

EFFECTS OF DECREASING PARAPROFESSIONAL
INTERACTIONS ON TASK ENGAGEMENT IN AN
INCLUSIVE CLASSROOM

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CHAPTER I

INTRODUCTION

In 2001, No Child Left Behind (NCLB) was enacted, which mandated that all students are to be exposed to the same curriculum and held to the same standards. Due to these mandates the number of students with disabilities included in the general education classroom has dramatically increased (Langone, 1998). Prior to the NCLB, the Individuals with Disabilities Education Act (IDEA) was passed (first in 1975) which changed the location of education for many students with disabilities. This mandate, least restrictive environment (LRE), purported that, students with disabilities should be included in the general education classroom, and removing students from this setting should only occur in cases where the students will not be successful in the general education classroom (Douvani & Husley, 2002). For example, if the student's behavior is causing a disturbance or is demanding much of the teacher's attention, the general education setting may not be the LRE for the student (Yell & Katsiyannis, 2004). Inclusion in the general education classroom has allowed students with disabilities opportunities to interact with their non-disabled peers (Causton-Theoharis & Malmgren,

2005), which in turn has created a broader community of learners. However, when the general education classroom is seen as the least restrictive environment for a student with disabilities, the IEP team then should take into consideration the effects this placement may have on the student's nondisabled peers.

Inclusion of students with disabilities places the students in the general education classroom with their non-disabled peers but does not rid the students of their disability or the challenges associated with their disabilities. To aide students with more severe academic and behavior challenges in the general education setting, paraprofessionals are often placed in the general education classroom (Giangreco & Broer, 2005). Paraprofessionals aid in one-to-one or small group basis with students with disabilities in order to meet the LRE mandates as well as individualized education program (IEP) mandates from IDEA. The team of professionals assigned to determine the students' IEP (i.e. IEP team) determines the LRE and then addresses the supports necessary for the student to be successful in the setting.

Assigning a student with a disability a paraprofessional in the general education classroom is thought to be beneficial for the student's education; however, there is no empirical evidence that supports this practice (Giangreco & Broer, 2005). The purpose of the current study is to determine the usefulness of paraprofessionals in helping a student with a disability in maintaining task engagement. With the common practice of placing paraprofessionals in general education setting for students with disabilities, it should be sought as to whether paraprofessionals are fulfilling their role in assisting within the LRE, as well as issues which may correlate with the use of paraprofessionals in the education system. There are issues that need to be taken into account in correlation to the

placement of paraprofessionals in specific situations with students with disabilities such as cost, the levels of education, quality of education, and the effects paraprofessionals may have on the independence of the students.

Cost

One of the issues which arise with paraprofessionals in the education system is that they are often placed in one-on-one correspondence or small group situations to focus on a select group of students. By placing paraprofessionals in small correspondences with students, there has been an increase in paraprofessional employment. With the contribution of increasing employees, special education is the area of education which has the highest cost on staff and aides, and paraprofessionals make up the majority of the growth in staff (Heir & Wallace, 2008). Heir and Wallace (2008) reported a ratio of 9.7 paraprofessionals to 1 student receiving special education services in 2004. It is clear that the high rates of hiring paraprofessionals relate to higher expenditures. After all, the increase in staff of special education means more salaries to pay as well as training, which consumes a large amount of the education budget.

Paraprofessionals are necessary in the school systems and may be useful in the small group situations; however, there is no research which indicates the presence of paraprofessionals working with small groups or with one student to improve the educational outcomes of the students with disabilities. Due to the lack of data, it may be that schools do not need as many paraprofessionals as they hire. Costs associated with paraprofessionals may be decreased by reducing the amount of paraprofessionals used for small groups of students, especially one-to-one paraprofessionals. The paraprofessionals

may be placed in settings where they aide with several students or teachers, or in other areas within the school. Utilizing paraprofessionals in other areas may help in the education process for all students.

Elementary School Use of Paraprofessionals

Paraprofessional utilization is higher at the elementary levels, and hiring of paraprofessionals at this level continues to grow (Giangreco, Edelman, Luiselli, & MacFarland, 1997). There are paraprofessionals used in secondary education; however, the use is not increasing similarly to the elementary levels. There is little research found regarding the use of paraprofessionals, and that is especially seen in secondary education settings. Suter and Giangreco (2009) studied the usage of paraprofessionals assigned to students ages 4 to 16 and noted that 80% of the paraprofessionals were assigned to students in the elementary school setting.

One possible rationale for higher rates of paraprofessionals utilization in elementary settings may be the focus on early intervention for students with disabilities. Early intervention efforts are becoming a globally accepted means to benefit students' education (Eloff, Maree, & Ebersohn, 2006). A concern with the practice of using paraprofessional as early intervention; however, is that the student may create a dependency on the paraprofessional that may continue into secondary settings where paraprofessionals are not as commonly used.

An unintended negative consequence of pairing a paraprofessional in a one-on-one setting is that normalcy is not being promoted due to the fact that nondisabled peers in the classroom do not have an adult in the classroom to work solely with them.

Assigning a paraprofessional to a selective student or group of students communicates that the student or students is labeled with a disability. So, by assigning students a paraprofessional many schools may inadvertently cause segregation in the classroom between students with disabilities and their nondisabled peers.

Academic and Social Independence

When paraprofessionals are in close proximity to a student or students labeled with a disability the student begins to rely more on the paraprofessional than teachers, and also have less peer interactions than students who do not have a paraprofessional to aid in the classroom (Giangreco, Edelman, Luiselli, & MacFarland 1997). Giangreco and colleagues noted that one of the effects of close proximity of paraprofessionals was a dependence on adults. In certain cases, the dependence on the paraprofessionals for students with disabilities was strong enough to keep the students at home or have a parent come into the classroom if the paraprofessional was going to be absent.

The dependency being established on adults may be lead to learned helplessness. Learned helplessness is a concept that is considered to be a cognitive process where students perceive events which are controllable to be out of their control, and perhaps at times will see uncontrollable events as controllable (Peterson, Maier, & Seligman, 1993). Canino (1981) proposed that some students with disabilities may view success as luck and failure as inevitable, due to learned helplessness. It is likely that students with learned helplessness will continue dependency on adults, because of the negative outlook on independent abilities. To aide in the prevention of learned helplessness, early efforts for independence of students with disabilities may be necessary.

Quality of Education for Students with Disabilities

Students with disabilities are often considered the most difficult to teach (Giangreco & Broer, 2005). To this extent, special education teachers must meet specific certification in order to meet the needs of their students. Even though high standards have been placed for special education teachers to receive teaching positions, schools have been allowing students with disabilities to receive instruction from paraprofessionals (Riggs & Mueller, 2001). Paraprofessionals are not held to the strict requirements or qualifications special educators are expected to fulfill.

Giangreco and Broer (2005) studied the quality of instruction students with special needs are receiving. Their results showed there to be four times the amount of paraprofessionals when compared to the number of special education teachers, it also revealed that paraprofessionals spend a greater amount of time for instruction than special education teachers. In addition, they noted paraprofessionals who worked in one-on-one correspondence with a student labeled with a disability did not use as much time of their school day for instruction as paraprofessionals who worked with a group of students labeled with disabilities. (Giangreco & Broer, 2005). These findings reflect that students with disabilities are receiving educational instruction from untrained teachers, and suggest that students needing the most supports and having the most difficulty learning are not receiving the necessary resources to be successful in school.

Purpose of Study and Research Question

Since there are high costs in special education, issues with utilization of paraprofessionals primarily at the elementary levels, students with disabilities having academic and social dependence on adults, and concern for the quality of education students with disabilities are receiving, the need and use of paraprofessionals should be regulated. According to Etscheidt (2005) plans to increase student dependency from paraprofessionals should be developed. In an attempt to increase dependency of a student with a disability, one primary research question directed this study. The study sought to determine if task engagement could be maintained through a systematic increase in proximity between a paraprofessional and a target student with a disability.

CHAPTER II

REVIEW OF LITERATURE

Inclusion

As previously discussed, inclusion in the general education classroom has become common practice through the LRE and NCLB. Schools are to provide the LRE for students, and the first setting which is to be considered is the general education classroom (Florida State University for Prevention & Early Intervention Policy, 2002). With the acceptance of inclusive settings; however, the federal government has yet to establish a federal definition of inclusion.

Florida State University Center for Prevention & Early Intervention policy defined inclusion as fully accepting all students in the education setting, which will create a community of learners. It has been suggested that placing students with disabilities in the general education classroom is to be beneficial for the students with disabilities as well as their nondisabled peers (Vandercook, Fleetham, Sinclair, & Tetlie, 1996). Even though inclusion has become common practice and shows to have beneficial effects on all students there are no specific methods or procedures specified for the application of

inclusion in the public school systems (Yell, & Katsiyannis, 2004). Due to the lack of specific practices for the implementation of inclusion, schools take different approaches for education of students with disabilities.

Paraprofessionals Use in the Schools

Inclusion for students with disabilities often occurs with the use of paraprofessionals in one-on-one or small group settings (Giangreco, 2010). In order to meet the specific needs of the students with disabilities, many school are employing paraprofessionals to aide students with disabilities in the general education classroom (Giangreco et al, 1997). Often, paraprofessionals may be in the classroom for students with disabilities to monitor behavior and academic issues. Students receiving assistance from paraprofessionals may only need the services in certain subject areas or specific times of the day, whereas others will have a paraprofessional present for the entire school day (Etscheidt, 2005).

The government promotes the utilization of paraprofessionals to support students with disabilities. The reauthorization of IDEA in 1997 required paraprofessionals to receive training as well as receive appropriate supervision; however, provisions for training and supervision of paraprofessionals was not defined through IDEA, and responsibility was placed upon the state to set training and supervision (Giangreco et al. 2005).

According to the 2004 reauthorization of IDEA, paraprofessionals should meet state licensing requirements, not have had their license or certification waived, and be trained and supervised in accordance with the state law to assist students with disabilities

[(IDEA 2004 Sec 300.156 (b))]. NCLB extended these regulations by requiring that, if the salaries of paraprofessionals who provide instructional support are being funded through the federal government, the paraprofessionals are to (a) have completed two years of education at a higher institution, (b) have achieved an associate's degree or higher, or (c) have met a standard of quality and demonstrated through a formal state or local assessment the knowledge and ability to assist in the subject areas presented in school, such as reading and math (U.S. Department of Education, 2004). For the paraprofessionals not funded through the federal government but the through state funds, requirements vary state to state. For the state of Oklahoma there are no formal requirements set for paraprofessionals (Garvey, 2007).

It is vital to understand the common job expectancies of paraprofessionals in relation to the requirements to become a paraprofessional. Many job descriptions of the paraprofessional differ and lack detail as to what is expected (Riggs & Mueller, 2001). Paraprofessionals are often expected to conduct clerical duties within the classroom and monitor students in non-academic settings; however they are also assisting in assessments, data collection, incorporating behavior management systems, and instructing small groups or individual students under direction of teachers (Wallace, Shin, Bartholomay & Stahl, 2001). The use of paraprofessionals is continuing to grow in schools, especially with the expansion of special education. Many see the use of paraprofessionals as essential and advantageous, even though there is no research which implies students with disabilities who are assigned a paraprofessional do as well or surpass those students who do not have paraprofessional supports (Giangreco et al, 2005)

Task Engagement

On-task engagement is considered to occur when a student is maintaining eye contact on the teacher, completing the task at hand, responding to a request which was presented by the teacher, or asking the teacher a question relating to the material (Allday & Pakurar, 2007). Task engagement is a behavior which is essential to find success in the education process. However, task engagement is often a behavior which is not necessarily taught in schools, it is a behavior which is expected of students.

For students with disabilities, on-task behaviors are often considered to be a difficult aspect to the inclusive setting of the general education classroom. Students with disabilities have greater difficulties participating in the academic and social aspects of the school environment (Reschly & Christenson, 2006). It is thought to be more difficult for students with disabilities to attend in school because they do not have the skills and/or behaviors which their nondisabled peers begin with (Reschly & Christenson, 2006). Due to the difficulties in school and deficiencies in skills, students with disabilities often do not actively participate in the school setting.

Early task engagement is vital, especially for students with disabilities to ensure the continuation of education. There are certain aspects to students' external behaviors that can be observed as early as first grade which are found to be predictors for students to drop out of school, and one of those predictors is student behavior and school experiences (Alexander, Entwisle, & Horsely, 1997). The issues with not becoming involved in the classroom could be a contributing factor to the high dropout rate of students with disabilities

Currently the dropout rate of students with disabilities is a concern which is facing the public education system. In the school year of 2000-2001 it was found that 41.1% of students with disabilities quit school (Reschly et al., 2006). The amount of students with disabilities which are found to drop out of high school is dramatically higher than their nondisabled peers (Dunn, Chamber, & Rabren, 2004). Providing supports, and ensuring students with disabilities are on-task in the classroom will be beneficial for the students' education and may help prevent the student and school failure.

Paraprofessional's Proximity to Students with Disabilities

While conducting duties expected of them, such as aiding in the on-task behaviors of students with disabilities, paraprofessionals have been found to be in close proximity to students with disabilities (Giangreco, Edelman, Luiselli, & MacFarland, 1997). In certain scenarios close proximity to students with disabilities is expected of paraprofessionals; however, it has been found in many cases it is unnecessary and may even be detrimental to the students' education (Giangreco et al., 1997).

Research has suggested that paraprofessionals can impede in the success of students with disabilities in three primary ways. Paraprofessionals may cause the student to have a dependency on the adult, separate the student from nondisabled peers, and limit interactions from the general education teacher (Etscheidt, 2005; Giangreco, 2010; Giangreco & Broer, 2007; Giangreco, Edelman, Luiselli, & MacFarland, 1997). With known negative effects of paraprofessionals the federal law has yet to address when it is necessary for a paraprofessional and the procedures, such as appropriate proximity, which need to be in place in accordance to paraprofessionals working with students with disabilities.

When paraprofessionals are assigned to work with students with disabilities, they are often placed without set procedures. Giangreco et al. (1997) found in most cases there were not evident procedures to fade the need of the paraprofessional, or decrease the dependence which students with disabilities have on the paraprofessional. Students with disabilities often view paraprofessionals as motherly figures, friends, protectors, and as primary teachers (Broer, Doyle & Giangreco, 2005). The views of students may reflect both positive and negative relationships; however, whether they are negative or positive the student views of the relationship may communicate the dependency which they have on paraprofessionals (Broer et al. 2005). The dependency students with disabilities have on paraprofessionals may also inhibit peer relationships (Giangreco et al. 1997).

One way paraprofessionals prevent interactions between students with disabilities and their nondisabled peers is through physical separation (Giangreco et al. 1997). Physical separation is often seen as the paraprofessional physically removing the student out of the room or to a table away from others to work one-on-one without direction or comment from the general education teacher (Causton-Theoharis & Malmgren, 2005). When the paraprofessional does not remove the student with disabilities and the student participates in small groups with others, paraprofessionals are often found to still be in close proximity to the student with disabilities and dominating the group interactions (Giangreco et al. 1997). Many nondisabled students were found to relate the paraprofessional and student with disabilities as one, if the students without disabilities liked the paraprofessional it correlates to peer relationships for the student with disabilities, but if the paraprofessional was seen negatively by nondisabled peers this also reflected on the student with disabilities (Giangreco et al. 1997).

The paraprofessional in close proximity to the student with disabilities has also been found to impact the students' education received from the general education setting (Giangreco et al. 1997). Giangreco and colleagues (1997) reported that with paraprofessionals in close proximity to students with disabilities many general educators pass up the responsibility to educate the students to the paraprofessionals. With the paraprofessionals having the assignment to aid the students with disabilities, being readily available, and spending the majority of the day in one-on-one or small group interactions many teachers may see it as being better for the student to hand over instruction to the paraprofessionals.

CHAPTER III

METHODOLOGY

Participants and Setting

One paraprofessional and one pre-kindergarten (pre-K) student served as participants in the study. The paraprofessional was Caucasian female and a full-time employee of the preschool. The paraprofessional was selected for two primary reasons. First, she aided in the general education classroom specifically to assist with the target student. Second, she exhibited high rates of attention and proximity to the target student.

The student was a Caucasian male who attended the full day pre-K and received special education services for developmental disabilities. The student was chosen for the study because he was identified with a disability, received services in the general education classroom for a portion of the day, and received high rates of assistance from the paraprofessional. The class consisted of students with and without disabilities who were either 4 or 5 years old. The class was staffed by a certified early childhood teacher and the target paraprofessional.

Selection of participants.

To identify participants who met the criteria of the study meetings were conducted with the Special Education Director of the public school system. During the meeting, we discussed possible locations as well as participants for the research. The pre-K classroom was identified through this process. Additional meetings were then conducted with the special education teacher at the preschool as well as with the principal of the school to receive input on subjects who would meet the selection criteria. Once the participants were chosen permission forms were released. There was a specific permission form for the paraprofessional (see appendix 1) and a parent permission for the student (appendix 2) since the child was too young to give assent. Once the permission forms were signed and returned, the researchers began data collection.

Dependent and Independent Variables

Prior to creating the design and data collection, the dependent and independent variables were established. The dependent variables of the study were the distance between the paraprofessional and target student, adult and peer interaction with the target student, and the student's on-task behavior. Each of the operational definitions are presented in Table 1.

The independent variable of the study was the proximity of the paraprofessional from the target student. The proximity of the paraprofessional was monitored and systematically increased.

Table 1

Operational Definition of Dependent Measures

Term	Operational Definition
Distance	The measurement, in feet, between the paraprofessional and target student (within 0, 1, 3, 5, or 7 feet).
Attention	Adult/student speaks , physically touches, or makes eye contact with the student (Simpson, 1979).
On-task	Student is actively listening to the teacher (facing teacher’s direction and responding nonverbally or verbally), adhering to instruction by teacher, making eye contact with the task or teacher, or seeking help appropriately (raising hand) (Allday & Parkur, 2007).

Design

The study is a withdrawal design with a nested changing criterion design. Implementing a changing criterion design in a larger design has been shown to be effective (Matella, Leonard, Marchand-Martella, & Agran, 1993). The study began in the intervention phase (B₁) due to the fact the student was already receiving treatment (i.e., high levels of interaction with the paraprofessional) prior to conducting the study. After collecting data on the treatment, establishing the need for the treatment was then conducted (A phase). A meeting was held with the paraprofessional, during which she was asked to keep at least seven feet or greater away from the student unless it was deemed necessary to engage with the student. After three days of data collection, it was apparent that close proximity between the paraprofessional and student was necessary for task engagement. There was then a return to the treatment (B₂) that was originally in place, this allowed for the data to return to levels prior to the withdrawal of the paraprofessional.

In the initial B₁ phase, data were collected on the baseline behaviors of the paraprofessional and student. The student maintained on-task levels comparable to typically developing peers in the classroom for four of the six data points. Results during this phase also make it apparent the paraprofessional remained in close proximity to the student. With the data gathered for the typically developing students, the teacher was within three feet of the students an average of 6% of the observations (range 2% to 13%). The paraprofessional was within three feet of the target student with a disability an average of 91% of the intervals (range 77% to 100%).

Phase C of the design included the changing criterion. In this phase the criterion set and changed was the distance between the paraprofessional and the student. The changing criterion was phase C because baseline measures were collected with the treatment in place, the need of the treatment was then established (phase A), and return to the treatment were necessary to establish the importance of the paraprofessional prior to implementing phase C, the gradual systematic withdrawal of the paraprofessional. In the first sub phase Weber's law was implemented to set the criterion of the distance between the paraprofessional and student. Weber's law is the idea that a person will not notice a difference until it there is a 20-25% percent change/difference. This change in criterion was too much of an initial withdrawal, so readjustments for setting the criteria was made. For the duration of phase C subsequent criterion was based off of approximately an 8% decrease of the amount of intervals which the paraprofessional was within 3 feet to the student; thus, increasing the distance between the paraprofessional and the student. In order to successfully reach criteria levels and change the paraprofessional's behaviors, a cueing system was applied. An overall goal of phase C was for the paraprofessional to

be greater than 3 feet from the student for 50% of the intervals. This goal was established, because it would essentially be cutting the time the paraprofessional was in close proximity to the student in half. After successfully reaching criteria set while maintaining student's on-task levels, phase D was approached.

The last treatment of the study is phase D. The treatment in phase D is the paraprofessional continuing withdrawal behaviors without the cue which was given during the C phase. Before the implementation of phase D a meeting was held with the paraprofessional as well as general education teacher. During the meeting results from previous phases were shared. A discussion took place which the paraprofessional agreed to stand back and engage when necessary to help the student get back on-task, and then withdraw after redirecting the student without the cueing system. The general education teacher was asked to give praise to the student and re-engage the student when she thought was necessary and was able to.

Procedures

Once definitions, data collection methods, and location as well participants were discovered preliminary data was collected. The preliminary data pertained to the behavior of typically developing students in the classroom. This data was collected to compare to the data regarding the student with disabilities. Data gathered on two typically developing students were used to represent the classroom population. These data represented expected on-task levels of students as well as how close in proximity the general education teacher was to the students. Since the study was put in place to help avoid the negative effects of the paraprofessional and to promote normalcy within the classroom,

this data was used as a target for the on-task levels of the student with a disability. The typically developing students were found to be on-task an average of 70% of the intervals, which was the set target rate of task engagement for the student with disabilities. The general education teacher was within three feet of the students an overall average of approximately 6% of the observations; however, the target for the distance between the paraprofessional and student was based off baseline data and a withdrawal system.

Data regarding the behaviors were collected in 10 second intervals. The intervals were signaled through the I-Pod Touch headphones (only one head piece was placed in the researcher's ear in order to continue to listen to what was occurring in the classroom). The ABC Data Pro made a sound every 10 seconds to inform the researcher it was time to record the behaviors. When the noise was presented the researcher then recorded the distance between the paraprofessional and student (taped measurements were laid out on the classroom floor) and as to whether the target students was on or off-task. These two dependent variables were recorded through momentary time sampling, after 10 seconds the researcher records the behavior as seen, to effectively collect data regarding the distance between the paraprofessional and the on-task behaviors of the target student. According to Heron et al (2007), momentary time sampling should be used to collect data regarding behaviors which are continuous, like on-task behavior. However, partial interval recording was utilized to measure as to whether the student was receiving adult or student attention. Through this data collection system the behavior is recorded if it occurs during that interval, it is a continuous observation method but the behavior only

has to occur once to count it and frequency during the interval is not a factor (Bailey & Burch, 2002, Chapter 5).

Interobserver agreement (IOA).

To ensure reliability of observations inter-observer agreement was conducted. Another observer was trained on how to conduct behavior observations, a total of two researchers were conducting observations. The training involved the operational definitions of the behaviors, examples and non-examples of the behaviors, as well video training. The inter-observer agreement was 79% (range 61% to 91%) with co-observations on 26% of the observations.

Materials

Data were collected using a printed interval matrix (see Appendix 3). The matrix allowed the observers to record all three behaviors presented. There were cells of the matrix to record the on-task/off-task behavior of the student, the distance between the paraprofessional and student, and whether the student was receiving attention from the adults or peers in the classroom (refer back to Table 1).

CHAPTER IV

FINDINGS

The purpose of this study was to implement an intervention that increases the distance between the paraprofessional and a student with a disability while maintaining the student's task engagement. It sought to determine if the students could maintain task engagement with minimal interaction from the paraprofessional. If successful, this study also would permit more interaction between the general education teacher and student, promote independence, and also prevent segregation from typically developing peers.

Figure 1 presents the data collected throughout the study. The graph contains data gathered from the paraprofessional and student's behavior. The square data points represent the percentage of intervals which the paraprofessional was within three feet to the student participant, the paraprofessional was increasing distance to be further than three feet away because than three the student would be greater than an arm length from the paraprofessional and the distance would be great enough between the two participants so verbal communication would not be as attainable. Rhombus data points show the percentage which the student was observed being on-task during the observations. A total of 34 observations were conducted which included all the phases of the study.

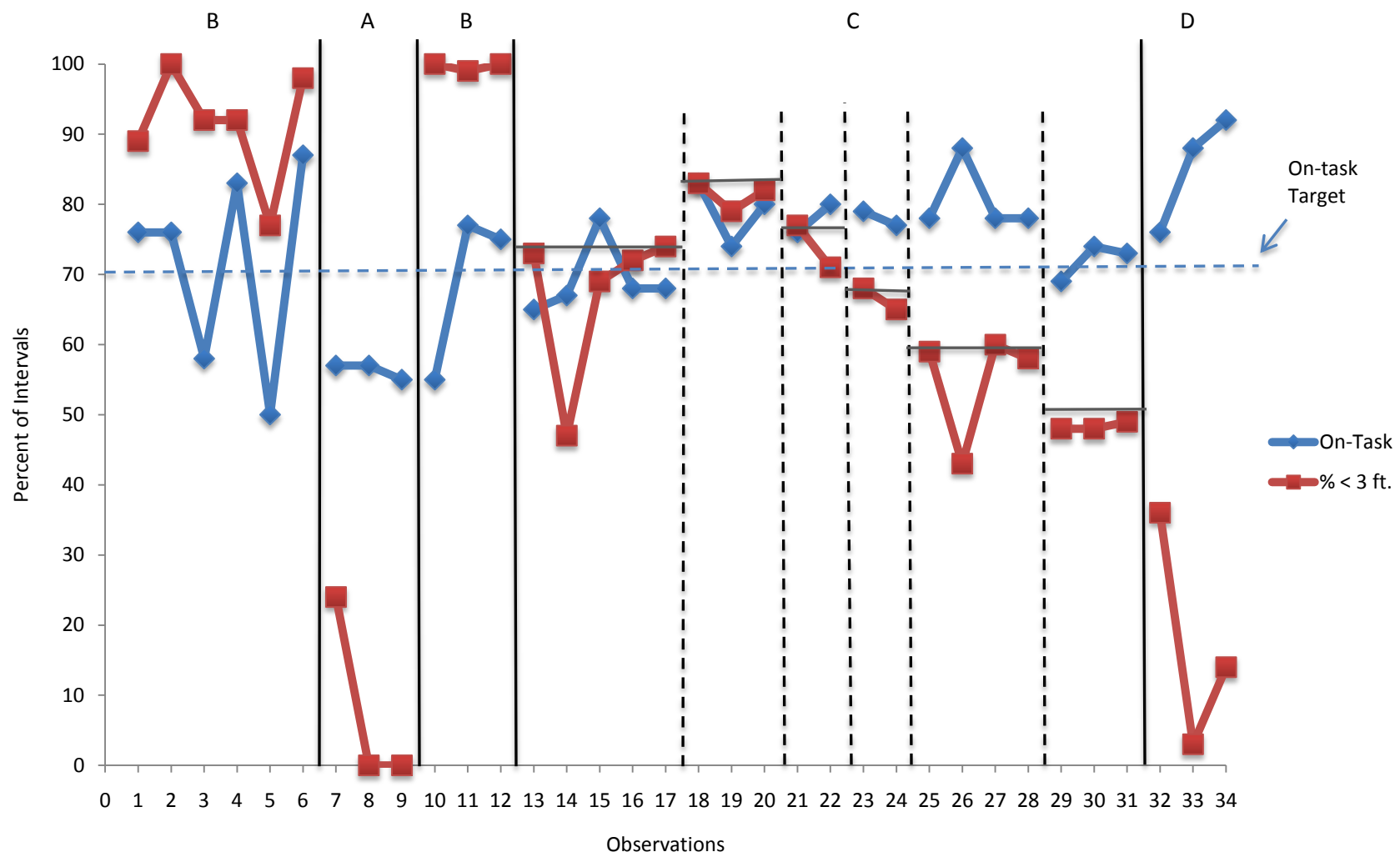


Figure 1

After gathering baseline observations, it was necessary to establish the need of the paraprofessional to aid with the on-task behavior of the student. The paraprofessional was asked to maintain distance of 7 feet or greater from the student. During these observations, withdrawal or phase A, the paraprofessional was three feet or nearer to the student for an average of 8% (range 0% to 24%) of the intervals. The student's level of task engagement decreased to an average of 56%, which was below the target rate of 70%.

A return to intervention was re-established, the second phase B, when the paraprofessional was asked to re-engage with the student. This phase was necessary to not only begin the intervention, but also to strengthen the need of the paraprofessional. During the second B phase the paraprofessional was found to be within three feet of the student at an approximate average of 100% of the intervals. The student's on-task behavior also increased, showed to be at an average of 69% (range 55% to 77%).

With returning to pre-withdrawal rates it was determined appropriate to move to the changing criterion phase (i.e., C phase) of the study. The behavior of the paraprofessional was altered through a cueing system. There were six sub-phases to phase C with each systematically changing the distance between the paraprofessional and the student. During the first sub-phase Weber's Law was used to set the criterion and six days of data was collected. However, the first sub-phase did not produce the target rate of task engagement, on-task level was an average of 69%; therefore, it was determined the criterion set was too drastic of a change, so intervals of close proximity was based off of an approximate eight percent decrease.

Examination of the second sub-phase of C, the set criterion was for the paraprofessional to be within three feet of the student for approximately 83% of the observation. This and subsequent sub-phases used an 8% decrease in intervals of proximity less than or equal to 3 feet. The student was found to be on-task approximately 79% (range 74% to 83%) of the intervals. The paraprofessional was within three feet in regards to the student approximately 81% (range 79% to 83%).

The next set criterion was for the paraprofessional to be within three feet for 75% of the observations. Student was on-task 78% of the intervals (range 76% to 80%). The paraprofessional average of being within three feet was 74% (range 71% to 76%).

Sub-phase four of phase C the criterion was set at 67% for the paraprofessional's behavior. The paraprofessional's average of being within three feet to the student was approximately 67% (range 65% to 68%). On-task behavior of the student showed to be 78% of the intervals (range 77% to 79%).

With the criterion set for the paraprofessional to be within three feet of the student 58% of the observations for the fifth sub-phase, the student reached a mean of 81% on-task of the intervals (range 78% to 88%). The paraprofessional was within three feet 55% of the observations (range of 43% to 60%).

The last section of phase C revealed the student to be at an average on-task rate of 72% of the intervals (range 69% to 74%). The criterion set allowed the paraprofessional to be within three feet of the student for half of the recorded intervals, 50%. With the 50% criteria, the paraprofessional was within three feet to the student an average of 48% of the intervals (range 48% to 49%).

Following the completion of the C phase, data were collected to determine if the paraprofessional would continue to maintain a greater distance from the student without prompting. The paraprofessional engaged with the student to redirect or help the student and then disengaged with the student, increasing the distance between the student and paraprofessional. The paraprofessional was within three feet of the student for a mean of 18% of the intervals (range 4% to 36%). During phase D the student was on-task for an average of 85% of the intervals (range of 76% to 92%).

CHAPTER V

CONCLUSION

This study implemented an intervention to increase the distance between a paraprofessional and a student with a disability while maintaining the student task engagement. It was utilized to promote independence and normalcy in the general education classroom setting. Paraprofessionals may have negative effects on students' with disabilities (Giangreco et al. 1997), and implementing an intervention to increase the proximity of the paraprofessional to student may prevent some of the issues which would otherwise arise.

Examination of data collected during this study, it is apparent prior to the intervention the paraprofessional remained in close proximity to the student and the proximity helped the student to remain engaged with the task at hand. The target behaviors (i.e. task engagement and paraprofessional proximity) trend in similar directions during phases B, A, B, and the first two sub-phases of C. Throughout the implementation of the intervention; however, the relationship between the two behaviors change and are gradually reversed, the student showed to be on-task at a greater rate

when the paraprofessional was five feet or greater the majority of the observations. The changed relation between the two behaviors can be viewed in the C phase subsections three through six and phase D. The change in relationship reveals the student needing less supports from the paraprofessional during the circle time activity, giving the student more independence.

With the change in the relationship of the behaviors it is important to note the study showed that the paraprofessional continued the behaviors without needing a cue, which according to Cooper et al is known as response maintenance (2007). The paraprofessional was able to engage, redirect, and disengage while keeping the target student engaged at the same rate as his nondisabled peers.

The intervention which was created for the withdrawal of the paraprofessional was case specific. Data of on-task behavior of typically developing peers set the target rate of on-task behavior for our student participant, and baseline data drove the amount of distance increase between the paraprofessional and the student.

For the intervention, the researchers initially utilized Weber's law for the amount of increase in distance between the paraprofessional and student, the first section of phase C. Weber's law would have allowed for the intervention to be applicable to each case, not having to be altered for case-by-case specific situations.

With Weber's law the distance between the paraprofessional and student was increased by approximately 25%. Weber's law is the idea "that the size of a just noticeable difference in stimulus intensity is a constant proportion of the original stimulus magnitude" (Jordan & Brannon, 2006, p.216). For example, if a person is holding 100

pounds they will not notice a change in weight until it reaches approximately 125 pounds. When using Weber's law however, the set criterion seemed to cause participant strain. This may have been due to the criterion set at the maximum difference, according to Weber's law, of change prior to the subject noticing a difference.

The first criterion was set for the paraprofessional to be within three feet of the student for 75% of the observations. Criterion was set at 75% because it was slightly less than a 25% increase from the average overall baseline data gathered. Five observations occurred implementing the cueing system with the use of Weber's law. The on-task behavior of the student dropped below the target rate which was set, and only went above the target one of the five data points. Researchers decided that the criterion set was inhibiting the student's education process and developed another form of intervention.

The results of the study showed that with systematic, gradual increases in distance from the paraprofessional, the student's task engagement levels were able to remain and surpass the level of his nondisabled peers (i.e., 70% of intervals during the 20-minute observation). Prior to the intervention, the student was engaged 72% of the observation, while the paraprofessional was within 3 feet of the student during 91% of intervals. By the last observation conducted, the student reached an on-task level of 92% with the paraprofessional within 3 feet of the student 14% of the observation. Essentially, the student and paraprofessional's behaviors reached "normal" levels.

Limitations

The findings throughout the study build a strong case for the implementation of the intervention and the effectiveness of the intervention which is presented in the

educational interest of the student with a disability. The design of the study also took into account any extraneous variables which may have affected the task engagement of the student or the paraprofessional's behaviors. Although precautions were taken, there were still limitations found to the study. Specific limitations which should be considered are the participants, the specific intervention, and the found inter-observer agreement.

Participants.

As mentioned, the participants of the study were one paraprofessional and one preschool student with a disability. The participants were sought out, and gave permission to participate in the study due to the fact that they met the requirements of the study.

In order to be in the study the paraprofessional was to be a hired employee of the public school, be in the general education classroom to assist the student with a disability, and also be in close proximity to the student. The student subject was to have a developmental disability, be in the general education classroom, and have a paraprofessional to assist with academic and behavioral needs. Although single subject designs are accepted, the specific expectations set for participants cause it to be more difficult to duplicate the study.

Inter-observer agreement.

The study was strengthened by the use two observers. Inter-observer agreement (IOA) was established to ensure consistency of data gathered. Both researchers were trained on behavioral observations, the independent and dependent variables, as well as video training.

Although training occurred, observer drift began to set in. Retraining for one of the observers was established. Retraining entailed specific behaviors and definitions as well examples and non-examples of the behaviors' occurrences. Both researchers continued with observations.

An overall inter-observer agreement of 79% was achieved. According to Cooper et al (2007) inter-observer agreement should be an average of 80% or greater. There is no known explanation as to why 80% is what is accepted, it is what has been set in the history of research (Kennedy, 2005). Although the research did not achieve 80% inter-observer agreement, 79% has been seen as acceptable. Analysts may accept IOA as low as 75%, this is more likely to occur when the range is low and the environmental factors are multifarious (Cooper et al. 2007). So, the IOA may be seen as a limitation of the study.

Future Research

The study presented is considered to be one of the first of its kind. The negative effects of paraprofessionals, paraprofessional trainings, paraprofessional job requirements, as well as other aspects of the use of paraprofessionals in the school setting have been researched; however, there has yet to be established an effective research-based means to withdraw a paraprofessional found to be in close proximity to a student with a disability. Even though this study did produce an effective way to withdraw the paraprofessional from a student with a disability, there are specific areas which can be included in future research.

Future studies could examine data pertaining to the teacher interactions with the student. When withdrawing the paraprofessional from the student it seemed the general education teacher began to engage with the student with disabilities more often. This would be a beneficial aspect to the study, creating a stronger need for the intervention. One of the negative effects of paraprofessionals is that they are seen as cutting off the interactions between the teacher and the student.

Another factor to tie into future research would be to implement the intervention into more than one setting or specific time of the day. By implementing the intervention in multiple settings the generalization of behaviors of the paraprofessional and student in environments other than the original time frame of the intervention would begin. This would help with consistency of behaviors as well.

Furthermore, more research is needed to establish the effectiveness of the study in regards to differing age levels as well as settings. The researchers recommend the continuation of the use of the intervention to gradually withdraw the paraprofessional from a student with disabilities in order to decrease the harmful effects the paraprofessional may be having on the student. The intervention seeks to restore student independence within the classroom as well as encourage more interactions with the general education teacher as well as nondisabled peers.

Application

Even though the research does have some limitations, the information and intervention is still applicable. The baseline data gathered did support the research pertaining to paraprofessionals being within a close proximity to students with a

disability. With the known detrimental effects the presence of a paraprofessional may cause for a student with a disability (Giangreco et al. 1997) it is important for the student to achieve as much of an independence level as possible without the hindrance of the education process for the student and the student's peers. According to Etscheidt (2005) IEP teams who assign students a paraprofessional must create a plan to increase the students' independence. A creation of a plan to increase a student's independence may benefit from the intervention in this study.

To implement this in each classroom baseline data must be gathered, data may be gathered from a faculty member in the school. For baseline data the observer will collect data on the distance (within 0, 1, 3, 5, 7 feet) between the paraprofessional and student as well as whether the student is on or off-task using 10 second intervals, the Allday and Pakurar definition from 2007 found in Table 1 may be used as the operational definition to ensure the observer is recording seen behaviors instead of inferences of the student being on-task. The data may be gathered on the data collection sheet used for this study, Appendix 3. Baseline data should be collected for at least three days during the same activity or time of day.

After baseline data is collected it is important to view the specific intervals of each observation day to search for patterns of on-task behavior. The intervals which the student is found to be on-task are the intervals which the paraprofessional can begin to withdraw from the student. During the initial withdrawal it is important to set reasonable expectations for the student as well as paraprofessional in order prevent participant strain. The intervals which the student is off-task are the intervals to ensure the paraprofessional re-engages with the student. The observers will provide cues to let the paraprofessional

when to disengage from the student, the cueing system can be a simple head nod or the paraprofessional and observer could create a cue which works for them.

When beginning the intervention the paraprofessional may have to be near the student for a designated amount of time in order for the student to stay on-task and that the paraprofessional movement does not cause the student to get off-task. After collecting data on the implementation of the intervention for around three days, the observer should reflect over the specific intervals to reflect on the effects the paraprofessional's behavior change is having on the student. If the student's on-task level drops, it is important to lessen the amount of intervals which the paraprofessional disengages from the student. If the student's on-task levels are steady, increasing, or reaching expected levels the continuation of gradually reducing the intervals which the paraprofessional is greater than three feet away may continue. Continuing at a gradual, steady rate is essential for the intervention to be productive instead counteractive.

Once the student and paraprofessional are reaching expected levels of behavior it is important to have the paraprofessional begin to generalize the behaviors, to engage and disengage without the cueing system. This will allow for the intervention to continue, and for the paraprofessional to continue the behavior of distance and redirecting the student to the task at hand.

However, if a third party is not available to collect data and cue withdrawal, the classroom teacher or paraprofessional may observe the student's task engagement during activities and create a specific withdrawal system. It is recommended that when the paraprofessional or teacher sees the student on-task, the paraprofessional withdraws from

the student for approximately 30 seconds and then re-engages with the student to prevent strain. This will allow the paraprofessional to begin the withdrawal system, and continue to observe the student. From this starting point the amount of times the paraprofessional withdraws for approximately 30 seconds during activities will gradually increase.

To prevent the continuous movement of the paraprofessional, once the paraprofessional begins to withdraw around six times within an hour it is time to increase the amount of time the paraprofessional is away from the student instead of focusing on the amount of times within the hour he/she is withdrawn. If the student task engagement levels drop and do not return to levels deemed appropriate by the teacher, the paraprofessional should return to the previous amount of time engaged with the student and slow down the withdrawal system.

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APPENDICES

PARAPROFESSIONAL CONSENT FORM
OKLAHOMA STATE UNIVERSITY

PROJECT TITLE: The Effects of Decreasing a Paraprofessional's Interactions with Students with Disabilities

INVESTIGATORS: Caroline Russel, a graduate student at Oklahoma State University, with the help of Dr. R. Allan Allday, Ph.D. of the School of Teaching and Curriculum Leadership at Oklahoma State University, will be conducting the research.

PURPOSE:

This study seeks to determine if students with disabilities, who interact with a paraprofessional in the general education classroom, can maintain the same level of on-task behavior when the paraprofessional's distance and attention is gradually decreased.

PROCEDURES:

For baseline, paraprofessional's interaction time and distance to student(s) will be recorded using taped measurements on the floor as well as whole interval recording (i.e., we will determine if the behavior continues to occur for ten consecutive seconds). Data for baseline will also be collected for the student(s) on-task behavior in the general education classroom. After gathering baseline data for at least three consecutive days, the intervention phase will begin. This phase includes decreasing the amount interaction time between the paraprofessional and student(s) while increasing the distance between the two groups. Changes in attention and proximity will occur following at least two consecutive days of meeting the criterion set. Criteria changes will be based on the amount of attention and proximity determined through baseline data. During the intervention phase, on-task behavior of the student(s) will continue to be observed using whole interval recording every 10 seconds. The time spent gathering data in the classroom will occur for approximately 30 minutes over the course of 25 days.

RISKS OF PARTICIPATION:

There are no known risks to you, the paraprofessional, during the study. There is minimal risk on the students which are associated with the study, because the research will be limiting the interaction between the paraprofessional and the student which may cause increased distress in the student. If this does occur the paraprofessional will re-engage in attention and proximity with the student.

BENEFITS OF PARTICIPATION:

Benefits you may receive through the study are seeing more independence from your student(s) related to the study, and extra time and help in different areas from the paraprofessional in your classroom. Also, school districts may benefit from the research

because they can use the paraprofessionals in the schools among different areas of concern, and use the information gained from the research to show teachers as well as families with student(s) with disabilities the results prior to making inclusion-based decisions. If you are interested, we may also share results from the study with you and the paraprofessional.

CONFIDENTIALITY:

All information pertaining to the student and paraprofessional in your classroom will be kept confidential. All subjects will be referred to as a letter (i.e. Para A, Student A, Para B, Student B, and so on). During the consent process, we will inform the paraprofessionals that data will be shared with the school administration as an aggregated group; however, we will inform them that we cannot guarantee the administrators will not be able to decipher each participant's data. When disseminating data outside of the school system (i.e., manuscripts or presentations), we will assign each participant a pseudonym (e.g., Joe). The systematic observation recordings will be scored on an I-Pod Touch and then transferred into a password-protected spreadsheet, then deleted from the I-Pod Touch. Data gathered will be entered into a password-protected spreadsheet and stored in a locked office location. Results of the study will be made available to administrators and Stillwater Public Schools.

COMPENSATION:

There will be no payment or costs for participation in the study.

CONTACTS:

If you have any questions about the research or your child's participation in the research please contact Caroline Russel at (308) 631-2778 or csell@okstate.edu, otherwise you may contact Dr. Allan Allday at 744-8020 or allan.allday@okstate.edu. However, if your questions are about your child's rights as a research volunteer, you may contact Dr. Shelia Kennison, IRB Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-3377, or irb@okstate.edu.

PARTICIPANT RIGHTS:

The participation in this research is voluntary. There will be neither payment for participation in the study, negative effects if you choose to not participate in the study, nor penalties for withdrawing from the study. We understand that this request is out of the classroom schedule, and we would greatly appreciate your participation.

CONSENT DOCUMENTATION:

I have read and fully understand this consent form. I sign it freely and voluntarily. A copy of this form will be given to me.

Signature of Paraprofessional

Date

I certify that I have personally explained this document before requesting that the participant sign it.

Signature of Researcher

Date

Parent Permission Form for Research

Oklahoma State University

Dear Parent or Guardian,

My name is Caroline Russel, and I am currently a graduate student at Oklahoma State University. With the help of Dr. R. Allan Allday, a professor at Oklahoma State University, I will be conducting research at the Richmond Early Childhood Center. Our research, “The Effects of Decreasing a Paraprofessional’s Interaction with Students Labeled with a Disability”, will take place in the preschool classroom. This study will help determine if your child can stay on the same level of on-task behavior while time spent with the paraprofessional in the classroom is gradually reduced. Participating in this study may help your child gain personal success and independence within the classroom.

We will be observing in the classroom for 20-30 minutes each day for approximately 4-6 weeks. Researchers will not interact with your child while the study is being conducted. We will be working with your child’s paraprofessional in an attempt to gradually decrease the time spent near or interacting with your child. Before reducing interactions with the paraprofessional, we will observe how much time your child and the paraprofessional are interacting. Once this has been determined, we will gradually reduce the interactions by approximately 1-2 minutes per week. While interactions are decreased, we hope to see your child remain at similar levels of on-task behavior, while gaining more independence in school.

There are minimal known risks toward your child if they participate in the study. The researchers will not be in contact with your child. Also, your child's normal school day should occur while this study is taking place in the classroom, so no added stress to your student will take place. However, there is minimal risk on the students which are associated with the study, because the research will be limiting the interaction between the paraprofessional and the student which may cause increased distress in the student. If this does occur the paraprofessional will re-engage in attention and proximity with the student.

Through the information gained from the study we hope to get closer to meeting the needs of all the students in the classrooms. This study is seeking to benefit your child, children who work with a paraprofessional, as well as the school.

Your child's personal information will not be needed or given to others. The only information needed about your child will be their age and gender for description purposes. When observing or referring to your child, they will not be called by name but will be called Student A, or Student B, and so on. Also, in written information on the study your child will not be discussed individually but as a group consensus. The information gathered will also be locked in an office and will not be available to others. However, the information will be shared with the teacher, paraprofessional, special education teacher, the principal, and the Special Education Director.

If you have any questions about the research or your child's participation in the research please contact Caroline Russel at (308) 631-2778 or csell@okstate.edu. However, if your questions are about your child's rights as a research volunteer, you may

contact Dr. Shelia Kennison, IRB Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-3377, or irb@okstate.edu.

The participation of your child in this research is voluntary. There will be no payment for participation in the study, or any negative effects if you and your child choose to not participate in the study. You or your child may also stop participation in the study at any time without any penalties.

Signatures:

I have been fully informed about the procedures for the study.

I have read and fully understand this consent form. I sign it freely and voluntarily. I hereby give permission for my child _____ (print name), to participate in this study.

Printed Name of Parent/Legal Guardian

Appendix 3

Date: _____ Time: _____ Child Observed: _____ Observer: _____

		1	2	3	4	5	6	7	8	9	10	11	12
1	Student												
1	Distance												
1	Attention												
2	Student												
2	Distance												
2	Attention												
3	Student												
3	Distance												
3	Attention												
4	Student												
4	Distance												
4	Attention												
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8	Distance												
8	Attention												
9	Student												
9	Distance												
9	Attention												
10	Student												
10	Distance												
10	Attention												

<u>Student Behavior</u>		<u>Distance</u>		<u>Attention</u>
On-Task	+	0	Touch	T - Teacher
Off-Task	0	1	1 foot	P – Peer
		3	3 feet	
		5	5 feet	
		7	7 or more feet	

Summary Table

	Number	Percent
Student Behavior		
On-Task		
Off-Task		

Distance		
0		
1		
3		
5		
7 or more		

Attention		
Peer		
Teacher		

VITA

Caroline Russel

Candidate for the Degree of

Master of Science

Thesis: EFFECTS OF DECREASING PARAPROFESSIONAL INTERACTIONS ON
TASK ENGAGEMENT IN AN INCLUSIVE CLASSROOM

Major Field: Teaching, Learning, and Leadership

Biographical:

Education:

Completed the requirements for the Master of Science in Teaching, Learning, and Leadership in the option of Special education at Oklahoma State University, Stillwater, Oklahoma in July, 2011.

Completed the requirements for the Bachelor of Arts in Elementary Education at the University of Wyoming, Laramie, Wyoming in 2010.

Experience:

Presentations:

- Presented at the Oklahoma Council for Exceptional Children Conference: Simpson, R.G., Allday R.A. PIE- R²: The area of a circle and good behavior management. TEACHING Exceptional Children Plus, 4(4) Article 5.
- Sell C. and Simpson L.. Perceived Locus of Control and Learned Helplessness: A Comparison of Elementary Aged Students with and without Disabilities, August 2009, Laramie, WY, PowerPoint Presentation.
- Sell C. and Simpson L. Perceived Locus of Control and Learned Helplessness: A Comparison of Elementary Aged Students with and without Disabilities, Undergraduate Research Day, April 2009, Laramie, WY, Oral and Poster Presentation.

Related Work Experience:

- Graduate Research Assistant, OSU College of Education—Stillwater, OK. August 2010-May 2011

Name: Caroline Russel

Date of Degree: July, 2011

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: EFFECTS OF DECREASING PARAPROFESSIONAL
INTERACTIONS ON TASK ENGAGEMENT IN AN INCLUSIVE
CLASSROOM

Pages in Study: 47

Candidate for the Degree of Master of Science

Major Field: Teaching, Learning, and Leadership

Scope and Method of Study: A withdrawal design with a nested changing criterion design was used to study the task engagement of a student with developmental disabilities in relation to the proximity of the paraprofessional assigned to aid the student. The study's intervention sought to increase the distance between the paraprofessional and student while maintaining task engagement at the same levels as the student's nondisabled peers. To accomplish these goals, momentary time sampling was used during 20-minute observations of circle time in an inclusive preschool classroom. Task engagement and distance data were collected. Teacher and peer interactions were also recorded through partial interval recording. Once baseline data were established, distance between the paraprofessional and student was systematically increased. Performance feedback was discussed with the paraprofessional daily and the general education teacher periodically.

Findings and Conclusions: Results of the study showed that with systematic, gradual increases in distance from the paraprofessional, the student's task engagement levels were able to remain and surpass the level of his nondisabled peers (i.e., 70% of intervals during the 20-minute observation). Prior to the intervention, the student was engaged 72% of the observation, while the paraprofessional was within 3 feet of the student during 91% of intervals. By the conclusion of the study, the student was engaged 85% of the observation with the paraprofessional within 3 feet of the student during 18% of the intervals. It is clear from results of the study that the systematic increase in distance between paraprofessional and student did not negatively affect student performance. Additionally, the study showed that the paraprofessional to continue the behaviors of interactions.

ADVISER'S APPROVAL: Dr. R. Allan Allday
