build confidence”, “students develop understanding and empathy”, and “all children feel included and develop friendships”. All four teachers said they would recommend this strategy to others and would continue using peer support arrangements in their classroom.

Discussion

Peer support arrangements are an evidence-based practice strategy for improving social outcomes and academic engagement in general education classrooms (Brock & Huber, 2017), but there is limited research on (a) how teachers should train paraprofessionals to implement this intervention, how to implement this approach with elementary-aged students, and (c) the degree to which peer support arrangements decrease paraprofessional prompting and promote independence with classroom routines. This study investigated effects of teacher-delivered training on paraprofessional facilitation of peer support arrangements, and implementation of peer support arrangements on peer interactions, paraprofessional prompting during classroom routines, and independence with classroom routines for four elementary students with multiple disabilities. A functional relation was demonstrated between teacher-delivered training and paraprofessional facilitation of peer support arrangements. Functional relations were also shown between implementation of peer support arrangements and increased peer interactions and decreased paraprofessional prompting during classroom routines. These findings extend for the research base for peer support arrangements in a number of ways.

First, this study shows that when provided with a relatively short training, all paraprofessionals were able to implement peer support arrangements including developing a peer support plan, providing peer training, and increasing their facilitative behaviors to support peers with working with students with multiple disabilities during classroom activities. Following a teacher-directed training, all five paraprofessionals successfully completed a peer support plan and conducted peer trainings with at least 98% fidelity. The level and variability of paraprofessional facilitation also increased for all five paraprofessionals immediately following

training and the implementation of peer support arrangements. This finding is consistent with results given a teacher-directed training in Brock and Carter (2015) and Brock et al. (2006). These two studies showed that paraprofessionals were able to implement peer support arrangements with fidelity, resulting in improved social outcomes for students with severe disabilities.

In addition to replicating previous findings, this study extends the literature in three key ways. First, this study focused on paraprofessional implementation of peer support arrangements targeting students with multiple disabilities. While previous studies targeted students with severe disabilities, a small number of student participants were classified as having multiple disabilities. This study shows that peer support arrangements can also be effective for students with multiple disabilities. Second, this is the first study demonstrating that teacher delivered training for paraprofessionals is effective in elementary classroom settings. Previous studies all took place in middle or high school settings. Finally, in previous studies, the findings were not consistent across paraprofessionals. In this study, however, the teacher-delivered training enabled all five paraprofessionals to implement all components of peer support arrangements with fidelity and with increased facilitative behaviors.

Second, this study shows that when paraprofessionals implement peer support arrangements in inclusive classrooms, peer interactions increase for elementary students with multiple disabilities. As noted by Chung et al. (2012), students with severe disabilities have been found to communicate almost exclusively with paraprofessionals and special educators, despite their close proximity to peers in inclusive settings. However, with the implementation of peer support arrangements, communication and social interaction with peers can substantially

increase for students with complex communication needs (Biggs et al. 2017). In this study, the target students experience infrequent peer interactions in the baseline condition. After the introduction of peer support arrangements, all four target students experienced a substantial increase in the level of interactions with their peers. The findings of this study are consistent with a large evidence-base, but again, extend the literature to elementary-aged students and those students with multiple disabilities.

Third, this study measured the level of independence that students with disabilities completed daily classroom routines. While peer support arrangements have been described as a means to promote student independence, no prior studies have actually measured the degree to which students with severe disabilities increased their independence after receiving peer support. This study shows that when peers are trained by paraprofessionals to support their classmates with disabilities during classroom routines, students with multiple disabilities can receive less adult support with targeted tasks. When peer support arrangements were implemented, students were able to receive support from a peer, rather than a paraprofessional.

Although student independence with classroom routines was not shown to change with peer support arrangements, there was a significant decrease in the level of paraprofessional prompting required for students to complete their morning unpacking routine. While students did not independently complete more steps during the intervention phase, they were able to function at the same level of independence when receiving peer support. Peer support during activities such as the morning unpacking routine can occur more naturally and is less intrusive than paraprofessional prompting to the student with a disability.

Implications for Practice

Findings from this study have implications for special educators and general education teachers. It important that special educators, general education teachers, and paraprofessionals work closely and collaborate to appropriately meet student needs. Often, paraprofessionals are making instructional decisions for students without supervision from highly qualified educators (Giangreco & Broer,2005). Paraprofessionals should not be responsible for the bulk of student instruction in general education classrooms while their peers are learning from general education teachers. Rather, peer support arrangements should be supplemental to primary instruction and paraprofessionals should be closely supervised by highly qualified teachers.

In addition to collaboration with special educators and general education teachers, sufficient training and support should be provided to paraprofessionals. Students are often supported by paraprofessionals in the general education setting who have little or no training on how to support students with complex disabilities in inclusive placements (Carter et al., 2009). Paraprofessionals are also commonly in close physical proximity to students with disabilities, which can cause inadvertent and detrimental effects to those students and their opportunities for peer interaction (Giangreco & Broer, 2005). Students with multiple disabilities who also utilize AAC, have complex communication needs, which can further limit students' communication and social interactions, without proper adult training and peer facilitation. Studies have found that school teams implementation of AAC communication varies and the majority of their interactions take place with paraprofessionals rather than their peers (Biggs et al., 2017, Andzik et al., 2016, Chung et al., 2012). Prior to this study and implementation of peer support arrangements, paraprofessionals demonstrated little to no facilitative behaviors between students

with disabilities and their peers. Special educators must provide paraprofessionals with focused training on how to support students with disabilities in the general education setting.

Along with lack of sufficient training for paraprofessionals, educational placement is often an obstacle to peer interactions for students with severe disabilities. Students with multiple disabilities often have limited opportunities for inclusion. Even for students with multiple disabilities who do spend substantial time in general education classrooms, there are still a number of barriers to peer interaction (Carter et al., 2009). Although students with severe disabilities may be physically present in the general education classroom, proximity to peers is not enough to ensure successful inclusion. Special educators and classroom teachers should intentionally plan opportunities for meaningful inclusion and provide support to paraprofessionals for facilitative behaviors in order to achieve improved outcomes for students. Special educators should utilize strategies, such as peer support arrangements, to increase social interactions and friendships for students with multiple disabilities.

Lastly, students that receive paraprofessional support, specifically one-to-one support, may experience inadvertent detrimental effects including unnecessary dependence on paraprofessionals (Giangreco & Broer, 2005). Peer support arrangements are one strategy for improving independence for students with disabilities. Given an initial training session and paraprofessional facilitation, peers can be taught to effectively support their classmates with disabilities. Peers can be taught support strategies including least intrusive prompting, use of visual supports, and positive reinforcement. This allows students with multiple disabilities to perform classroom tasks and routines with peer support rather than paraprofessional prompting. Although students did not clearly improve their independence with routines in this particular

study, peer support was not shown to harm students' levels of independence. Overall, when given teacher-delivered training, paraprofessionals are able to implement peer support arrangements successfully to improve outcomes for students with disabilities (Brock et. al, 2016, Brock & Carter, 2015).

Limitations and Directions for Future Research

Limitations to this study suggest avenues for future research. First, while all paraprofessional and student pairings increase facilitative behaviors and social interactions, the level varied across para-student pairings. One student in particular did not receive one-on-one paraprofessional support, which may have impacted the results for this paraprofessional-student pairing. In future studies, researchers might explore paraprofessionals implementing peer support arrangements for students with different levels of paraprofessional support to determine if paraprofessionals can feasibly implement peer support arrangements while supporting multiple students with disabilities. Second, paraprofessionals and students included in this study represent volunteers from a larger pool of potential participants. It is possible that these participants were more motivated to work to implement peer support arrangements with students with disabilities. In future studies, researchers might consider techniques to acquire larger and more representative samples of paraprofessionals and students. Third, general education teachers were not involved in the paraprofessional training beyond suggesting students as peer participants. Future studies should explore how classroom teachers might be more engaged in planning and implementing peer support arrangements in inclusive classrooms.

Conclusion

Findings from this study show teacher-implemented training enables paraprofessionals to facilitate peer support arrangements, and that peer support arrangements increased peer interactions and decreased paraprofessional prompting for elementary students with multiple disabilities. These findings extend the evidence base for peer support arrangements to elementary-aged students and to students with multiple disabilities. A unique contribution of this study is demonstrating a link between peer support arrangements and a decrease in direct paraprofessional support during classroom routines. Indeed, peer support arrangements are an effective means to simultaneously promote peer interactions while reducing dependence on direct paraprofessional support.

References

Andzik, N. R., Chung, Y. C., & Kranak, M. P. (2016). Communication opportunities for elementary school students who use augmentative and alternative communication. *Augmentative and Alternative Communication, 32*(4), 272-281.

Biggs, E. E., Carter, E. W., Bumble, J. L., Barnes K., & Mazur, E. L. (2017). Enhancing peer network interventions for students with complex communication needs. *Exceptional Children,* 85, 66-85. doi:10.1177/001440292889

Brock, M. E., Biggs, E. E., Carter, E. W., Cattey, G. N., & Raley, K. S. (2016). Implementation and generalization of peer support arrangements for students with severe disabilities in inclusive classrooms. *The Journal of Special Education,* 49, 221-232. doi:10.1177/0022466915594368

Brock, M. E., & Carter, E. W. (2015) Efficacy of teachers training paraprofessionals to implement peer support arrangements. *Exceptional Children,* 82, 354-371. doi:10.1177/0014402915585564

Brock, M. E., & Huber, H. B. (2017) Are peer support arrangements an evidence-based practice? A systematic review. *Exceptional Children,* 51, 150-163.doi:10.1177/0014402918792899

Cadwallader, T. W., & Wagner, M. (2003). Interactions with friends. *Life outside the classroom for youth with disabilities: A report from the National Longitudinal Transition Study-2*, 3-1. SRI International Menlo Park, CA

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, 349–367

doi:10.1352/1944- 7558-117.5.349

Giangreco, M. F., & Broer, S. M. (2005). Questionable Utilization of Paraprofessionals in Inclusive Schools: Are We Addressing Symptoms or Causes? *Focus on Autism and Other Developmental Disabilities*, *20*(1), 10–26 doi: 10.1177/10883576050200010201

IDEIA 2004 Individuals with Disabilities Education Improvement Act, U.S.C. § 300.8 (2004)

Lansford, J. E., Yu, T., Pettit, G. S., Bates, J. E., & Dodge, K. A. (2014). Pathways of peer relationships from childhood to young adulthood. *Journal of Applied Developmental psychology*, *35*, 111-117.

Rubin, K. H., Coplan, R., Chen, X., Bowker, J., & McDonald, K. L. (2013). Peer relationships in childhood. In *Social and Personality Development* (pp. 317-368). Psychology Press.

Appendixes

Appendix A: Tables and Figures
Appendix B: Treatment Integrity Checklist
Appendix C: Peer Support Arrangement Training Manual
Appendix D: Paraprofessional Feedback Form
Appendix E: Social Validity Questionnaires

Appendix A: Tables and Figures

Table 1

Paraprofessional Behaviors, Definitions, and Examples

Behavior	Definition	Example
Prompt social interaction	Paraprofessional encourages or suggests a way for the focal student to interact with a peer without severe disabilities, or a peer with the focal student.	Paraprofessional points to a symbol on augmentative communication device to prompt the focal student to answer a question from a peer.
Reinforce social interaction	Paraprofessional praises the focal student and/or peer for social interactions (verbally or with gestures).	The paraprofessional gives the focal student a 'thumbs up' when he greets a peer.
Provide information for social interaction	Paraprofessional provides information to peers that might help peers to better interact with the student. This includes information about how the focal student communicates, interpreting the focal student's behavior, the focal student's interests, and possible conversation topics. This differs from a prompt, because the paraprofessional is providing information that will be helpful in the future rather than simply giving directions	Paraprofessional suggests to peer, "Maybe you could wait a little longer for Deborah to answer you. It takes her a second to find the symbol she's looking for on her device.
Prompt academic support	Paraprofessional encourages or suggests a way for peers to work with the focal student to help them participate in class.	Paraprofessional suggests to peer, "Maybe if Susie needs help spelling a word, you can write it down for her."
Reinforce academic support	Paraprofessional praises the peers for the way they are working with the focal student to help him/her participate in class.	Paraprofessional says to focal student, "You and Kevin are working together really well today! I am proud of you."
Provide information for academic support	Paraprofessional provides information to peers so that they might better support the student. This includes information about strengths and needs related to class participation, accommodations and modifications, and instructional strategies.	Paraprofessionals says to peer, "Olivia has a really hard time writing. Maybe she could tell you the answer and you could write it down."
Prompt proximity	Paraprofessional prompts the focal student and peers to be in close proximity (verbally or with gestures).	Paraprofessional asks the focal student to sit by a peer so they can partner for an activity
Check-in with peers	Paraprofessional communicates with peers to see if they are comfortable in their role providing support, if there is anything they want to talk about or discuss, or if there would like assistance from the paraprofessional.	Paraprofessional says to peer, "You look frustrated. Is there something I can do to help?"

Table 2

Percentage of Observation Intervals with Independence of Morning Routine, Interactions, and Paraprofessional Facilitation of Peer Support by Participant and Condition

Measure	Katherine and Owen		Anne and Mason		Margaret and Hannah		Julie, Sarah, and Bobby	
	Baseline	Intervention	Baseline	Intervention	Baseline	Intervention	Baseline	Intervention
Total paraprofessional facilitation behaviors	5.5 (0.0-16.6)	32.2 (20.0-42.3)	3.0 (0.0-3.3)	29.6 (16.6-50.0)	2.3 (1.6-3.3)	29.5 (18.3-42.3)	1.4 (0.0-3.3)	28.2 (5.0-51.7)
Total interactions with peers	13.0 (0.0-28.3)	51.9 (36.6-71.6)	11.1 (6.7-16.7)	50.1 (21.9-73.7)	22.7 (16.7-28.3)	48.9 (35.0-56.7)	12.3 (8.3-26.7)	38.6 (18.3-43.3)
Total independent completion of morning routine	63.5 (42.8-83.3)	50.0 (33.3-85.7)	41.8 (20.0-85.7)	41.4 (16.6-57.1)	12.9 (0.0-33.3)	11.1 (0.0-16.7)	59.8 (33.3-71.4)	45.9 (0.0-66.7)
Total peer prompted completion	0.0 (0.0-0.0)	48.5 (14.3-71.4)	0.0 (0.0-0.0)	55.4 (28.3-83.3)	50.5 (0.0-85.7)	87.0 (83.3-100)	27.2 (0.0-66.7)	52.7 (20.0-100)
Total para prompted completion	36.5 (16.7-57.1)	1.6 (0.0-14.3)	58.2 (14.3-80.0)	3.2 (0.0-14.3)	36.7 (0.0-85.7)	1.9 (0.0-16.6)	11.7 (0.0-28.6)	0.0 (0.0-0.0)

Note: Percentages reflect the average across all baseline or intervention observations sessions.

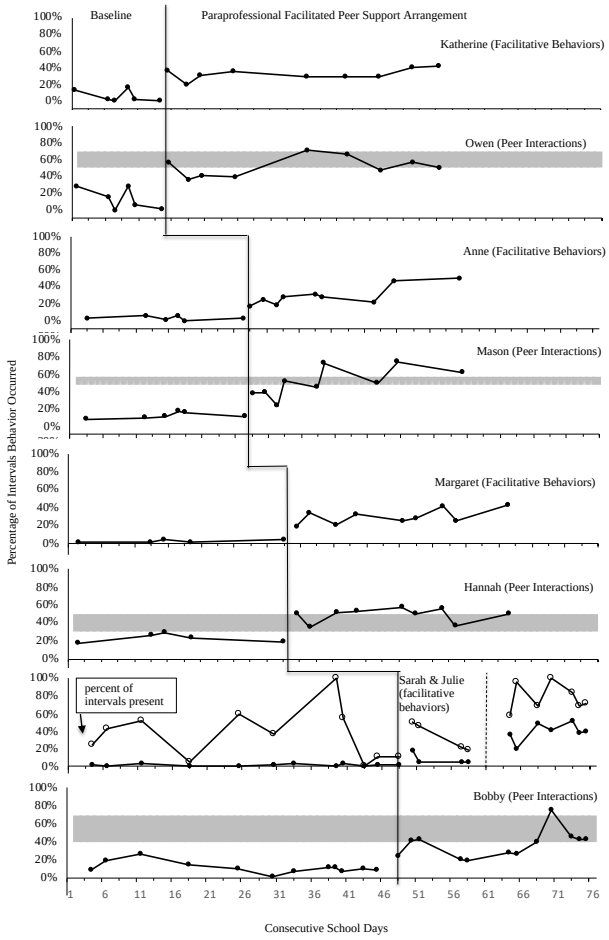

Figure 1. Paraprofessional behaviors facilitating peer support

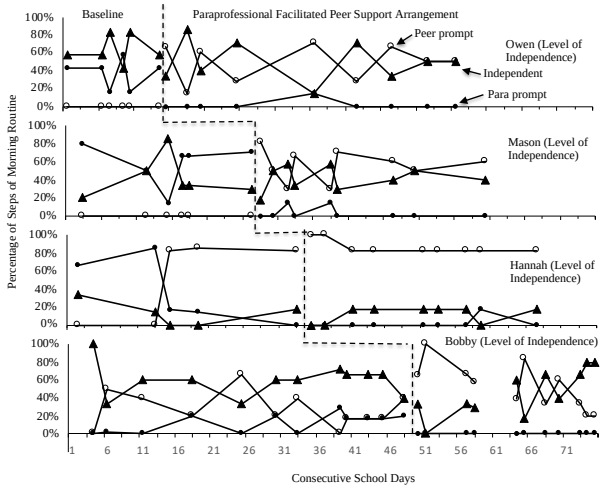

Figure 2. Student Independence with Morning Unpacking Routine

Appendix B: Treatment Integrity Checklist

Initial Meeting Checklist

Initial Meeting Checklist

Facilitator Name: _____ *Date:* _____

Peers Present: _____

☑= implemented independently; ☒= implemented after prompting

☐ Introductions

☐ Rationale for Peers Supports Strategies

☐ Background about the Student with a Disability

☐ General Goals in this Class

☐ Confidentiality and Respectful Language

☐ Expectations Specific to the Classroom

☐ Peer Support Strategies

☐ When to Seek Assistance

☐ Discussion and Questions

☐ What Happens Next

Initial Training Checklist

The Initial Training Session

Overview—

The teacher describes the following in detail:

- ☐ ·Rationale for peer supports arrangements
- ☐ ·Description of peer support arrangements
- ☐ ·General goals of peer support arrangements, including increasing interactions with peers, increasing academic engagement, and promoting independence from adult

Implementation steps associated with peer support arrangements, including the following:

- ☐ Preparing and planning
- ☐ Initial meeting with peers
- ☐ Supporting peer support arrangements through facilitation

Preparing and Planning for Peer Supports—

The teacher distributes a peer support manual to the paraprofessional, highlighting the following materials:

- ☐ Reflecting on classroom activities
- ☐ General ideas for peers supporting classmates
- ☐ Sample peer support plans

The teacher guides the paraprofessional through creating a peer support plan by:

- ☐ Prompting the paraprofessional to begin the peer support plan
- ☐ Providing examples that could be listed on the support plan
- ☐ Providing feedback to the paraprofessional as he/she generates ideas for the plan

Initial Meeting with Peers—

☐ The teacher reviews all 10 implementation steps associated with the initial meet with peers

☐ The teachers shows the paraprofessional the video model demonstrating the steps associated with the initial meeting

Supporting Peer Support Arrangements—

The teacher shares materials on supporting peer support arrangements, highlighting the following in detail:

Strategies for promoting interaction and academic support:

☐ Making sure that peers are close to the focus student

☐ Prompting social interactions

☐ Reinforcing social interactions

☐ Providing information for social interactions

☐ Prompting academic support

☐ Reinforcing academic support

☐ Providing information for academic support

☐ Check-in with peers

A coach from Vanderbilt models the prompting or reinforcement strategy that you discussed before meeting with the paraprofessional.

Student goal: _____

_____

Peer strategy: _____
_____

Ways paraprofessional can encourage peers to use strategy: _____
_____

The teacher guides the paraprofessional to complete the blank strategy form with examples of strategies specific to the student with a disability. Together they brainstorm at least one example for each of the following:

- ☐ Prompting social interactions
- ☐ Reinforcing social interactions
- ☐ Providing information for social interactions
- ☐ Prompting academic support
- ☐ Reinforcing academic support
- ☐ Providing information for academic support

Appendix C: Peer Support Arrangement Training Manual

❶Preparing and Planning For Peer Supports **Purpose:** Preparation and planning are needed to:

- Identify strategies that peers can use to successfully support the student with a disability during class

- Determine strategies and support to provide, as the facilitator, to both the peer supports and student with a disability to encourage interactions and increase class participation **Your Role:** With the support of your supervising teacher, you will:

- Review the information in the Peer Support Plan examples

- Complete the Peer Support Plan activity for the class in which the student with a disability will have peer supports **Materials needed:** This guide, including:

  - Peer Support Plan examples

  - Peer Support Plan form

Reflection on Classroom Activities

1. For the classroom in which peer supports will be provided, think about:

- What is the typical routine in the classroom? (e.g., silent reading, then lecture, then group activity, etc.)

- What activities are often completed in class and what are students expected to do? (e.g., listening and taking notes, group work, individual work, lab, projects, discussions, etc.)

- What does the student with a disability do during each of these activities? (e.g., complete work, sit in back of room, receive one-to-one instruction, etc.) 2. After thinking about the different activities in this class and how the students now participate, consider:

 How can students work together during different activities? (see potential strategies for peers)

 How can I encourage students to interact with one another during class? (see potential facilitation strategies for facilitator) 3. As you consider each activity, think about whether the student with a disability can complete the assignment:

 On his or her own?

 If given the right technology or adaptive equipment?

 With help from another classmate?

 With occasional help from a paraprofessional or special educator?

 With ongoing help from a paraprofessional or a special educator? One goal of the project is to explore how students can participate in class with help from peers.

Appendix D: Paraprofessional Feedback Form

Para Observations	**I saw:** __ Prompting social interactions between student and peer __ Reinforcing social interactions between student and peer __ Providing peer with background information for social skills/communication __ Prompting academic support between student and peer __ Reinforcing academic support/work between student and peer __ Providing peer with background information for academic work with student __ Prompting proximity (i.e. student positioned within 2 feet of a peer) __ Checking in with the peer to ask questions about how the peer support is going __ Prompting the peer to use a previously taught strategy with the student
Any Additional Comments	

Appendix E: Social Validity Questionnaires

Paraprofessional

Please rate the degree to which you agree with the following statements.
1 = Strongly Disagree; 2 = Disagree; 3 = Don't Know; 4 = Agree; 5 = Strongly Agree

Statement	Strongly Disagree 1	Disagree 2	Don't Know 3	Agree 4	Strongly Agree 5
The initial training that was provided on peer support arrangements was informative.					
The initial training prepared me for implementing peer support arrangements.					
Peer support arrangements were feasible to implement in inclusive settings.					
Implementation of this strategy required considerable support from other school staff.					
I feel I was effective in my role as a facilitator.					
I would need ongoing consultation to keep implementing this strategy.					
As a result of this study, my focal student with a disability increased social interactions with peers.					
As a result of this study, my focal student with a disability increased academic engagement in the classroom.					
As a result of this study, my focal student with a disability increased independence with routine procedures including classroom jobs.					
As a result of this study, my focal student with a disability needed decreased paraprofessional support in the classroom.					
Students with disabilities enjoyed participating in peer support arrangements.					
Peers enjoyed participating in peer support arrangements.					
Overall, I enjoyed participating in this project.					

I would like to continue utilizing this strategy after this project.					
I will not continue using this strategy after this project.					
I understand the procedures of this strategy.					
I would know what to do if asked to implement this strategy again.					
I would use this strategy with other students.					

Interview Questions

Directions: Ask the questions below and record Paraprofessional response. Should their response lead to a follow up question, record the question and Paraprofessional response.

1) What did you like best about facilitating peer support arrangements in the classroom?

2) What benefits to peer support arrangements did you see for students with disabilities? For peers?

3) How do you think classroom teachers perceived peer support arrangements?

4) What, if anything, did you not like about facilitating peer support arrangements?

5) What was challenging in implementing peer support arrangements?

6) How would you describe your experience overall?

7) Would you use this strategy again in the future?

8) What suggestions do you have for improving peer support arrangements as an intervention in inclusive settings?

9) Do you have anything else you would like to add?

Peer

Directions: Read each question and mark if you agree, disagree, or are not sure.

Statement	Agree	Disagree	I'm not sure
Overall, I enjoyed being a peer buddy.			
I think that my support helped my buddy make friends in class.			
I think my support helped my buddy to learn.			
I think my support helped my buddy to do more on his or her own.			
I feel confident using the strategies I learned to support my buddy.			

I understand why my teachers thought a peer buddy would be helpful to students with disabilities.			
Our school should have more peer buddies for students with disabilities.			
I consider my buddy to be a friend.			
I would spend time with my buddy outside of class.			
I learned skills to help me be a better friend.			
I learned skills to help me be a better student.			
I would be a peer buddy again in the future.			
I would recommend being a peer buddy to others.			

Directions: Write your response to the questions below.

1) What did you like best about being a peer buddy?

2) What did you learn from being a peer buddy?

3) What, if anything, did you not like about being a peer buddy?

4) Was there anything you wish adults had done differently to help you support your buddy in the classroom?

Student with Disability

Directions: Tell the student you are going to ask them some questions about working in their classroom. Read each question to the student and mark if they answer yes, no, don't know, or their response is unclear. If needed, the student can indicate their response by pointing to the attached visual support.

Statement	Yes	No	Don't know	Unclear
Do you like going to _____'s classroom?				
Do you have friends in your class?				
Do you like doing your work with _____?				
When you need help, do you like when an adult helps you?				
When you need help, do you like when a friend helps you?				

Is _____ your friend?				
Would you like to keep working with _____?				

Directions: Ask the student if there is anything else they want to tell you about working with a friend in class. Write their response below.

Yes	No	Don't know
		

Parents of Peer

Please rate the degree to which you agree with the following statements.
1 = Strongly Disagree; 2 = Disagree; 3 = Don't Know; 4 = Agree; 5 = Strongly Agree

Statement	Strongly Disagree 1	Disagree 2	Don't Know 3	Agree 4	Strongly Agree 5
My child enjoyed being a peer buddy.					
Being a peer buddy had a positive impact on my child.					
Being a peer buddy did not take away from my child's learning.					
I would allow my child to participate as a peer in the future.					

Directions: Read the questions below and write your response.

1) Overall, how was your child's experience as a peer buddy?

2) What were the benefits of being a peer buddy for your child?

3) What, if any, were the cons of your child being a peer buddy?

4) What suggestions do you have for using peer support arrangements in the future?

Parents of Student With Disability

Please rate the degree to which you agree with the following statements.
1 = Strongly Disagree; 2 = Disagree; 3 = Don't Know; 4 = Agree; 5 = Strongly Agree

Statement	Strongly Disagree 1	Disagree 2	Don't Know 3	Agree 4	Strongly Agree 5
My child enjoyed working with a peer buddy.					
Peer support is an effective strategy for students with special needs.					
As a result of this study, my child made friends.					
As a result of this study, my child participated more in their classroom.					
As a result of this study, my child increased their independence at school.					
As a result of this study, I saw positive changes in my child at home.					
My child is an accepted member of his/her classroom community.					
My child enjoys going to school.					
I would like for my child to continue receiving peer support in the classroom.					
I would recommend this strategy for other children with disabilities.					

Directions: Read the questions below and write your response.

10) What do you feel are the benefits of peer support for students with disabilities?

11) What, if anything, did you not like about facilitating peer support arrangements?

12) What suggestions do you have for using peer support arrangements in the future?

13) What else would you like to add about your child's experience with peer support arrangements?