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Use of peer buddies in adaptive physical education

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THE USE OF PEER BUDDIES IN ADAPTIVE PHYSICAL EDUCATION

by

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Dedications

I would like to dedicate this thesis to my students who motivate me to teach to my fullest potential each and every day and have inspired me to write this thesis in a movement to create a peer buddy program for their educational and social benefit. I would also like to dedicate this piece to a special friend of mine, Kristen, without you none of this would be possible. Thank you.

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Abstract

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The purpose of this study was to observe the participation levels of students with disabilities in an adaptive physical education class when typically developing students are included in the class as Peer Buddies. The goal was to observe if students' performance levels increased while performing with fellow peers. This study was undertaken to see the relationship between students with disabilities participation levels in an adaptive physical education class when peer buddies were integrated. A baseline test was completed in the beginning of the study and participation was observed through class activities as well as abdominal crunches. Data was observed and taken in week to graph the student's progression as peer buddies began increasing their level of involvement each week.

The results indicate that participation and abdominal crunches progression did overall increase with the peer buddies actively involved in the class dynamics. Through observation of the class it was evident that students were more eager to participate in class activities when a peer buddy was alongside of them performing the activity with them. Through this activity students also gained a social benefit in working with the peer buddies; students with disabilities gained friendships and confidence through this study.

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Chapter 1

Introduction

When students with disabilities participate in an adaptive physical education class they are supported by their teacher and sometimes a one-on-one or classroom paraprofessional. Having a peer or fellow general education student of the same age assist and encourage the student with disabilities can be a great asset to the class. To address this issue, it is significant to find out if students with disabilities perform at a higher ability with peers in an adaptive physical education class.

The use of peer buddies can be tested in an adaptive physical education class in many ways. Studying the use of a peer buddy system in an adaptive physical education environment is key to finding the student's highest ability level in adaptive physical education. When finding the students' highest ability level, it is important to see improvement and growth. Students will also be using this time to develop and cultivate their social skills with one another. Associating students with disabilities and general education students is a great way to enhance social interaction of both population and increase the awareness of disabilities.

Physical Education is a mandated subject for all students in a New Jersey public school to take each year they are eligible for schooling. Students of all intellectual and ability level are required to participate in some level of physical education. Students with learning or multiple disabilities often receive adaptive physical education based on their needs and Individualized Education Plan's. As the Colorado Department of Education states, the overall goals of general physical education classes can be defined as the

development of: physical and motor fitness; fundamental motor skills and patterns, and skills in aquatics, dance, individual and group games and sports. Adaptive physical education follows those same guidelines but applies specifically to students who have disabilities (Adapted Physical Education 2017). In adaptive physical education however; lessons and activities are modified to the needs as well as the ability level of the students in the class. Colorado's Department of Education also indicated that as a direct service, adapted physical education is provided to students who have needs that cannot be adequately addressed in the regular physical education program. In addition to adaptive physical education, other service delivery options include adaptive physical education collaboration and adaptive physical education consultation, specially designed physical education, modified physical education, and general physical education (Adapted Physical Education 2017). Adapted physical education gives students with disabilities a program to participate in physical education with more options and variety so they too can accomplish, learn, and succeed in the different sports related and fitness skills.

The responsibility for an adaptive physical education program lies within a trained and educated physical education teacher with a special education background. As the Colorado Department of education specifies, it is important for the teacher to complete comprehensive motor assessments of individuals with disabilities and making specific program recommendations. Since the teacher is continually assessing and monitoring the students' abilities they should also serve as an individual education plan member at individual education plan meetings (Adapted Physical Education 2017). A paraprofessional on the other hand is responsible for other obligations in the classroom. Many times a paraprofessional is most used for; implementing teacher-planned

instruction and supervising the student's behaviors, needs, and personal care. A peer buddy will also hold many responsibilities to allow students with disabilities to have the opportunity to obtain a cooperative learning environment in an adaptive physical education class. As Cozza (1992) stated peer buddies will provide positive interactions between the high school students and their peers with severe mental and physical disabilities through physical activity. Peer buddies will also be able to increase the students with disabilities' self-esteem and self-confidence to perform as well as develop physical and mental strength. Their role in the adaptive physical education class is to motivate, socialize, and advocate for the students with disabilities.

Students with disabilities have many different options for their schooling requirements. While assessing students' abilities and needs, the school must have the student placed in the least restrictive environment. Students who are educated in a self-contained classroom often have very little interaction with their non-disabled peers. An adaptive physical education class is prepared for students with disabilities and is also categorized as self- contained. Allowing both populations to make the atmosphere more inclusive can allow opportunities for more learning and growth from both the students with and without disabilities. The self-contained students can have the opportunity for a monitored least restrictive environment with peer buddies. Adaptive physical education requires the educator to compose lessons with endless motivating factors and opportunities of success for all students. While it is the responsibility of the teacher to plan and assess the class, a peer buddy can act as a role model by contributing a motivating factor for the students with disabilities. The paraprofessionals' role in an adaptive education classroom should primarily be to monitor their student or the class's

behaviors, comprehension, and focus. Holding the peer buddies accountable for the students with disabilities should have a positive reflection on the overall performance in adaptive physical education.

In this study, I measured the effort level of students with disabilities and their ability level when they are interacting with a peer buddy in an adaptive physical education class compared to when they are not. Since peer students have already been established in the classroom setting I measured the student's ability level to follow instructions and complete an activity in two environments. In the first activity they were participating in a normal adaptive physical education environment followed by a second activity where I added the peer buddy to guide the student. During this study, there were surveys and interviews conducted on the peer buddies, paraprofessionals, and the students with disabilities to understand the effect of the use of a peer buddy. It was hypothesized that by establishing this student and peer buddy bond students with disabilities would be more able to successfully maintain focus and complete class activities. Peer buddies gave students instruction and positive feedback as they were completing tasks. The main research questions tested throughout was; "Can the use of peer buddies in an adaptive physical education class improve the participation level of students with disabilities?" This question compared students' performance levels when they were assisted by a peer buddy compared to participating individually. The second question focused on in the study was, "How does the use of peer buddies impact the attitudes of typically developing peers towards individuals with disabilities." This question was answered through the findings from student surveys, observations, and interviews.

Key terms used in the study are listed as the following:

- Adaptive physical education- "Adapted Physical Education is physical education which has been adapted or modified, so that it is as appropriate for the person with a disability as it is for a person without a disability" (Adapted Physical Education National Standards 2008).
- Peer buddies- students with and without disabilities to work together in inclusive educational settings (Human Development Institute 2012).
- Inclusion- Regarding individuals with disabilities and special education, inclusion secures opportunities for students with disabilities to learn alongside their non-disabled peers in general education classrooms (Special Education Guide 2016).

From my experiences of implementing the strategy of inclusion in my classroom, my hypothesis is that students with all abilities will benefit from the use of peer buddies in an adaptive physical education class. Students with disabilities will enhance their participation levels through working with their typically developing peers. Having exposure outside of their self-contained classrooms will also increase their social interactions with others and the students with disabilities will also develop social skills to build upon for the rest of their life. Students of all abilities learn through observation and their peers, in this study, the use of peer buddies will allow students with disabilities to learn more effectively in their adaptive physical education class through their peers. Students in the general education population will also benefit from this program. Students will cultivate an awareness for the special education population. Typically developing students entering the world of adaptive physical education could be an evolution to the

performance levels of students with disabilities by incorporating inclusion in the classroom for more in class support and collaboration.

Chapter 2

Review of Literature

More and more students with disabilities continue to be included in general education classes alongside peers without disabilities (Cervantes, 2013). This is true of physical education classes as well as other subject areas. As a result, there is a need to create a learning environment for all students to enhance participation in physical activity. While striving to make efforts to modify activities and adapt the programs to facilitate their students' learning in inclusive settings, teachers are struggling to find ways to increase collaborative learning (An, 2015). Collaborative learning is defined as, "the instructional use of small groups so that students can work together to maximize their own and each other's learning" (Qi, 2012, 257-281). An (2015) conducted a study that explored inclusion practices in general physical education from the experiences and perspectives of elementary physical education teachers. As An (2015) states, there are three main themes that emerged from the thematic analysis of responses: engaging in learning, adapting strategies to meet students' needs, and moving beyond the educational goals (An, 2015). Even though many teachers in An's study expressed that they supported the idea of inclusion in general physical education classes, they felt that segregation was inevitable for some students with disabilities to learn and participate in general physical education programs. Many teachers felt that certain students learned better when she put them in a separated environment (An, 2015).

Inclusion in Physical Education

Hammond (1996) conducted research with students with disabilities who, he claimed, were not receiving the most appropriate physical education. These students were demonstrating little improvement or no improvement in locomotor development. Hammond's study describes a practicum designed to improve physical education services for six elementary students. In doing so Hammond used inclusion in a regular physical education class. Hammond found that inclusion, where students with disabilities received an individualized program within the regular setting, was the most appropriate method. After assessing different type of class environments with different populations of people; students with and without disabilities Hammond found that inclusion was the best mix. Hammond defined inclusion in physical education as adapted physical education within the regular physical education setting. Inclusion offered the students with disabilities an opportunity to interact socially with students without disabilities. The inclusive environment also offered the students with disabilities a more stimulating atmosphere to develop their physical skill levels. These students were able to participate in age-appropriate activities alongside peers without disabilities (Hammond 1996).

As An (2012) states, an inclusive education refers to a service for students with disabilities providing education in their neighborhood school and general education classes with supplementary aids and supports to assure the child's success academically, behaviorally, and socially. Appropriate physical education can be provided for students with disabilities. It is with strategies like inclusion in adaptive physical education that can help develop an array of teaching techniques, to individualize instruction, and to accommodate a wide range of abilities which will help not only those students with

disabilities but also those students without disabilities (Hammond 1996). Overall, inclusion is the idea that all students, with and without disabilities, should be educated within the same environment while meeting each child's educational and social needs no matter what their ability level is (Cervantes 2013).

Why Is This Important?

A student with a disability participating in general physical education will spend approximately one fourth to one third of a student's total time in meaningful motor activity. This is due to students' inability to independently stay focused on a task (Webster, 1987). Webster's study was to determine the influence of peer tutors on the academic learning time of moderately/severely mentally handicapped students in adapted physical education. "According to Qi (2012), physical educational services must be available to every child with a disability in order to comply with the requirement for a free and appropriate education. (Qi, 2012). General physical education, adaptive physical education, and inclusive physical education are different terms used in describing options for students to be engaged in physical education. In Qi's study he had an adaptive physical education course which included knowledge about disability and inclusive education as well as hands-on experiences with students with physical disabilities. Results indicated that the adaptive physical education course had a positive influence on the attitudes of the preservice physical education teachers toward students with disabilities (Qi, 2012).

It is the teacher's responsibility to provide all students with age appropriate activities and tasks that will help to promote the development of necessary functional

skills for the future. However, most students are not receiving equal opportunities for physical activity and social interaction in general education classes (Cervantes, 2013). Qi also found that previous studies suggest that strategies such as peer tutoring and cooperative learning can provide useful support within inclusive physical education. In Qi's review he was able to analyze empirical studies on inclusion in physical education over the past twenty years and then propose recommendations for future research.

A solution to this situation lies within creating a peer tutoring program, as Cozza (1992) did to promote positive interactions between high school students and their peers with severe mental and physical disabilities. This was also used to cultivate higher self-esteem and greater sensitivity on the part of all students regardless of abilities and disabilities; and to foster responsibility, confidence and pride for all students (Cozza 1992). As Cervantes (2013) describes peer tutoring, it appears to be a viable option for providing individual support and attention to students with disabilities while maintaining a quality of educational experience for peers without disabilities (Cervantes 2013). As Copeland (2002) has discovered through questioning and interviewing teachers of inclusion, exposing the general education students to the students with disabilities is an approach to allow students with and without disabilities help each other (Copeland 2002).

Challenges

Though peer tutoring offers many benefits to all people involved, there are also many challenges that may occur in the process. One the most frequently brought up issue revolves around scheduling and planning issues. Many times students with disabilities often get pulled out of their classes for other scheduled activities such as speech, physical

therapy, and other community based instruction. (Copeland 2002). This can cause an interruption to the peer buddies program due to the ratio of students and peers in the class.

Without proper training of the peer buddies, Copeland found that some of the peer buddies were trying to "do too much" for their peers as they were assisting. In Copeland's study peer buddies lacked adequate preparation for the support roles they were expected to fill. They were unknowledgeable of the course content and failed to monitor their partners' classwork consistently. After developing this program with a school Copeland had the following recommendations:

- Thoroughly screen general education students interested in becoming peer buddies
- Develop an active recruitment process
- Establish clear expectations for the supportive role of a peer buddy
- Remember that peer buddies are not educational assistances
- Enroll no more than two students with a moderate to severe disability.
- Talk with the class before bringing new students to be a part of it
- Model acceptance of and appropriate interactions with students with disabilities
- Involve students with disabilities in the same activities as their general education peers
- Increase the number of general education teachers providing peer support for students with disabilities in their classes

- Create a newsletter that includes ideas, activities, and stories related to experiences supporting students with disabilities (Copeland 2002).

Types of Peer Tutoring

Unidirectional, also known as one-on-one peer tutoring, occurs when one student is trained to serve as peer tutor to a student with a disability, utilizing the unidirectional type of tutoring in general physical education allows a student with disability to receive additional support and attention from a student without disabilities. In this situation both students, the student with and without a disability understand their role (Cervantes, 2013).

Reciprocal peer tutoring involves two or more students who are grouped together, preferably in a pair consisting of a student with and one without a disability. Each student in the pair monitors and evaluates the other, which provides a sense of equal status among participants. That is, the students with the disability has the opportunity to be tutor and tutee, exchanging roles with the peer without disability for each practiced skill or academic unit (Cervantes, 2013).

Cross-age peer tutoring involves an older student tutoring a younger student. This type of peer tutoring has been shown to be an innovative way to exploit classroom resources and encourage a more effective and dynamic experience for all students. This strategy distributes a way for all students to be partnered with one another. Instruction is not assigned, and students are able to switch from one partner to the next. Class-wide peer tutoring allows more practice time and increased opportunities to perform desired

skills accurately, therefore promoting the achievement of class-wide peer tutoring as an inclusive strategy (Cervantes, 2013).

When participating in a peer tutoring/buddy environment it is important to start out small- moving from simple to complex when implementing peer tutoring (Cervantes, 2013). Peer buddy programs may range from informal volunteer programs to formal programs. These programs may also be expanded from the classroom and participate in activities such as pep rallies, lunch, and outside of school functions (Copeland, 2002). However, no matter how invested the peer buddy/tutor is it is the role of the physical education teacher to contribute with a positive attitude. This factor is important in ensuring meaningful learning experiences of students with disabilities who are included in general physical education (Qi, 2012).

Peer Buddy System

Peer tutoring has been successful in a number of classroom settings and has been considered a viable alternative for teachers wanting to individualize instruction, this is why the peer buddy system can create a positive learning environment. Although few studies have been conducted to support its effectiveness, Webster (1987) states that the purpose of her study was to investigate the influences of peer tutors for increasing the academic learning time in physical education for moderately and severely mentally handicapped students (Webster 1987). According to Cozza (1992), peer tutoring can support students with disabilities:

1. To make a commitment toward a positive cooperative learning experience with a peer without disabilities.

2. To improve social skills and increase social interactions.

3. To develop a social network.

4. To function as a participating member of a high school and a community.

5. To increase his own self-esteem and self-confidence.

6. To make decisions for himself"

Providing the individual attention to students with disabilities would call for a significant increase in personnel. As many school administrators in Webster's study (1987) have sought alternatives to using already limited financial resources for employing additional paraprofessionals to ensure appropriate attention for students requiring individual instruction they have been able to successfully develop a strategy that is both financially and professionally adequate. The use of students as peer buddies is considered cost effective and still can provide additional support to teachers who must deal with students of varying ability levels (Webster 1987). Webster took three different students from three different schools and test their participation in adapted physical education through a baseline phase, with an untrained peer tutor, with a peer in training, a trained peer, and an experience peer tutor. Then compared their participation levels to one another.

There are many types of peer-assisted learning methods, such as collaborative learning and peer tutoring. These two methods combined have created the idea of a peer buddy program (Cervantes, 2013). Respondents in Copeland's review reported that receiving peer support may be an effective and relatively simple way for students with

disabilities to acquire some of the skills needed to become active members of the school community. The peer buddies program will model appropriate behaviors and have them engage in new social and interpersonal skills (Copeland, 2002).

With peer tutoring being considered one of the most widely known peer assisted learning method, it focuses on one peer taking on the role of tutor and the other is the tutee. The best part to using a peer buddy is that it is essentially free, and when implemented correctly it is a win-win teaching approach (Cervantes, 2013). While peer support programs such as peer buddies may offer ways to help students experience benefits and take an active part in everyday high school activities it also enables general education students rather than classroom teacher or a paraprofessional to provide support to students with disabilities. The type of support peers provide to students with disabilities may vary depending on the needs of the student with disabilities (Copeland, 2002).

Training

To successfully run an inclusive adaptive physical education program including peer buddies, it is important to have adequate training for all parties involved. Literature in Hammond's 1996 study showed that one of the main reasons inclusion failed was that those directly involved with the process were not adequately prepared. Proper training in communication, teaching strategies, assessment, and inclusion should be conducted to have the best practice. As Hammond states in her study, through adequate training the physical education staff developed a better understanding and acceptance of a student's individual differences. They learned to develop strategies that successfully and

meaningfully challenged each child (Hammond, 1996). Teachers in An's research study actively attended and engaged to learn about their students prior to their lessons by reviewing individual educational plan documents and communicating with other teachers (An, 2015).

Having teachers continue this education will provide an environment best applicable for peer buddies and students with disabilities to feel acclimated. Since teachers have to have regular in-service dates, providing time set aside to learn about this subject will benefit the teachers tremendously. In-service education in Hammond's study provided the ground work for the physical education staff to use the best integration practices and strategies for an inclusive physical education program. The training sessions included information on the new physical education program, instructional strategies, possible modifications, and accommodations, various teaching styles management techniques, routines, and safety procedures (Hammond 1996). Even An argues a critical component of pre-service and in-service professional development should focus on empowering general physical education teachers to gain the knowledge and skills necessary to manipulate the learning environment to be conducive to enhancing learning for all children, including students with disabilities (An, 2015).

There are many concepts that should be focused on during a training session regarding inclusion in the physical education classroom. The preparation for inclusion should include responding to the concerns, explaining the concept and practice of inclusion, discussing the major issues relating to creating an inclusive environment, describing the benefits for inclusion to all involved, and identifying resources and support personnel. Identifying the people involved in the practice is important. It takes many

people to make a program like this run smoothly. In order to determine the need for any modifications or accommodations a student needs it is important to identify the need for any additional resources. The teacher would need know acquire the knowledge to develop individual goals for the students, compare the individual goals to the goals of the regular physical education class (Hammond, 1996).

Cervantes (2013) stresses the importance of training and preparing peers, it is critical for the success of this strategy. Tutors must pay attention to various demands such as physical, instructional, and social components. Untrained peers may do more harm than good related to emotional and physical safety adequate instruction and feedback (Cervantes, 2013). Cozza (1992) had her study set up in such a way that typically developing students signed up for this program as a credited course. Students received ½ credit towards fitness and physical education requirement and ½ a credit as an elective. There was a syllabus and a grading system at the end of the program (Cozza, 1992). This aspect established a requirement and importance for the training to be a peer buddy. It is important to train at least three peer tutors per child with a disability; then peers can rotate and take turns each class. Cervantes suggests reciprocal peer tutoring should be used as much as possible so balance is established at all times (Cervantes, 2013). Typically developing students in Hammond's study were prepared for inclusion by discussing positive ways in which they could interact with and assist the students with disabilities in the physical education class (Hammond, 1996). Cozza recommends that training sessions should occur during lectures, such as role play activities and video demonstrations of teaching procedures. The literature also states that most training should

occur in the natural environment in which their peer activity participates (Cozza, 1992). Cervantes recommends ten important steps for training and implementing peer tutors:

1. Obtain permission from parents of tutor and tutee as well as from the administration.
2. Develop an application process.
3. Conduct disability awareness activities.
4. Develop communication techniques.
5. Teach instructional techniques.
6. Use scenarios,
7. Use behavior management programs.
8. Test for understanding.
9. Ensure that social interaction is happening.
10. Monitor progress (Cervantes, 2013).

If proper training of peer buddies is not established, there could be repercussions during the interaction of peers, both parties could be influenced. "If peers without disabilities serve only in the tutor role, an imbalance in the relationship between peers and students with disabilities may be formed" (Cervantes, 2013). Research has found that more appropriate social behaviors developed after relationships were developed with the general education students who provided students with disabilities with support. It also allowed for more individual instruction focusing on learning useful lifetime skills as a result of receiving support from peer buddies. Positive relationships between peer buddies and their partners with disabilities were mentioned by general and special education teachers in Copeland's study. A number of teachers commented that peer

buddies and partners became friends as a result of their interactions with one another (Copeland, 2002).

Typically Developing Students

Peer buddies provides general education students with opportunities to get to know peers with whom they might not have otherwise interacted with (Copeland, 2002). This program not only benefits the students in the adaptive physical education program but it also positively influences the typically developing students. The students in Hammond's study without disabilities gained a better understanding of their peers with disabilities and even learned to appreciate individual differences. These students learned how to successfully interact and assist with their peers with disabilities (Hammond, 1996). Friendships of students with and without disabilities within an inclusive physical education setting had even increased through Qi's study. Through Qi's research he found that a disability awareness program like peer buddies, had a positive effect only on general attitudes and not on sport-specific attitudes of students without disabilities. Specifically students without disabilities wanted peers with disabilities in their physical education class (Qi, 2012).

As Copeland suggested, general education students can provide a variety of supports for their classmates with disabilities in ways that decrease the amount of time teachers spend providing one on one support (Copeland, 2002). Even though Hammond found that students without disabilities in the physical education class were somewhat apprehensive about inclusion at first, once the program began all involved became more comfortable with the change. Hammond continues to explain that the students in the

general education population became very accepting and helpful. Many of them talked with the students with disabilities, provided feedback and positive reinforcement, assisted them when necessary, and helped to keep them on task (Hammond, 1996). Copeland's teachers agreed that the peer buddies assisted and interacted with the students, they were supportive in a manner that did not disrupt the classroom routine or draw attention to students receiving supports. A teacher in Copeland's study has reported that general education students in her class benefitted from seeing how interested their peer with a disability was in the subject matter and how he carefully used his time to complete assignments. (Copeland, 2002). Cozza believes that peer tutoring will provide the students without disabilities an opportunity:

1. To make a commitment toward a positive cooperative learning experience between himself and his peer with disabilities. As his peer learns, so will he.

2. To facilitate positive social interactions and growth between himself and his peer with disabilities.

3. To increase his own self-esteem and self-confidence.

4. To become a powerful advocate for individuals with disabilities. He will be our future politician, employer, neighbor and/or parent of an individual with disabilities.

5. To learn processes and difficulties of teaching. Thus, promoting a positive relationship between himself and his other teachers.

6. To explore careers in education and human service (Cozza, 1992).

Conclusion

Overall, many of the results of the peer buddy/peer tutor systems in the studies researched came out positive in that peer buddies were useful and accepted. There are many benefits that for peer tutoring, including is increased academic learning time in physical education. Cervantes (2013) also found that peer tutoring increases moderate-to-vigorous physical activity as well as enhanced motor performance. Findings also indicate that there is improved social interaction and social skill development through peer tutoring strategies. It is important to see the overall motivational levels, self-efficacy, and performance levels that develop with peer tutoring (Cervantes, 2013). Other positive findings come from Qi (2012) who concluded that students with disabilities can be successfully included in physical education when given proper support without any negative effect on students without disabilities. Through peer tutoring Qi found that positive attitudes were associated with female students and those who had experiences with a close friends or family member with a disability. There was a great change in attitudes from the typically developing students and the disability awareness of the school. The results had shown that the attitudes of students without disabilities changed in a positive direction over time due to frequent, positive interactions with their peers with disabilities. Qi's research found that the benefit of inclusion is that students with disabilities can gain from social interactions, particularly if such interactions are positive, frequent, and meaningful, and if equal status relationships are encouraged and formed (Qi, 2012).

Webster (1987) found that tutor training and final reversal phase data showed that students' mean percentages of participation were similar to values found during baseline

phases (Webster, 1987). Through teacher observations of students with disabilities in the physical education setting, Hammond confirmed that these students were not being served appropriately. Now with the help of peer buddies however, students were more active and engaged in the lesson. Fourteen of the eighteen specific outcomes that Hammond planned to achieve were met through the implementation of this practicum. Her goal was to improve the physical education opportunities for elementary students with disabilities. It was met through inclusion, an improved physical education curriculum, prior assessment, and adequate staff training (Hammond, 1996).

Another benefit that was reported for students with disabilities was enhanced personal growth. Teachers in Copeland's study noted that students who received support from peers seemed more independent and had greater self-confidence as they interacted with peer buddies. This increased self-confidence made students more eager and willing to participate in everyday high school activities with their peers (Copeland, 2002). Even An found that teachers' practices of inclusion in general physical education were constructed through dynamic interactions between teachers' knowledge of students' conditions, weaknesses, and educational goals and posed challenges and resources throughout the process of instruction (An, 2015). Overall the majority of benefits for students with disabilities were social-related, such as increased opportunities for interaction with general education peers and acquisition of age-appropriate social skills (Copeland, 2002).

Chapter 3

Methodology

Setting and Participants

This study was conducted in an adaptive physical education class at Lenape High School located in Medford, New Jersey. The class is a fifty-seven minute class period that meets three to four times a week depending on the day rotation. The class meets in the afternoon segment of the day after lunch.

There were ten students and five-six paraprofessionals in the class. Participants in the study were all eighteen years of age or older. Two were eighteen, three were nineteen, four were twenty, and one was twenty one. All students are considered to be in the twelfth grade. The class consisted of five males and five females. The students have a variety of disabilities. Three students classified as multiply disabled, one is classified as communication impaired, four students are on the autism spectrum ranging from low to high functioning and two students are classified as intellectually disabled- one is considered mild and one is considered moderate.

Three students have a one-to-one personal aide. There are others in the class that must have a 3:1 ratio of students and an aide. During class, depending on the number of students in class at that time, there is an average of six adults in the class including the teacher and the aides.

In the class of ten students there are many different medical disorders of which all staff must be alert for at all times. Four out of the ten students have a history of seizures.

One student has migraines which affects their behavior in class. A student in the class has a dietary support system in place; dairy products are the cause of reaction. Lastly one student has asthma and must carry a self-inhaler.

Procedure

The study began in the beginning of the school year when I started observing student's behavior, participation, and actions in class. I marked when students did and did not participate/ follow instructions in class. The baseline assessment was taken on the second week of school when students became familiar with their teacher, peers, and paraprofessionals in the classroom. Students in the adaptive physical education class were also aware of the classroom rules and expectations of the class.

The observation of the use of peer buddies lasted the next six months of the school year. Students were formally observed once a week for the length of an entire fifty seven minute class period. Students were observed in their adaptive physical education class on their participation in class and whether or not they were able to follow instructions the teacher was giving out. Students were ranked from zero to five. Five representing that the student always following instructions/participated, four representing that student participated/followed instructions most of the time, three representing that student participated/followed instructions some of the time, two representing that student participated/followed instructions very little of the time, one representing that student did not participated/followed instructions most of the time, and a zero four representing that student did not participated/followed instructions at all (see figure 1).

Date: _____ Activity:_____

Student Name	Score					
NAME 1	0	1	2	3	4	5
NAME 2	0	1	2	3	4	5
NAME 3	0	1	2	3	4	5
NAME 4	0	1	2	3	4	5
NAME 5	0	1	2	3	4	5
NAME 6	0	1	2	3	4	5
NAME 7	0	1	2	3	4	5
NAME 8	0	1	2	3	4	5
NAME 9	0	1	2	3	4	5
NAME 10	0	1	2	3	4	5

Figure 1. Participation/Instruction Chart Example

After six months of observation students spent at least two months working with their peer buddies. Students were slowly acclimated to their peer buddies in the class until they were working with them all of the class period. The teacher would then circulate the classroom observing the students and their peer buddies as well as providing further assistance in the class activity.

The peer buddies that participated in the programs were all volunteers who heard of the class through word of mouth from friends. All peer buddies were told what was expected of them. Expectations included:

- Coming to class each day to report for attendance; if they were absent they were to email me.
- While in class students were to not be on their cellular devices.
- Students were to socialize and interact with peers in the class.
- Students were to participate in the class activities along with their peers.
- Students were to assist students in class lessons and activities.
- Students were to treat their peers as equals
- Always have fun!

Once expectations were established, I introduced the peer buddies to the adaptive physical education class had them observe for the first week. Then I integrated them into the lessons and they interacted with their peers more and more each week as they got comfortable. The direct interaction of peers changed on a daily basis; the peer buddies did not participate with the same peer every day. In participating with different peers they were able to get to know everyone in the class and not feel stuck to one particular peer. Also, depending on the number of peer buddies, either due to absences or them getting work done during study hall, the class would have a different amount of peer buddies each day.

The number of peer buddies was not always consistent due to the students having study hall at the same time as the physical education class. On a typical day there were usually four peer buddies working with the class. Different concepts that the class is

based on are movement, sport skills and knowledge, and wellness. In this course the students also learn about the significance of fitness along with recreational games, activities, and sports to make them lifelong learners of physical activity. Units are based on skill components as well as fitness components; catching, throwing, striking, striking with a manipulative item, and overall cardiovascular fitness. Having these units in place structures what activities are planned. Activities the class engages in include: running on treadmill, walking on the track, biking, soccer, softball, basketball, and much more. These activities are performed in the adaptive physical education class with modifications and adaptations such as the instructions, rules, equipment, and environment can all be adjusted to the students' needs. These modifications allow students to participate in class without allowing their disability to influence their involvement in the class activity.

Variables

The independent variable was the use of peer buddies. The dependent variable was the participation levels among the students and the amount of effort they put into each activity. Other dependent variables were if they were or were not following class instructions to complete the objective of the class.

Chapter 4

Results

This study utilized group data to compare the effort and ability level of students with disabilities when they were and were not interacting with a peer buddy in an adaptive physical education class. The research questions to be answered were:

1. Can the use of peer buddies in an adaptive physical education class improve the participation level of students with disabilities?
2. How does the use of peer buddies impact the attitudes of typically developing peers towards individuals with disabilities?

Group Results

Figures 1-10 show the results for both the observed participation during adaptive physical education class and the results for performance level on abdominal crunches for each of the ten participants. In each of the ten figures there is an orange and a blue line that represents the student's progress through the twenty-five week period. The observed participation is shown in blue. Each student was scored on a scale of 0-5 each class period. The scores represented their participation level. The baseline data for participation and abdominal endurance was taken the first week of class. During the next six months, this twenty-five week period data was taken once a week during a fifty-seven minute periods. All ten students participated in the class activities and the abdominal crunch assessment. Each of the ten students' participation performance was evaluated at the end of each period by a numerical scoring chart once a week. During the twenty-five week intervention phases, the students continued to participate in the same learning activities as they did during the baseline phases, but each week students were integrated

to the peer buddies more and more. The abdominal crunches progression was also scored once a week. Students were told to do as many crunches as they could until they needed to stop.

Individual Results

Student 1 (figure 2) had a baseline score of 2/5 when their participation was first tested and finished the study with an average score of 2.8/5 and a median score of 3/5. This data averaging that the student participated 56% of the time in class. Student 1 also made a 650% increase of their abdominal crunches progress. Student started with maxing out with two crunches and by the twenty-fifth week maxing out with fifteen crunches. (See figure 2).

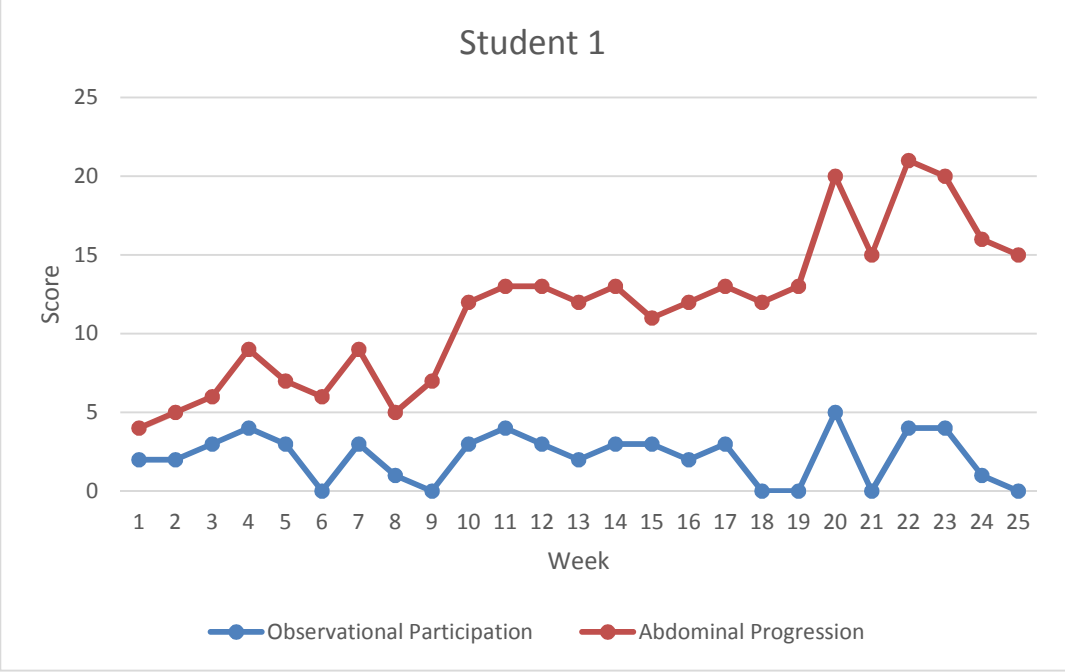

Figure 2. Student 1 Scores for Observational Participation and Abdominal Crunches Progression

Student 2 (figure 3) had a baseline score of 3/5 when their participation was first tested and finished the study with an average score of 4.7/5 and a median score of 5/5. This data averaging that the student participated 94% of the time in class. Student 2 also made a 230% increase of their abdominal crunches progress. Student started with maxing out with ten crunches and by the twenty-fifth week maxing out with thirty-three crunches.

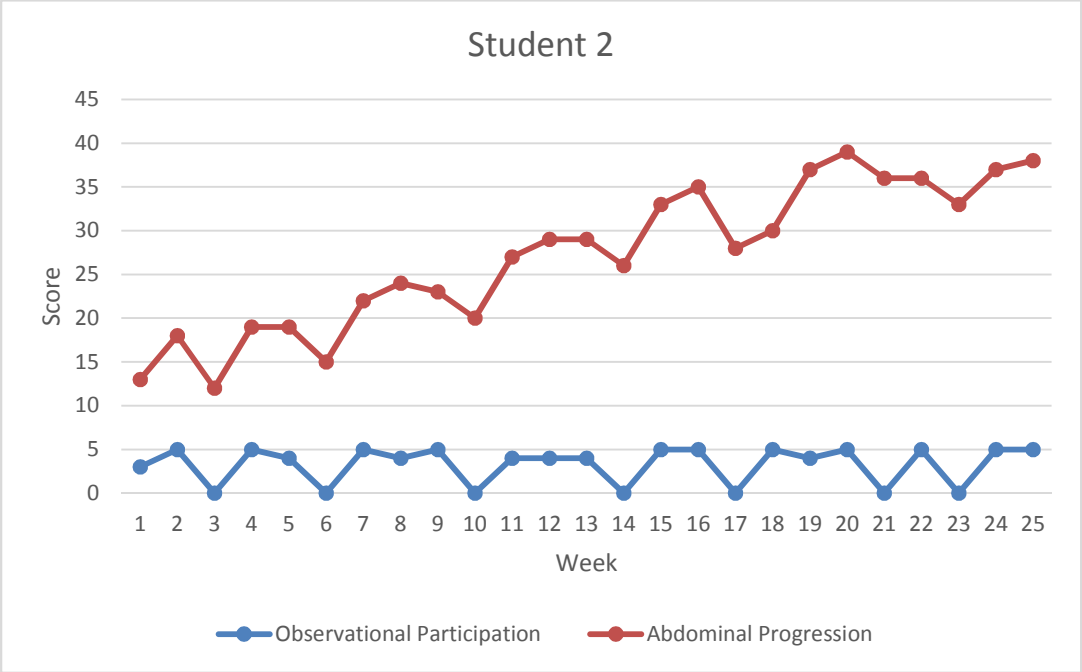

Figure 3. Student 2 Scores for Observational Participation and Abdominal Crunches Progression

Student 3 (figure 4) had a baseline score of 4/5 when their participation was first tested and finished the study with an average score of 4.6/5 and a median score of 5/5. This data averaging that the student participated 92% of the time in class. Student 3 also made a 193% increase of their abdominal crunches progress. Student started with maxing

out with fifteen crunches and by the twenty-fifth week maxing out with forty-four crunches. (See figure 4).

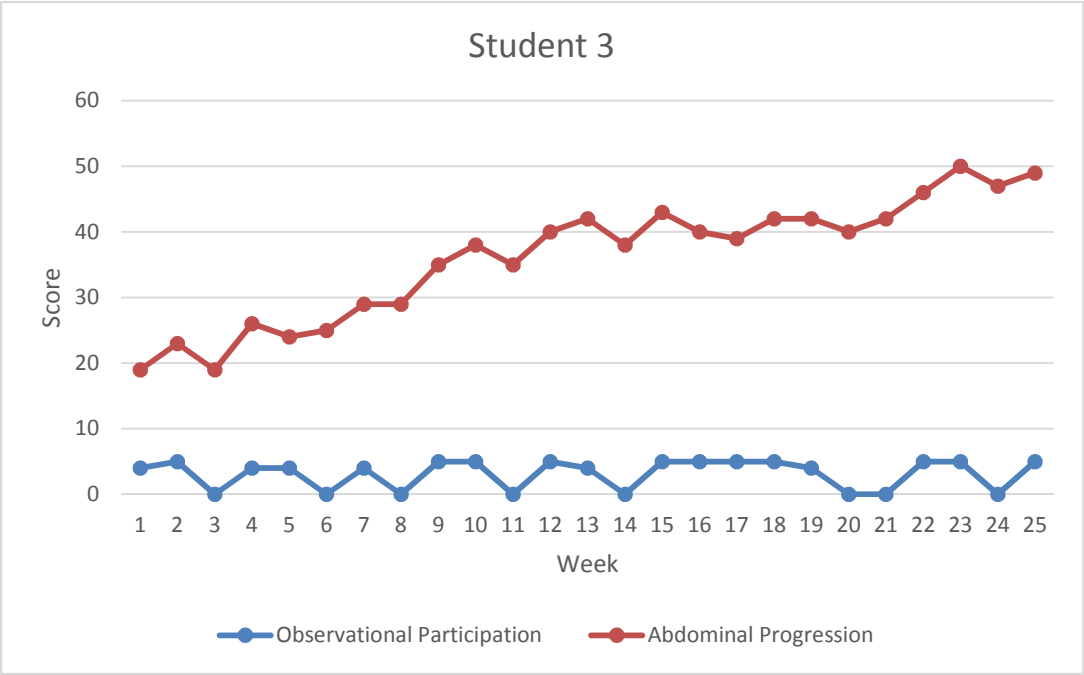

Figure 4. Student 3 Scores for Observational Participation and Abdominal Crunches Progression

Student 4 (figure 5) had a baseline score of 1/5 when their participation was first tested and finished the study with an average score of 3.2/5 and a median score of 3/5. This data averaging that the student participated 64% of the time in class. Student 4 also made a 300% increase of their abdominal crunches progress. Student started with maxing out with five crunches and by the twenty-fifth week maxing out with twenty crunches (see figure 5).

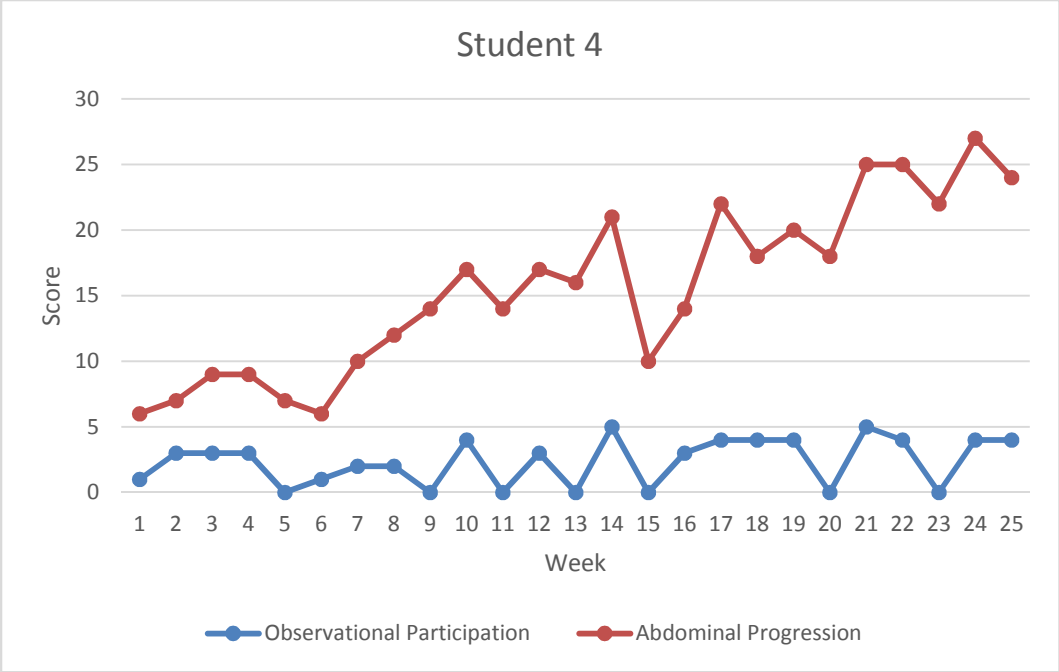

Figure 5. Student 4 Scores for Observational Participation and Abdominal Crunches Progression

Student 5 (figure 6) had a baseline score of 4/5 when their participation was first tested and finished the study with an average score of 4.4/5 and a median score of 4/5. This data averaging that the student participated 88% of the time in class. Student 5 also made a 357% increase of their abdominal crunches progress. Student started with maxing out with seven crunches and by the twenty-fifth week maxing out with thirty-two crunches (see figure 6).

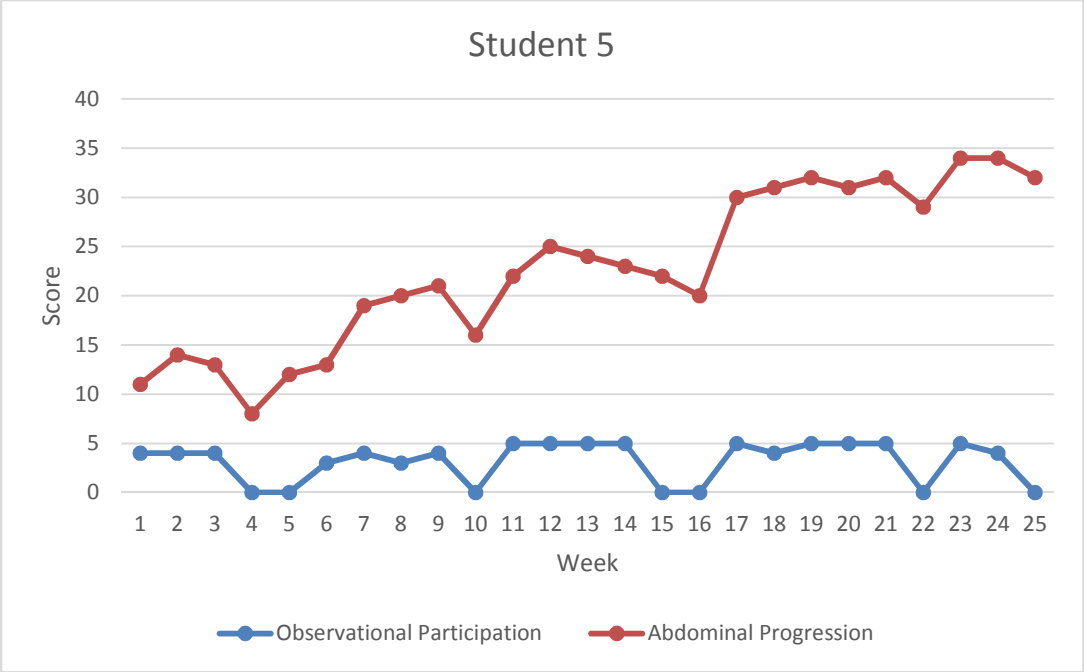

Figure 6. Student 5 Scores for Observational Participation and Abdominal Crunches Progression

Student 6 (figure 7) had a baseline score of 1/5 when their participation was first tested and finished the study with an average score of 2.8/5 and a median score of 3/5. This data averaging that the student participated 56% of the time in class. Student 6 also made a 400% increase of their abdominal crunches progress. Student started with maxing out with three crunches and by the twenty-fifth week maxing out with fifteen crunches (see figure 7).

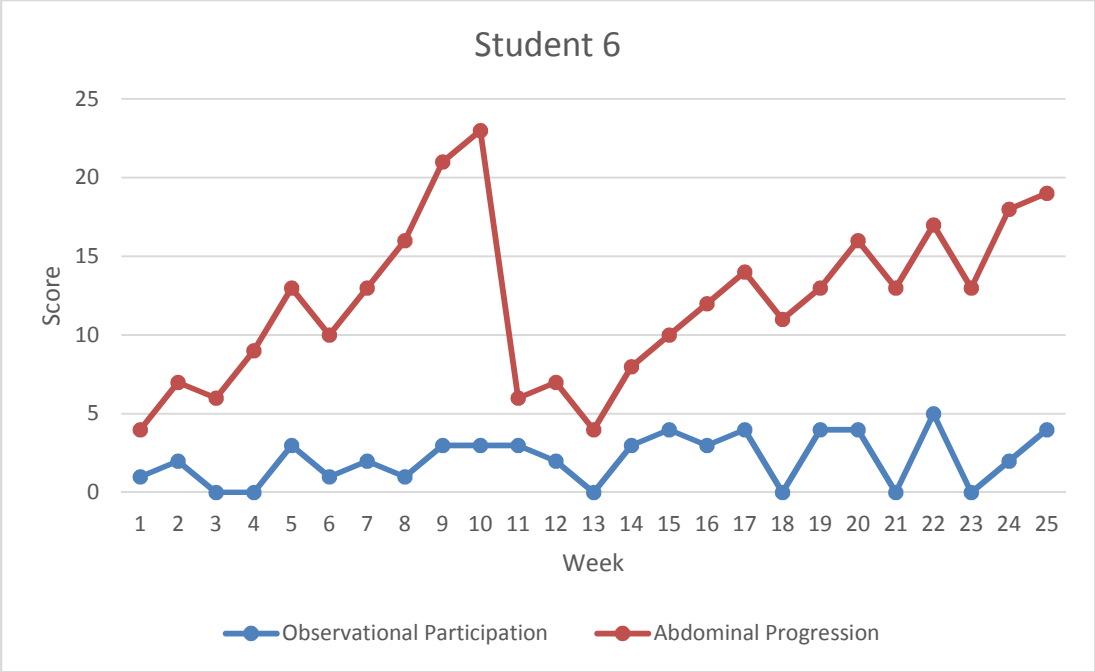

Figure 7. Student 6 Scores for Observational Participation and Abdominal Crunches Progression

Student 7 (figure 8) had a baseline score of 2/5 when their participation was first tested and finished the study with an average score of 3.4/5 and a median score of 3/5. This data averaging that the student participated 68% of the time in class. Student 7 also made a 750% increase of their abdominal crunches progress. Student started with maxing out with four crunches and by the twenty-fifth week maxing out with thirty-four crunches (see figure 8).

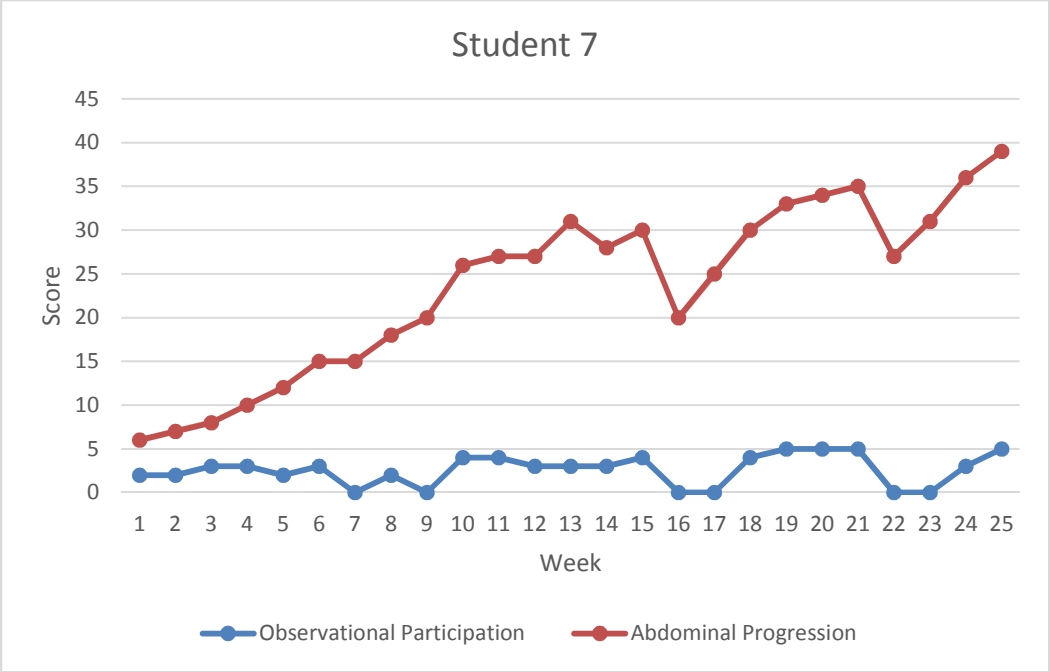

Figure 8. Student 7 Scores for Observational Participation and Abdominal Crunches Progression

Student 8 (figure 9) had a baseline score of 1/5 when their participation was first tested and finished the study with an average score of 3.1/5 and a median score of 3/5. This data averaging that the student participated 62% of the time in class. Student 8 also made a 560% increase of their abdominal crunches progress. Student started with maxing out with five crunches and by the twenty-fifth week maxing out with thirty-three crunches (see figure 9).

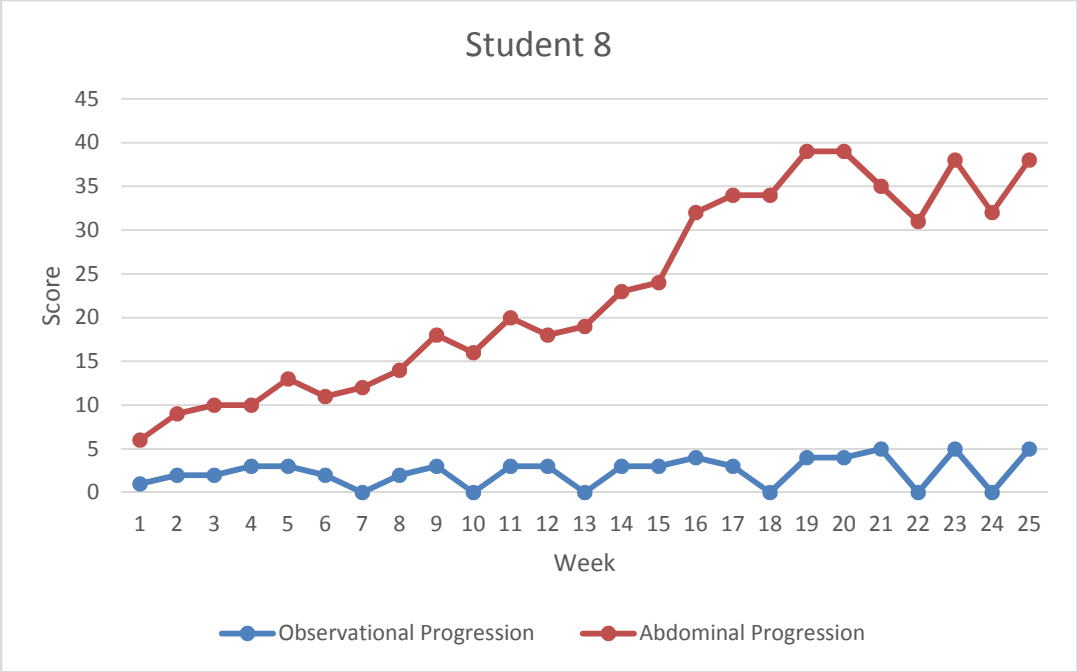

Figure 9. Student 8 Scores for Observational Participation and Abdominal Crunches Progression

Student 9 (figure 10) had a baseline score of 1/5 when their participation was first tested and finished the study with an average score of 2.9/5 and a median score of 3/5. This data averaging that the student participated 58% of the time in class. Student 1 also made a 540% increase of their abdominal crunches progress. Student started with maxing out with five crunches and by the twenty-fifth week maxing out with thirty-two crunches (see figure 10).

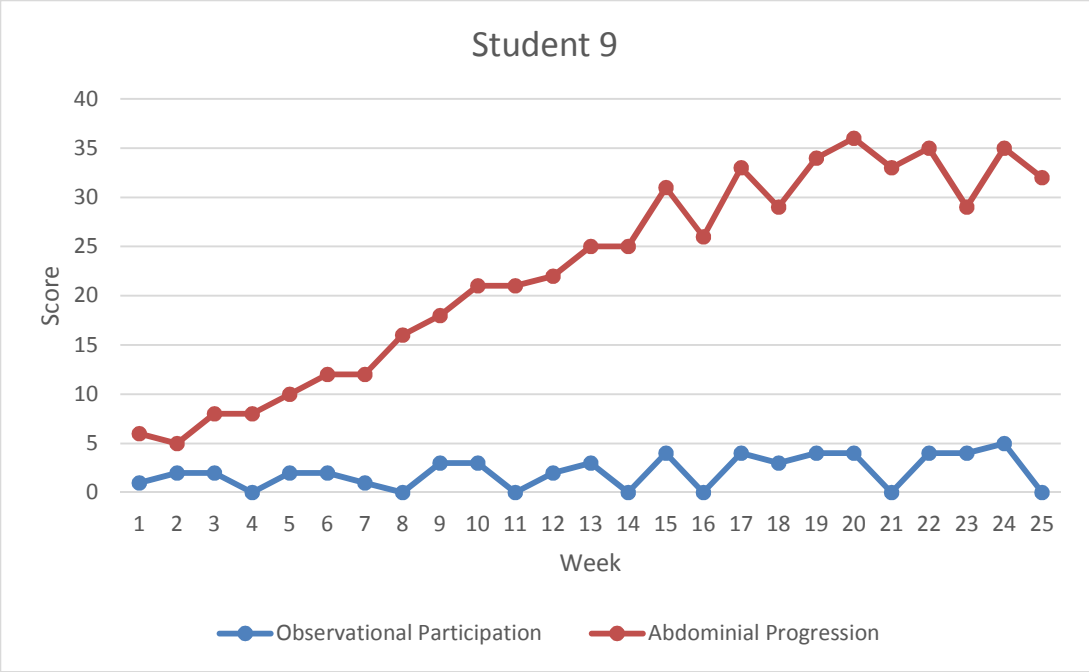

Figure 10. Student 9 Scores for Observational Participation and Abdominal Crunches Progression

Student 10 (figure 11) had a baseline score of 3/5 when their participation was first tested and finished the study with an average score of 3.9/5 and a median score of 4/5. This data averaging that the student participated 78% of the time in class. Student 1 also made a 177% increase of their abdominal crunches progress. Student started with maxing out with nine crunches and by the twenty-fifth week maxing out with twenty-five crunches (see figure 11).

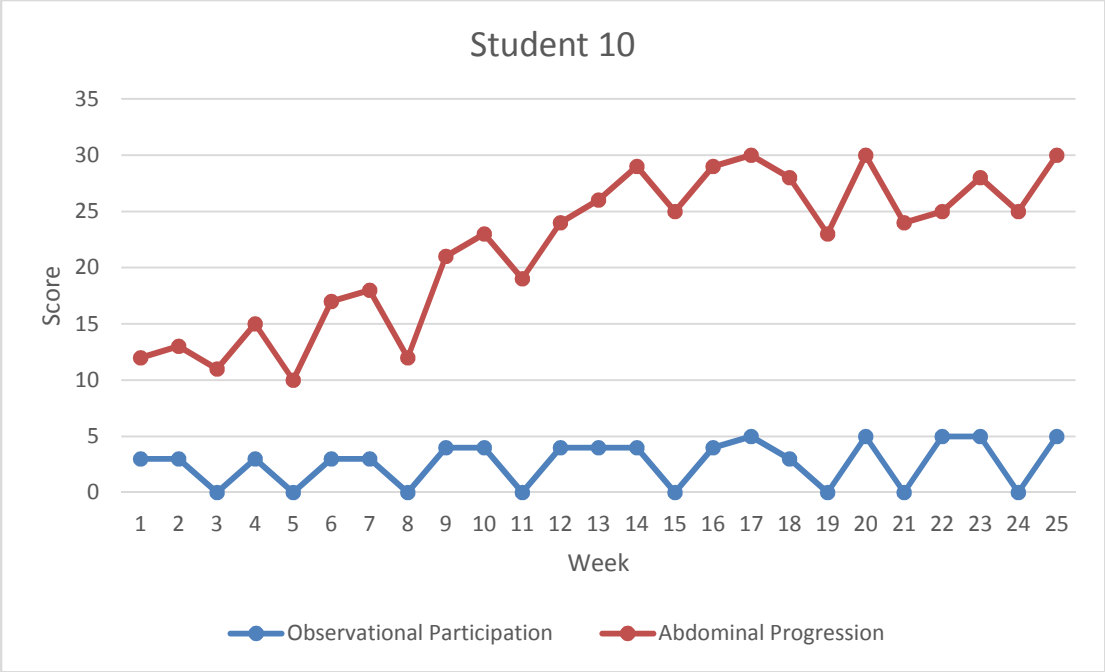

Figure 11. Student 10 Scores for Observational Participation and Abdominal Crunches Progression

Survey Results

Five peer buddies participated in the survey at the conclusion of the study. Eighty percent of the peer buddies strongly agreed that while working with the students with disabilities benefitted both parties. Sixty percent of the students also strongly agreed that a peer buddy program would be successful at Lenape High School. Out of the five students, sixty percent of peer buddies believed that social interactions between peers increases participation in physical education (See Table 1).

Table 1

Peer Buddy Survey Scores

Statement	Strongly Agree %	Agree %	Not Sure%	Disagree %	Strongly Disagree %
1. My perceptions towards people with disabilities has changed.	0%	60%	40%	0%	0%
2. I believe that social interactions between peers increases participation.	20%	60%	20%	0%	0%
3. Working with students with disabilities has not only benefit them but also myself.	80%	20%	0%	0%	0%
4. I believe that inclusion in the physical education would benefit all students.	40%	20%	40%	0%	0%
5. A Peer Buddy program would be successful at Lenape High School.	60%	40%	0%	0%	0%

Chapter 5

Discussion

This study examined the effort level of students with disabilities and their ability level when they were interacting with a peer buddy in an adaptive physical education class compared to when they were not. The ten participants in the study were students with disabilities in an adaptive physical education class. The class consisted of five males and five females. All students were classified as needing special services for adaptive physical education. All students were assessed in the beginning of the school year for their baseline effort level and the maximum number of crunches until failure. The students were then tested each week with the addition of more and more peer buddy interaction each week. Students were then monitored on their participation level when peer buddies were present as well as recording the number of crunches they completed as they progressed through out the school year.

All ten of the participants increased their abdominal crunches as a result of gaining core strength and motivation from the peer buddies. The overall percentage of participation in class was 56% and above from everyone in the class. This indicates that all students were participating the class activities at least more than half of the length of class. Students in the class also increased their maximum abdominal strength crunches over 170%-750% from their baseline scores. Each student made positive gains in their overall strength and participation level. Expectations for the study were that students would increase their participation efforts due to the increased level of peer buddy involvement in class. Six of the students scored with an average of 3/5 score on their overall participation at the end of the study and two of the students scored with an

average of 4/5 of their overall participation at the end. Only two students scored with an average 5/5 score of their overall participation level throughout the study.

At the end of the study peer buddies took surveys asking their opinions on a peer buddy program and the benefits of the program. Overall all the surveys came back positive. Eighty percent of the peer buddies indicate that the use of peer buddies not only benefitted the students with disabilities but also benefit them. Out of the five peer buddies two of them graduated Lenape High School and are now perusing an education in a field working with people with disabilities. The peer buddies also indicated that they believe a peer buddy program would be successful at Lenape; with sixty percent strongly agreeing with this statement. With the positive feedback from the peer buddies I have now received emails of interest to participate in the program next school year. This will now be the starting point to a wonderful inclusive environment in the adaptive physical education environment.

Previous Research

The results of this study are similar to those of Qi (2012) which had shown that the attitudes of students without disabilities changed in a positive direction over time due to frequent, positive interactions with their peers with disabilities. Qi (2012) also found that students with disabilities can be successfully included in physical education when given proper support, similar to the results found in this study as participation increased the more peer buddies were included in class. The exposure of the peer buddies in class not only increased the students' with disabilities participation levels but also their abdominal crunches and social engagement with the peer buddies.

A study conducted by Cozza (1992) stated peer tutoring can provide students with disabilities many benefits in their educational and social status. He stated that there were many benefits directed toward student growth but some of the most impactful dependent on this study were to improve social skills and increase social interactions, function as a participating member of a high school and community, and to make decisions for themselves (Cozza, 1992).

Utilizing previous studies of inclusion and the peer buddy system, the combination of the two was the overall intent of the study. Incorporating five typically developing students in an adaptive physical education class as a peer buddy system then lead to a class room of inclusion. After analyzing the student survey taken by the typically developing students there were many positive conclusions of how the study when. The peer buddies all agreed that a Peer Buddy program would be successful at Lenape High School with 60% strongly agreeing and 40% agreeing.

Limitations

Limitations in the study revolved around the data collecting. The class consisted of ten students with disabilities, seven paraprofessionals, five peer buddies, and myself. While there was more than enough supervision, the limitation in the study lay within the safety of the students while I was observing their participation level. I believe I was too informal with the data and should have been clearer. As the teacher, giving the students an observational score of a zero through five may not have signified the students' actual level of participation since the class was fifty-seven minutes long. Due to this lack of information, I believe the data is limited to my teacher perspective and not the overall

participation levels. It was also unclear if students increased their abdominal crunches progression due to the motivational factor of the peer buddies, if they were gaining more endurance strength, or a combination of both. Overall, it was a difficult task of teaching the class as well as collecting data and making observational notes about each students' performance levels. This type of information would be better off in the hands of an outsider looking into the class instead of the teacher of the classroom.

Another limitation was that throughout this study a consistent factor was the attendance of the students in the adaptive physical education class. Students enrolled in the class were also enrolled in structure learning experience. In this program students would be assigned a job site and go to work this this site three times a week for three hours of the school day. They would be provided transportation to and from their work site, then when they return the students would follow their class schedule. Having students absent so frequently in class would interrupt the data collection and leave students with inaccurate data. For example, a student may have missed every other data collection day and then I would be unable to observe their progression in participation with the peer buddies in adaptive physical education accurately.

Another limitation of the study involved Lenape School District's rotating wheel schedule. This rotating schedule allows students to see six out of the eight classes a day as well as classes occurring at different times of the daily. For example I would sometimes have this class immediately after lunch while other times I had them at the end of the day. The inconsistent routine enabled many students' motivational levels to diminish. For example, students after lunch were often too full to want to run and participate in class whereas at the end of the day students' attitudes towards class would

fluctuate due to their emotional and exhaustion level by the end of the day. Some students would come into the last period of the day extremely exhausted and generally done for the day while other students were so excited and full of energy to end their day with physical education.

Practical Implications

I believe that peer tutors can be beneficial to any classroom environment. Experiencing peer tutors in physical education goes beyond the walls of subject comprehension, however; it opens the gates to lifelong learning as physical activity should be used throughout one's entire life. Using peer tutors in an adaptive physical education class focuses on many skills, such as social, comprehension, listening, eye contact, strength, flexibility, cooperativeness, teamwork, success, defeat, and of course collaboration. These skills mentioned are just some of the many characteristics learned through peer tutors. The admirable part of this program is the fact that it is not only the students with disabilities learning from this process but the typically developing students are also gaining experiential knowledge.

To use peer tutors in the classroom, the program would have to be introduced to the school and school board for approval. There are many approaches on how students can become a tutor. Options include: volunteering, credit completion, replacing a physical education class, or becoming a club. All of these options give the peer tutor students the opportunity to work in an inclusive environment. The teacher would have to establish clear expectations of the peer tutors with clear instructions, goals, and rules to follow. Students will also be accountable for completing a training process to find

themselves prepared to engage in the classroom with students with disabilities. Overall, the main implication that would need to be recognized is the interaction with the student with disabilities and ensure all students understand that they are equal and participating in the class just as the rest of the students, no matter what their ability level is.

Future Studies

Future studies should focus on the on task behavior of students with specific number measurable data instead of focusing on observing participation levels. While this was measurable data, the observation of the group made this research based on my opinion of their participation; instead the data should be based on goals and benchmarks that the students reached. This would enhance the research completed in the study and provide more information regarding the use of peer buddies. In the future I also believe that the peer buddies should be accountable for more than just attending adaptive physical education and participating with the students with disabilities. Even though the students who volunteered to be peer buddies were exceptional participants, I believe if the peer buddies were given credits and a curriculum to follow their participation and level of assistance would be more attentive and focused. In the future for data purposes, I believe collecting data on ten students with disabilities was challenging because they all have a variety of needs with different goals in adaptive physical education. Conducting this study on a smaller group may have given the results a clearer perspective of the use of peer buddies and the overall effectiveness of their participation levels.

Conclusion

In conclusion, the following questions were the focal points of this case study; "can the use of peer buddies in an adaptive physical education class improve the participation level of students with disabilities?" and "how does the use of peer buddies impact the attitudes of typically developing peers towards individuals with disabilities?". The first question was answered through a series of observational data collection once a week through the students overall participation in class as well as their abdominal crunches progression throughout the course of a five month period. These results as well as observational opinion show that students' participation levels were benefited when peer buddies were present during their adaptive physical education class. Students were more engaged in the class's lessons and objectives. Peer buddies in the classroom also positively effectives the class's social interaction with peers. It was evident that the students with disabilities enjoyed socializing with their typically developing peers as well as learning side by side from one another. The second question was answered through a peer buddy survey taken at the end of the study's duration. This survey was a representation of the five volunteer peer buddies in study which positively expressed the benefits of using peer buddies in the classroom. Peer buddies not on expressed their opinions of a peer buddy program through a survey but they also expressed their passion and enjoyment of participation in the program with their endless smiles and encouragement they gave the students in the adaptive class. Students also reflected their attitudes of working with students with disabilities by consistently returning to volunteer each day of the duration of the study and collaborating with students with all abilities and inclusively working with their peers. Overall, the use of peer buddies at Lenape High

School was a positive experience for all participants. Students of all abilities working side by side of one another in a physical education environment enhances participation and socialization levels. Students benefit while working with their peers academically, physically, and mentally; the experiences in a peer buddy classroom will translate to experiences after high school where students will feel confident and inclusive in all working environments.

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