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**The Benefit of Using Peer Buddies in Adaptive Physical Education**

By  
Julie Anne Cairone

A Thesis

Submitted to the  
Department of Interdisciplinary and Inclusive Education  
College of Education  
In partial fulfillment of the requirement  
For the degree of  
Master of Arts in Special Education  
at  
Rowan University  
May 8, 2019

Thesis Chair: Margaret Shuff, Ed.D.

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## **Abstract**

Julie Anne Cairone  
THE BENEFIT OF USING PEER BUDDIES IN ADAPTIVE PHYSICAL  
EDUCATION  
2018-2019  
Margaret Shuff, Ed.D.  
Masters of Arts in Special Education

The purpose of this study was to observe the participation levels of students with disabilities in an adaptive physical education class with the addition of typically developing students in the class as Peer Buddies. The goal was to observe the students' participation levels prior to the introduction of the Peer Buddies then again after the introduction of the Peer Buddies. There were thirteen typically developing students who were the peer buddies and fourteen students with disabilities in the adaptive physical education class. The thirteen peer buddies took a survey before being introduced to the adaptive physical education class and a survey at the end of the twelve weeks. The baseline test was completed in the beginning of the school year for twelve weeks as the participation levels were observed through class activities. Data was observed and taken on a weekly basis that lasted twelve weeks to graph the students' progression as peer buddies level of involvement increased each class period.

The results indicate that participation levels did increase overall with the peer buddies being actively involved. Through the observation during the class periods it was evident that the students with disabilities were more engaged and eager to participate in class activities when the peer buddies were presently participating in the activity with them. Both groups of students with and without disabilities gained many benefits from their participation in this study.

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## **Chapter 1**

### **Introduction**

When students with disabilities participate in physical education class, they are normally participating in adaptive physical education. In adaptive physical education, the students with disabilities are monitored by their teacher and sometimes a classroom paraprofessional working as a one-on-one. During the adaptive physical education class, students with disabilities usually do not interact with their same-aged general education peers. With the growing legislation of placing students with disabilities in the least restrictive environment with their general education peers, students in the adaptive physical education class should be interacting with their same age peers. Having peers or fellow general education students of the same age assist and encourage the students with disabilities can be a great asset to the class. To address this issue and continue to work toward inclusion for students with and without disabilities, it is important to find out if students with disabilities perform at a higher ability with their non-disabled peers compared to working with paraprofessionals in an adaptive physical education class. There are many ways to test to see if a system with peer buddies is beneficial to students with disabilities. The study would not only focus on finding the student's highest ability level but it would also measure to see improvement and growth physically and socially. Students with disabilities and students without disabilities would be working on their social skills and learning to interact with students who are different from one another. The interaction of students in an adaptive physical education class is a great way to enhance social interaction and increase the awareness of all types of disabilities.

In the state of New Jersey, physical education is a mandated subject for all students. Students of all intellectual and ability levels are required to take physical education each year they are eligible for schooling. Adaptive physical education is often the appropriate placement for students with learning or multiple disabilities as it is able to be modified or adapted to the students' individual needs. As the Virginia Education Association states on their website, high-quality health and physical education programs help students succeed in life. Programs are offering students a well-rounded opportunity to develop their bodies and minds to gain skills that will propel them to succeed in both physical and academic aspects of education and life. Good health and physical education programs provide the structure and discipline that young people need to perform in school effectively, make positive choices in their lives, persevere to see a project through to the end and earn the respect of their peers. It starts in elementary school where students should build basic skills, such as skipping and hopping and work up to develop sports skills. Middle school students should continue to build physical skills while teaching students how to apply sports skills and basic sports strategies. High school students should review skills and begin to focus more on team-building and more in-depth sports strategy, along with coaching and officiating sports. All HPE (health and physical education) programs should include cross-curricular activities so that students are using multiple subjects during a class period to continue to work on other skills outside of the HPE class. This can be used during a physics class to see the trajectory of a soccer kick or a basketball free throw showing that math and physics have elements in the physical education class as well. One of the benefits that should never be overlooked is the psychological benefit. The psychological benefit has a positive effect directly correlated

with physical activity on self-image and self-confidence, and on promoting general feelings of health and wellness. Movement develops brain cells and stimulates the production of endorphins, body chemicals which help create feelings of happiness and calmness as well as ease stress and pain. If these are the benefits of a physical education class for general education students, it will be beneficial to bring these same elements into the adaptive physical education class for their peers with exceptional learning needs.

Adaptive physical education follows the same model of the curriculum as general physical education. The adaptive physical education (APE) curriculum allows students to work on a more individualized curriculum that focuses on each student's need, strengths, and interests. Students will be placed in adaptive physical education when the students who have needs cannot be adequately addressed in the regular physical education program. Other forms of adaptive physical education include adaptive physical education collaboration and adaptive physical education consultation, specially designed physical education, modified physical education, and general physical education. 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 Maine Department of Education states on their website, the responsibility for an adaptive physical education program lies within a trained and educated physical education teacher with a special education background. It is important for the teacher to complete comprehensive assessments of the individual with disabilities, making specific program recommendations. The teacher is continually assessing and monitoring the student's abilities. These recommendations should be a part of the individual education plan (IEP) and the physical education teacher

should attend the IEP meeting in order to explain the recommendations provided. A paraprofessional is also a very important member of the students' progression in the class. A paraprofessional can implement teacher-planned instruction and supervise the student's behavior, needs, and personal care. A peer buddy will also hold many responsibilities to allow students with disabilities to have the opportunity to participate in a cooperative learning environment in an adaptive physical education class. 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 and develop physical and mental strength. Their role in adaptive physical education class is to motivate, socialize, and advocate for the students with disabilities.

Students with disabilities have many different options for their school requirements but a lot of the time they are not placed in the least restrictive environment. The usual placement is a resource or self-contained classroom which does not allow for interaction with their non-disabled peers. An adaptive physical education class is prepared to have students with and without disabilities work collaboratively. Meaning that the adaptive physical education classroom can be categorized as a self-contained classroom or an inclusion classroom. Making the adaptive class inclusive allows both populations to have opportunities for more learning and growth in a more student-centered environment. The self-contained students can have the opportunity for a monitored least restrictive environment with peer buddies. Adaptive physical education requires the class material to have endless motivating factors and continuation of

modifications for opportunities for the success of all students. The responsibility of the teacher is to provide all students with age-appropriate activities and tasks that will help promote the development of necessary, functional skills for the future. Having peer buddies appears to be a viable option for providing individual support and attention to students with disabilities while maintaining a quality educational experience for peers without disabilities. Within the peer buddies structure, students are able to practice new components of a skill and receive immediate feedback on their performance. The paraprofessional's role is to help assist the teacher in assessing the students' progress and monitor their student or the class' behavior, comprehension, and focus. Having the peer buddies present and being able to hold them accountable for the student with disabilities physical activity and motivational level can enhance their overall performance in the class.

The purpose of this study is to measure the ability and motivational level of students with disabilities when they are interacting with a peer buddy in an adaptive physical education class compared to when they are not. The peer buddies in this study are from a general physical education class and do not usually interact with the adaptive physical education class. Prior to the first class where we will combine with the adaptive physical education class, the peer buddies will be shown how to interact and small motivational tactics when working with students with disabilities. This "training" will span out for four class periods prior to the first inclusive class. This will also give me and the adaptive physical education teacher the chance to monitor and measure the student's ability level to follow instructions and complete an activity in both environments. The first environment is when the students with disabilities are alone in their regular adaptive

physical education class and the second environment is when I added the inclusiveness of a peer buddy to guide and provide feedback to the student. “Peer tutoring will provide the students with disabilities an opportunity to: make decisions for themselves, develop a social network, and function as a participating member of a high school community” (Cozza, 1992).

This study was conducted by combining an adaptive physical education class and a general physical education class at Jackson Memorial High School, in Jackson, New Jersey. The class is an eighty minute class period that meets two to three times a week depending on the day rotation and how many days we are in school during that week. The class meets in the morning during the second period of the school day. In the adaptive physical education class, there are fourteen students and seven paraprofessionals. The number of students in the general education class is sixteen. Since my class is the general education class and they meet every other day there will be a gap every other day of the adaptive students having peer buddies one day and then the next not having peer buddies in their class. The different concepts the adaptive class is based on is movement, sports skills and knowledge, and wellness. In this course, the students will also learn about various lifelong activities. These units consist of skill components of fitness specifically cardiovascular fitness; throwing and catching, striking, and striking with a manipulative item. All of the activities will be planned with these units. More specific activities that the class participates in are running on a treadmill, walking the track, biking, soccer, softball, basketball, and much more. These activities are performed in the general physical education class as well as the adaptive physical education class just with modifications and adaptations to meet the needs of all students. The modifications and

adaptations can be to the instructions, rules, equipment, and environment. These modifications allow all students in the adaptive physical education class to participate without allowing their disability to influence their level of involvement.



## **Chapter 2**

### **Review of Literature**

Inclusion, an educational movement to maximize the participation of and support the needs of students with disabilities in general education programs, is a critical issue in the United States (An, 2015). Inclusion is a broad idea that all students, with and without disabilities, should be educated within the same environment while meeting each child's educational and social needs. The idea of inclusion is more than just placing a child with disabilities in the general education classroom; necessary supports according to the child's needs for an adequate and appropriate educational experience must be provided. This statement is true not only for the core subjects in education but for physical education as well. As a result, there is a need to create a learning environment for all students to enhance participation in physical activity. (Cervantes, 2013) General physical education (GPE) teachers must be able to create and implement a curriculum that employs strategies to be able to facilitate effective instruction for students of all abilities. 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). A study conducted by An (2015), 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.

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.

### **Inclusion in Physical Education**

According to Rider(2013), "students with special needs are now included in all supportive fields of education; such as General Physical Education (GPE) have expanded with the addition of Adaptive Physical Education (APE) in order to fully accommodate the physical and developmental needs of all students." Inclusion-based GPE has opened the door to more social interaction between general education students and students with special needs. From a study done by Goodwin & Watkinson, 2000 stated in Rider (2013), research reveals that social interaction and acceptance is an important aspect of how students view their inclusion settings, however, they also describe how inadequate social interaction with general education students can lead to social isolation for students with special needs. Rider (2013) specially researched the relationships involving general education students assisting and socially interacting with students with special needs. Within the findings from the study found that both general education students and students with special needs were positively affected by the interaction in the GPE class. The positive interactions produced a successful environment of inclusion for students with special needs.

In the study, "Developing and Implementing a Physical Education Program that Improves the Physical Education Service to Students with Disabilities at an Elementary School through Inclusion" conducted by Hammond (1996) was done to offer a stimulating inclusive atmosphere for students with disabilities to interact socially with

their peers without disabilities to develop their physical skill levels. This helping the students without disabilities to gain a better understanding of their peers with disabilities and learn to appreciate individual differences. The reasoning for conducting the research with students with disabilities who, he claimed, were not receiving the most appropriate physical education. Hammond's study describes a setting designed to improve physical education services for six elementary students using inclusion in a regular physical education class. After assessing different types of class environments with different populations of people; students with and without disabilities, Hammond found that inclusion was the best placement.

As described in the study done by Hammond (1996) there were a number of source leading to the problem. The source of focus was most of the students with disabilities were placed in regular physical education class without adequate support and had to follow the existing curriculum that was designed for students without disabilities. Stated later in the study this problem was due to lack of training for the regular physical education teacher, paraprofessionals assigned to the students, and regular physical education students. The regular physical education teacher and paraprofessionals attended the proper training so they would have better understanding and be prepared to modify or adapt the physical education curriculum as needed for each individual student. The physical education teacher and paraprofessionals prepared the regular physical education students for inclusion by discussing positive ways in which they could interact with and assist the students with disabilities during the class. In the beginning of the study the students with disabilities were somewhat apprehensive about the inclusion but once the program began all involved became more comfortable with the change. Many of the

students without disabilities became very accepting and helpful as they began to talk with the students with disabilities, provide feedback and positive reinforcement, assisted them when necessary, and helped to keep them on task. 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 Inclusion and Peer-Assisted Learning Important?**

As a result of the legislation, specifically PL 94-142, the Education for All Handicapped Children Act, and its subsequent reauthorizations, called the Individuals with Disabilities Education Act, students with disabilities are being more fully integrated and included in regular education and physical education classes. Sherrill (1994) estimates that 95% or more of students with disabilities are in regular physical education classes (Houston-Wilson, 1997). Several benefits have been associated with inclusion. These benefits include an environment that is more stimulating and motivating and an opportunity to develop social skills and engage in age-appropriate activities with age-appropriate peers. Students with special needs rarely interact with general education students in social situations and students with special needs engaged with general education peers only 2% of social talk time during GPE (Rider 2013). The lack of social interaction has to do with the students with special needs being isolated during skill sessions or game play in GPE because they are seen to need more specific instruction or time working on their sports skills. 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 unable to independently stay

focused on a task (Webster, 1987). Cervantes 2013 states, “Teachers, including general physical education (GPE) teachers, must develop ways to meet the demands of the diversity that results from today’s inclusive environments.” In order to address these increased challenges of meeting the individuals’ needs in GPE, teachers must be able to employ strategies that can facilitate effective instruction of students of all abilities. Many of the students with disabilities are provided with a personal paraprofessional/para-educator in order for the student to be successful in GPE. In today’s economy and growing number of students being included in GPE or other general education classes, the paraprofessionals may be stretched amongst a few students in the same class. Having the paraprofessional stretched thinly, it does not allow for each child to receive the proper attention or instruction the individual may need. A solution to this problem that many studies have been conducted in GPE and other general education classes is the use of peer-assisted learning. Peer-assisted learning helps the class to be focused on student-centered learning.

Ayers (2013) reviewed a study, conducted by Wiskochil, et al (2007), which examined how peer tutors affect visually impaired students’ academic learning time in physical education (ALT-PE) scores, compared the effects of trained and untrained tutors, and compared the effects of peer tutors on visually impaired students’ performance of open and closed activities. In this study researchers found that all tutees increased their ALT-PE mean percentages with the intervention of same-aged, same-gendered peer tutors. This study has demonstrated that peer tutoring can have a positive effect on the ALT-PE scores of students with visual impairments in general physical education classes. Peer tutoring has found to be an effective and cost-efficient means of

improving ALT-PE scores for visually impaired students. Ayers (2013) suggests “to reduce the gap between the ALT-PE scores of visually impaired students and their sighted peers, physical educators should consider training sighted peer tutors in the use of appropriate teaching and feedback techniques (i.e., verbal instruction, skill demonstrations, feedback, and physical guidance) to increase visually impaired students’ ALT-PE scores.

### **Peer Tutoring Program Challenges**

There are many benefits of peer tutoring for the tutor, tutee, and professionals involved. Everyone can gain positive relationships, enhanced personal growth, less disruption during class time, socializing opportunities for all students, role models can be formed, increased diversity in the classroom, assistance with instruction, and professional growth. With all of these benefits there also comes challenges of participating in a peer support program. The most frequently mentioned by general education teachers is related to scheduling and planning. Some teachers also commented that students with disabilities were regularly pulled out of their classes for other activities (e.g., community-based instruction), making it difficult to ensure that students received adequate instruction (Copeland, 2002). This can cause the class to be inconsistent and interruption to daily class time to the peer buddies program due to the ratio of students with and without disabilities.

Peer tutors who have not been adequately or properly trained to work with students with disabilities are typically unable to safely perform tasks or may inefficiently instruct students with disabilities (Yiep, 2016). Some teachers discussed challenges they faced when Peer Buddies lacked adequate preparation for the support roles they were

expected to fill (Copeland, 2002). In Copeland's study, one teacher remarked that Peer Buddies' lack of knowledge of course content limited the support they were able to provide. Other teachers mentioned that some Peer Buddies tried to "do too much" for the peer they were assisting and problems arose when Peer Buddies did not keep in mind what their role in the class entailed. In Yiep's review of evidence-based practices literature, the author compiled the best practice steps for the training and implementation of peer tutoring. These include:

- Obtain permission from the parents of both the tutor and tutee, as well as the administration.
- Develop an application procedure/recruitment process.
- Conduct disability activities awareness. The peer tutor needs a general understanding of the students' disability.
- Establish clear expectations for the supportive role of a peer buddy.
- Develop communication techniques with both terminology and ways to communicate.
- Teach instructional techniques including explanation, demonstration, physical assistance, and effective use of positive and negative feedback.
- Use scenarios and model acceptance of and appropriate interactions with students with disabilities.
- Ensure that social interaction is positive and supportive.
- Test for understanding and monitor progress.

## **Types of Peer Tutoring**

*Unidirectional* (one-on-one) peer tutoring occurs when only one student is trained to serve as a peer tutor to a student with a disability. Utilizing the unidirectional type of tutoring in GPE allows a student with disability to receive additional support and attention from a student without disabilities. An advantage to using unidirectional peer tutoring is that both students know their role (Cervantes, 2013).

*Reciprocal peer tutoring* often called bidirectional, this type of peer tutoring involves two or more students who are grouped together, preferably in a pair consisting of a student with and one without 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-wide peer tutoring* involves an older student tutoring a younger student. In GPE, an older student would come into the class to help a particular student with disabilities. A benefit to using cross-age peer tutoring is that the older tutor is typically more experienced, reliable, and responsible than same-aged peers. With the cross-age tutor, the younger tutee might behave and perform better than with a same-age peer (Cervantes, 2013).

*Class-wide peer tutoring* has been shown to be an innovative way to maximize classroom resources and promote a more effective and dynamic experience for all students. It is a bidirectional technique that breaks the entire class into pairs or small groups of four to six students. As the tutee performs each task, the tutor provides



feedback and records the number of correct performances. Each student in the pair or group is involved in the reciprocal roles of tutor and tutee. This strategy provides a way for all students to be partnered with one another. Class-wide peer tutoring allows more practice time and increased opportunities to perform desired skills accurately, therefore promoting success (Cervantes, 2013).

Before starting student participation in a peer tutoring program or environment, Cervantes 2013, suggests that GPE teachers start out small moving from simple to complex by selecting a small group of students or a single class to pilot the program. Since peer tutoring/peer buddy programs may range from informal volunteer programs to formal programs where many programs can be expanded outside of the direct classroom into pep rallies, lunch, and outside of school functions, it is important to have peer buddies put through proper training. Training can consist of disability awareness, instructional techniques, the use of behavior management programs, how to properly give effective feedback. The most important part of the peer buddy/tutor program is for everyone to contribute with a positive attitude.

### **Peer Buddies/Students without Disabilities**

Research has established that peer support programs offer benefits for both the students with disabilities and the typical peer involved in the peer support experience (Zascavage, 2007). Zascavage stated that pre-existing government findings establish that meaningful contact such as that found with interactive peer support groups result in more students choosing a career in special education. The ability to recruit special educators is a critical problem in the rural America and represents a threat to the reality of free and appropriate education. The findings from Zascavage's study support the statement made

by Hammond's study, students without disabilities gained a better understanding of their peers with disabilities and even learned to appreciate individual differences. Yiep (2016) reported observable social growth in peer tutors, and acceptance toward classmates with disabilities when teachers used a peer tutoring program. Tutors also mentioned that getting to know their tutee and helping them participate in physical education was the best experience in the study.

Although teachers and administrators typically think of general education students as being role models for their classmates with disabilities, teachers Copeland questioned noted that often these roles were reversed, and students with disabilities served as positive role models for general education classmates. One teacher, for example, related that general education students in her classroom benefited from seeing how interested their peer with a disability was in the subject matter and how he carefully used his time to complete assignments. As Hammond explained in his study that general education students were apprehensive about inclusion in the beginning, once the program began all involved became more comfortable with the change. The students in the general education population became very accepting and helpful as 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). Yiep believes that individuals can learn to be compassionate through working with persons with disabilities, because they learn to assist others and develop important social connections. Working with students with disabilities has social benefits for the peer tutor as it broadens the peer tutors' perspectives on inclusion and builds acceptance of unique abilities. Cozza (1992) determined a peer tutoring program will cultivate higher self-esteem and a greater

sensitivity on the part of all students regardless of their ability or disability. He especially believed that it would provide students with disabilities an opportunity to make a commitment toward a positive cooperative learning experience, increase their own self-esteem and self-confidence, and become a powerful advocate for individuals with disabilities.

## **Conclusion**

The overall outcome of many of the research studies on peer buddy/peer tutor systems had positive results. It highlighted the benefits for peer tutoring, including increased academic learning time in regular classrooms and physical education. Qi (2012) concluded that students with disabilities can be successfully included in physical education when given proper support with any negative effect on students without disabilities. In the beginning of Qi's study, the students without disabilities reported having negative attitudes toward students with disabilities. There was a positive change in the attitudes of typically developing students overtime due to frequent, positive interactions with their peers with disabilities. Copeland (2002) talks about the findings from her study that the students with disabilities have enhanced personal growth increasing their self-confidence making the students more eager and willing to participate in everyday high school activities with their peers. Additional findings from Copelands' study for students with disabilities were increased social and academic skills. Teachers reported a majority of the benefits were social-related increasing the opportunities of socialization amongst students with and without disabilities. That students with disabilities had often acted inappropriately in social settings before receiving peer supports, but used more appropriate social behaviors after they developed relationships

with the general education students. Other positive findings come from Cervantes (2013) study finding that peer tutoring increases moderate-to-vigorous physical activity as well as enhanced motor performance. Through peer tutoring it is indicated that the overall motivation levels, self-efficacy, and performance levels that develop with peer tutoring.

Ayers (2013), highlights the research from, Wiskochil, et al (2007), that all tutees increased their ALT-PE mean percentages with the intervention of same-aged, same-gendered peer tutors. This study has demonstrated that peer tutoring can have a positive effect on the ALT-PE scores of students with visual impairments in general physical education classes. Peer tutoring has found to be an effective and cost-efficient means of improving ALT-PE scores for visually impaired students. In the study done by Hammond, fourteen of the eighteen specific outcomes Hammond planned to achieve were met through the implementation of peer buddies in the practicum. The goal of the practicum was to improve the physical education opportunities for elementary students with disabilities. This was achieved through inclusion, and improved physical education curriculum, prior assessment, and efficient and successful collaboration between general education and special education teachers.

Another benefit found in many studies was the proper training of the peer tutors. Yiep (2016), discussed peer tutors who have not been adequately or properly trained to work with students with disabilities are typically unable to safely perform tasks or may inefficiently instruct students with disabilities. Some teachers discussed challenges they faced when Peer Buddies lacked adequate preparation for the support roles they were expected to fill mainly due to the lack of knowledge of the course content. In Copeland's study, other teachers mentioned that some Peer Buddies tried to "do too much" for the

peer they were assisting and problems arose when Peer Buddies did not keep in mind what their role in the class entailed. 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). In Yiep's review, she gave a detailed list of important steps to have a successful peer tutoring program. A few of the main ones were to conduct disability awareness for the peer tutors, use scenarios and model situations of appropriate interaction, ensure that social interaction is positive and supportive, and monitor the progress of the tutor and tutee. Having a peer buddy who is properly trained and adequately equipped to assist a student with disabilities will make a great difference in the progress the student with disabilities can have.

## **CHAPTER 3**

### **Methodology**

#### **Setting and Participants**

This study was conducted by combining two classes, one being an adaptive physical education class and second one being a general physical education class, located at Jackson Memorial High School in Jackson, New Jersey. The class is an eighty minute class period that meets two to three times a week depending on the day rotation. This class will meet in the morning during second period which starts at eight-forty and ends at ten o'clock.

There are fourteen special education students, ten paraprofessionals, and one adaptive physical education teacher for the adaptive physical education class. The students in the adaptive physical education class range in ages from fourteen to twenty-one and their grade levels range from freshmen to seniors. The class consisted of five females and nine males. The students have a variety of disabilities; seven of the students are classified as on the autism spectrum, one student is classified as having down syndrome, one student is classified as diplegic cerebral palsy, one student is classified as communication impaired, one student is classified as multiply disabled, one student is classified as other health impairment, and two students are classified as moderate intellectual disability.

Four students have a one-on-one personal aide. There are others in the class that must have a 2:1 ratio of students and an aide. The number of students and paraprofessionals will range daily depending on which students are taken out for speech

or occupational therapy. In the class of fourteen students, there are three students with a seizure disorder of which all staff members must always be alert for.

Then, there are thirteen general education students and one physical education teacher for the general physical education class. The ages for all of the students range from fourteen to twenty-one. The grade levels range from freshmen to seniors.

### **Procedure**

The study began in the beginning of the school year with the observation period of the students' behavior, participation, and actions in class. A mark or note would be made when students did and did not participate or follow directions in class. The baseline assessment began on the third week of school when the students become familiar with their teacher, peers, paraprofessionals, and routine in the classroom. Students in the adaptive physical education class were also aware of the classroom rules and expectations of the class.

The baseline data observation period lasted the first four months of school. The students were observed from the beginning of the class period to the end of the class period each day. The observation consisted of the students' ability to participate and follow directions that the teacher was giving out. The students were ranked on a scale from zero to five. Five represented that the student always followed instructions and participated without constant redirection; four represented that the student followed instructions and participated most of the time without redirection; three represented that the student followed instructions and participated some of the time without redirection; two represented that the student followed instructions and participated very little of the time; one represented that the student did not follow instructions or participate most of

the time; and zero represented that the student did not follow instructions or participate at all.

Date: \_\_\_\_\_ Activity: \_\_\_\_\_

<b>Student Name</b>	<b>Score</b>					
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
Name 11	0	1	2	3	4	5
Name 12	0	1	2	3	4	5
Name 13	0	1	2	3	4	5
Name 14	0	1	2	3	4	5

*Figure 1:* Instruction/Participation Chart Example



After two months of observation, the students spent two months cumulative working with their peer buddies. Students were slowly acclimated to their peer buddies in class until they were working together with them the entire class period. The teacher(s) would then circulate the classroom, observing the students with their peer buddies as well as providing further assistance in the class activity, as needed. The peer buddies were from a general education class that met during the same class period as the adaptive physical education class. They were a mix of students who were juniors and seniors and their ages ranged from sixteen to eighteen. The students in the general physical education class were asked, prior to the start of combining the two classes, if they would like to participate in the study/program. The peer buddies were trained prior to the start of combining the classes. The training mostly consisted of discussion with the general physical education teacher, instructional online videos, and role play situations.

All of the peer buddies were told what was expected of them. They were given a list of expectations prior to the start of the integration of the two classes. Once the expectations were established, the peer buddies were introduced to the adaptive physical education class and they observed the first two classes. They then were integrated into the lessons and interacted with their peers. The peer buddies and the students they helped would change each class period so they were able to get to know everyone. They also interacted with different students so the students with disabilities did not get used to one peer buddy if that peer buddy happened to be absent one day. The expectations included:

- Coming to class each day prepared for physical education.
  - If they were going to be absent, to let the teacher know ahead of time, if applicable.

- Students were to participate in the class activities along with their peers.
- Students were to set a good example for behavior and following directions.
- Students were to assist students in class lessons and activities.
- Students were to socialize and interact with all of their peers in the class.
- While in class, students were to not be on their cellular devices or have headphones in.
- And, most importantly, to have a good attitude and have fun!

The number of peer buddies was not always consistent due to students being absent. On a normal day with no absences, there would be thirteen peer buddies. Some of the different concepts that the adaptive physical education class is based on are movement skills, sport skills and knowledge, and overall wellness. In this course, students also learn about the importance of fitness along with the rules of recreational game activities and sports to encourage them to be lifelong learners of physical activity. Units are based on skills components as well as fitness components such as catching, throwing, striking, striking with a manipulative item, and overall cardiovascular fitness. Some of the activities the class engages in include: running/walking on the track or in the gymnasium, variations of yoga, soccer, softball, basketball, volleyball, and much more. These activities are performed in adaptive physical education class with modifications and adaptations as needed. For example, the instructions, rules, equipment, and environment can all be adjusted to each student's specific needs. These modifications allow students to participate in class to the best of their ability without allowing their disability to influence their involvement in the class activity.

**Variables**

The independent variable is the use of the peer buddies and 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 objectives of the class.

## **Chapter 4**

### **Results**

In this study, the group data was utilized 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. Does the use of peer buddies in an adaptive physical education class improve the participation and motivational level of students with disabilities?
2. Do the attitudes of the peer buddies working with the students with disabilities have an effect on the outcome of the participation and performance level of the students with disabilities?

### **Group Results**

The students were observed by the paraprofessionals and adaptive physical education teacher for their participation levels in class. The paraprofessionals were told to specifically only intervene and provide assistance to the students if they were not able to stay on task on their own. Then they were instructed to mark on the chart for each day that the student was unable to stay on task without assistance for the months of September, October, and November. These first month was used to mark the baseline data for the participation levels. The next two months of October and November were used for additional observation when the paraprofessionals only assisted when necessary. The following three months of December, January, and February were used to introduce the peer buddies to the adaptive physical education class. This collection of data was used to show the change in participation level when adding general education students to a

special education class. The general education students were told to participate with model good behavior with positive attitudes. Due to how our class schedule it set, the class only meets every other day. The data is collected every two or three days, depending on how many times the class meets in a week.

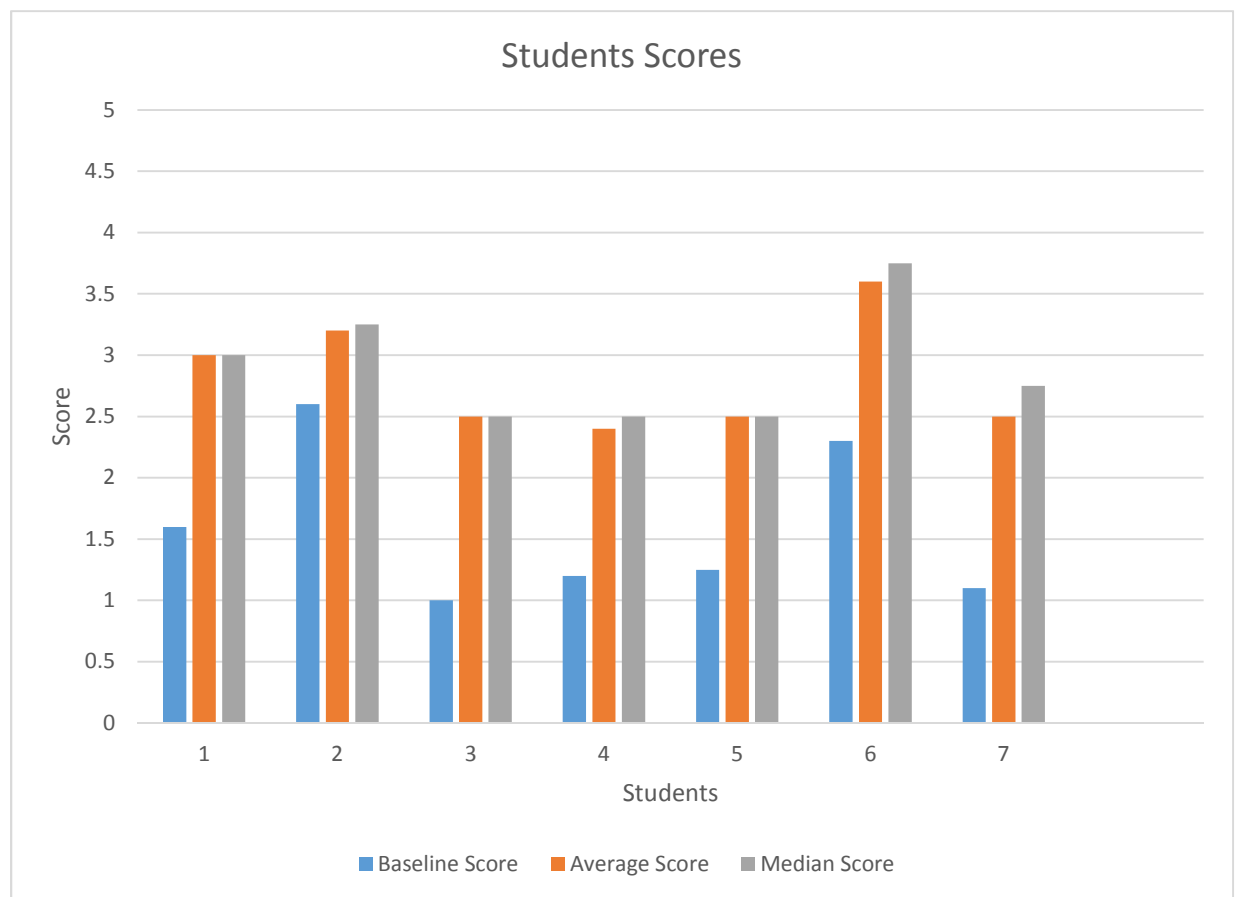
Figures 2-4 show the results for both the observed participation during the adaptive physical education class and the results for the participation and performance level of the students with disabilities as the attitudes of the general education students' changed.

Figure 2 is the table that shows the pre and post observational data for each one of the fourteen students. It shows the progression from the observation period which was three months long to the implementation of the peer buddies. Each student was scored on a scale of 0-5 each two or three day week. During the twelve 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. In figures 3 and 4 are the results of the graphed data below. These are indicated by a blue, orange, and gray line. The blue lines are the graphed results of the baseline data prior to the introduction of the peer buddies and when their participation was first tested. The orange lines are the graphed results of their average score when the study was finished and after the implementation of the peer buddies. The gray lines are the median scores. There are two graphs for the fourteen adaptive physical education students. The first graph has the results for students 1-7 and the second graph has the results for the students 8-14.

	Weeks											
Student	1	2	3	4	5	6	7	8	9	10	11	12
1-Pre	1	1.5	.5	2	1.5	2	1	1.5	3	2	1.5	2
1-Post	1.5	1.5	2	2.5	3	3	2.5	4	4	4	4.5	4.5
2-Pre	2	2.5	2	1.5	2.5	3	3	3.5	2.5	3	3	3
2-Post	2	2.5	2.5	3	3	3	3.5	3.5	3.5	4	4	4
3-Pre	0	0	1	1	1.5	1	1.5	1.5	1	2	1	1
3-Post	1.5	1.5	2	1.5	2	2.5	2.5	3	3	3.5	3.5	4
4-Pre	1	.5	1	1.5	2	1.5	.5	1	2	1.5	1	1
4-Post	1.5	1.5	2	2	2	2.5	2.5	3	2.5	3	3	3
5-Pre	.5	.5	1	1	1.5	1.5	1.5	1	2	1	1.5	2
5-Post	2	2	2.5	1.5	3	1.5	2	2.5	3	3.5	3	3.5
6-Pre	2	2.5	2	1.5	2.5	3	2.5	2	2.5	2.5	2	2.5
6-Post	3	3.5	2.5	3	3.5	4	3.5	4	4	4	4.5	4
7-Pre	1	1.5	1	1	1	1.5	1	.5	1.5	1.5	.5	1
7-Post	1.5	1.5	2	2.5	3	1.5	3	3.5	2.5	3	3.5	3
8-Pre	2.5	2	2	2.5	1.5	2.5	2	2	2.5	2.5	2	2.5
8-Post	2.5	3	2.5	3	3.5	4	3.5	4	4	4.5	4	4.5
9-Pre	1.5	2	1.5	2.5	1.5	2	2	2	2.5	1.5	2.5	2.5
9-Post	2	2.5	2.5	3	3.5	3.5	2.5	3.5	4	4	3.5	3.5
10-Pre	.5	.5	1.5	1	1.5	1.5	2	1.5	2	2.5	1.5	1.5
10-Post	1.5	1.5	2.5	2.5	2	3	2.5	3	3.5	3.5	3	3.5
11-Pre	2	2	2	2.5	2.5	2	2.5	3	2.5	2	1.5	2
11-Post	2.5	2.5	3	3	3.5	3.5	3	3	3.5	4	4.5	4.5
12-Pre	1.5	1.5	2	2	2	2.5	2.5	2.5	3	3	2.5	2.5
12-Post	2.5	2.5	2.5	2.5	3	3	3.5	3.5	4	3.5	3.5	4
13-Pre	2	2	2.5	2.5	1.5	1.5	2	2	2.5	2.5	2.5	2
13-Post	2	2.5	2.5	3	3	3	3.5	3.5	4	4	3.5	4
14-Pre	.5	.5	1.5	1	1.5	1.5	2	2	2.5	1.5	1	1.5
14-Post	1.5	1.5	2	2	2.5	2.5	2.5	3	3	3.5	3.5	3.5

*Figure 2.* Students Pre and Post Observational Scores. The Pre data is before introducing peer buddies and the Post data is after the introduction of the peer buddies.

### Individual Results



*Figure 3.* Students 1-7 scores Baseline, Average, and Median Scores.

Student 1 (figure 3) had a baseline score of 1.6/5 when their participation was first tested and finished the study with an average score of 3/5 and a median score of 3/5. The student participated 32% of the time before the addition of the peer buddies. This data

averaging that the student participated 60% of the time in class with the addition of the peer buddies. Student 1 made a 72% participation increase with the addition of the peer buddies.

Student 2 (figure 3) had a baseline score of 2.6/5 when their participation was first tested and finished the study with an average score of 3.2/5 and a median score of 3.25/5. The student participated 52% of the time before the addition of the peer buddies. This data averaging that the student participated 64% of the time in class with the addition of the peer buddies. Student 2 also made a 22% participation increase with the addition of the peer buddies.

Student 3 (figure 3) had a baseline score of 1/5 when their participation was first tested and finished the study with an average score of 2.5/5 and a median score of 2.5/5. The student participated 20% of the time before the addition of the peer buddies. This data averaging that the student participated 50% of the time in class with the addition of the peer buddies. Student 3 also made a 144% participation increase with the addition of the peer buddies.

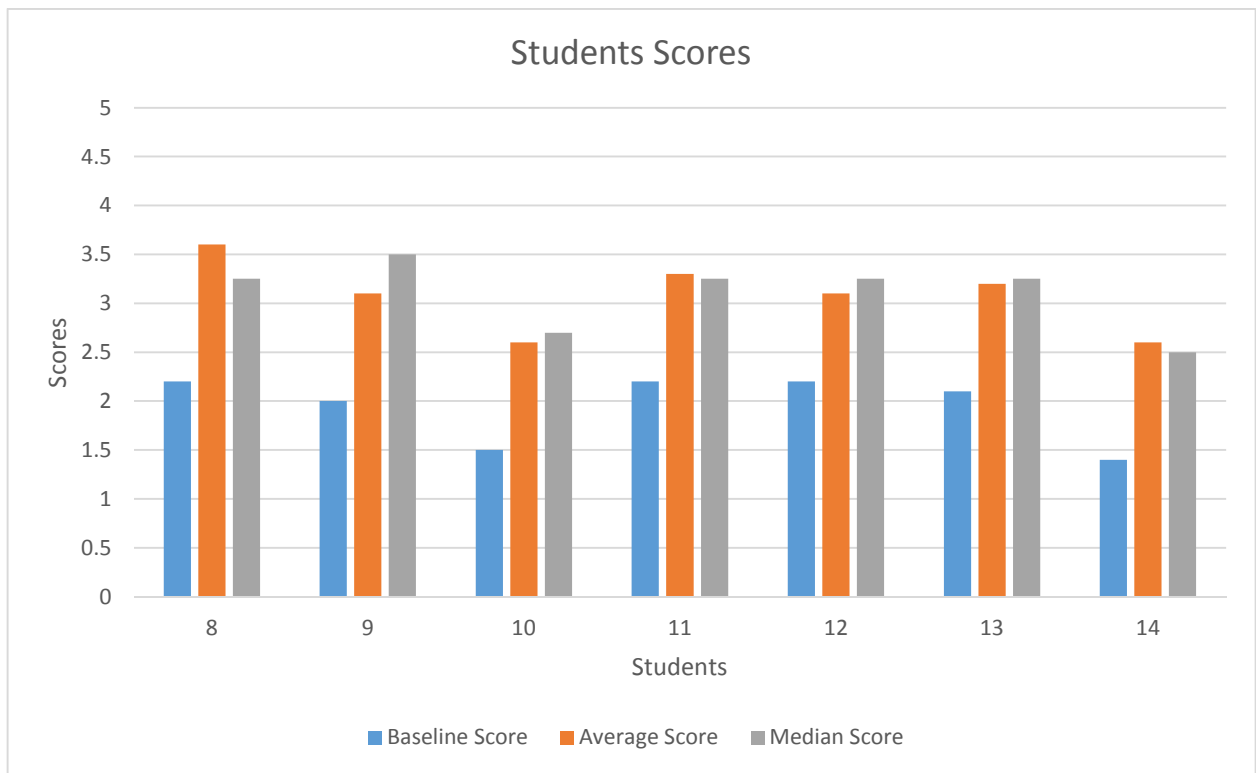
Student 4 (figure 3) had a baseline score of 1.2/5 when their participation was first tested and finished the study with an average score of 2.4/5 and a median score of 2.5/5. The student participated 24% of the time before the addition of the peer buddies. This data averaging that the student participated 48% of the time in class with the addition of the peer buddies. Student 4 also made a 96% participation increase with the addition of the peer buddies.



Student 5 (figure 3) had a baseline score of 1.25/5 when their participation was first tested and finished the study with an average score of 2.5/5 and a median score of 2.5/5. The student participated 25% of the time before the addition of the peer buddies. This data averaging that the student participated 50% of the time in class with the addition of the peer buddies. Student 5 also made a 100% participation increase with the addition of the peer buddies.

Student 6 (figure 3) had a baseline score of 2.3/5 when their participation was first tested and finished the study with an average score of 3.6/5 and a median score of 3.75/5. The student participated 46% of the time before the addition of the peer buddies. This data averaging that the student participated 72% of the time in class with the addition of the peer buddies. Student 6 also made a 58% participation increase with the addition of the peer buddies.

Student 7 (figure 3) had a baseline score of 1.1/5 when their participation was first tested and finished the study with an average score of 2.5/5 and a median score of 2.75/5. The student participated 22% of the time before the addition of the peer buddies. This data averaging that the student participated 50% of the time in class with the addition of the peer buddies. Student 7 also made a 134% participation increase with the addition of the peer buddies.



*Figure 4.* Students 8-14 scores Baseline, Average, and Median Scores.

Student 8 (figure 4) had a baseline score of 2.2/5 when their participation was first tested and finished the study with an average score of 3.6/5 and a median score of 3.25/5. The student participated 44% of the time before the addition of the peer buddies. This data averaging that the student participated 72% of the time in class with the addition of the peer buddies. Student 8 also made a 66% participation increase with the addition of the peer buddies.

Student 9 (figure 4) had a baseline score of 2/5 when their participation was first tested and finished the study with an average score of 3.1/5 and a median score of 3.5/5. The student participated 40% of the time before the addition of the peer buddies. This

data averaging that the student participated 62% of the time in class with the addition of the peer buddies. Student 9 also made a 58% participation increase with the addition of the peer buddies.

Student 10 (figure 4) had a baseline score of 1.5/5 when their participation was first tested and finished the study with an average score of 2.6/5 and a median score of 2.7/5. The student participated 30% of the time before the addition of the peer buddies. This data averaging that the student participated 53% of the time in class with the addition of the peer buddies. Student 10 also made a 82% participation increase with the addition of the peer buddies.

Student 11 (figure 4) had a baseline score of 2.2/5 when their participation was first tested and finished the study with an average score of 3.3/5 and a median score of 3.25/5. The student participated 44% of the time before the addition of the peer buddies. This data averaging that the student participated 66% of the time in class with the addition of the peer buddies. Student 11 also made a 53% participation increase with the addition of the peer buddies.

Student 12 (figure 4) had a baseline score of 2.2/5 when their participation was first tested and finished the study with an average score of 3.1/5 and a median score of 3.25/5. The student participated 44% of the time before the addition of the peer buddies. This data averaging that the student participated 62% of the time in class with the addition of the peer buddies. Student 12 also made a 38% participation increase with the addition of the peer buddies.

Student 13 (figure 4) had a baseline score of 2.1/5 when their participation was first tested and finished the study with an average score of 3.2/5 and a median score of 3.25/5. The student participated 42% of the time before the addition of the peer buddies. This data averaging that the student participated 64% of the time in class with the addition of the peer buddies. Student 13 also made a 51% participation increase with the addition of the peer buddies.

Student 14 (figure 4) had a baseline score of 1.4/5 when their participation was first tested and finished the study with an average score of 2.6/5 and a median score of 2.5/5. The student participated 28% of the time before the addition of the peer buddies. This data averaging that the student participated 52% of the time in class with the addition of the peer buddies. Student 14 also made a 82% participation increase with the addition of the peer buddies.

### **Survey Results**

Thirteen peer buddies participated in the survey at the conclusion of the study. Eighty-five percent of the peer buddies strongly agreed that their comfort level has increased while working with students with disabilities. Seventy-six percent of the students strongly agreed that social interactions between peers with and without disabilities increases participation. One hundred percent of the peer buddies strongly agreed that working with students with disabilities has not only benefited the students with disabilities but benefited the peer buddies as well. Twelve out of thirteen, ninety-two percent of students strongly agreed that a peer buddy program would be successful at Jackson Memorial High School. (See Table 1)

Table 1

*Peer Buddy Survey Scores*

Statement	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
1. My comfort level working with students with disabilities has increased.	85%	15%	0%	0%	0%
2. I believe that social interactions between peers with and without disabilities increases participation.	76%	24%	0%	0%	0%
3. Working with students with disabilities has not only benefited them but me as well.	100%	0%	0%	0%	0%
4. I believe that a form of inclusion in physical education would benefit all students.	85%	7.5%	7.5%	0%	0%
5. A peer buddy program would be successful at Jackson Memorial High School.	92.5%	0%	7.5%	0%	0%

## **Chapter 5**

### **Discussion**

#### **Review**

This study examined the participation level of students with disabilities and the effort and ability level of the students when they were and were not interacting with a peer buddy in an adaptive physical education class. The fourteen participants in the study were students with disabilities in an adaptive physical education class. The class consisted of nine males and five females. All of the participants are classified with needing special education services for adaptive physical education. The students were assessed in the beginning of the year for their baseline data during the months of September, October, and November. At the start of the month of December to the end of February the students were tested on their participation with the addition of the peer buddies. Each week there was more interaction with the peer buddies until the peer buddies were fully integrated into the class as the paraprofessionals and teachers took a step back.

All fourteen of the students' participation increased with the addition of the peer buddies. The overall percentage of participation was 48% and above from all of the students in class. Students in the class increased their level of participation with the addition of peer buddies 22% to 144% from their baseline scores. Each student made positive gains in their participation in varying degree levels. The expectations for this study were that students would increase their participation efforts with the increased level of peer buddy involvement in the class. Three of the students scored with an average of 2.5/5 on their overall participation at the end of the study, starting with a 1/5, 1.25/5, and 1.1/5. Two students scored with an average of 2.6/5 on their overall participation at the

end of the study, starting with 1.5/5 and 1.4/5. Two students scored with an average of 3.1/5 on their overall participation at the end of the study, starting with a 2/5 and a 2.2/5. Two students scored with an average of 3.2/5 on their overall participation at the end of the study, starting with a 2.1/5 and a 2.6/5. Two students scored with an average of 3.6/5 on their overall participation at the end of the study, starting with a 2.2/5 and a 2.3/5. One student scored with an average of 2.4/5 on their overall participation at the end of the study, starting with a 1.2/5. One student scored with an average of 3/5 on their overall participation at the end of the study, starting with a 1.6/5. One student scored with an average of 3.3/5 on their overall participation at the end of the study, starting with a 2.2/5.

At the end of the study the peer buddies took closing surveys asking their opinions on working with students with disabilities and on a peer buddies program benefits at Jackson Memorial. The overall surveys came back positive. Eighty-five percent strongly agreed that their comfort level working with students with disabilities has increased. One hundred percent of the peer buddies strongly agreed that working with students with disabilities has not only benefited the students with disabilities but benefited the peer buddies as well. Twelve out of thirteen, ninety-two percent of students strongly agreed that a peer buddy program would be successful at Jackson Memorial High School. There has been interest from the Child Study Team to see if an elective class could be started for typically developed students to learn more about and work with students with disabilities. This could be a very good starting point for an inclusive environment at Jackson Memorial High School.

## **Previous Research**

The results of this study are similar to those of Qi (2012), Rider (2013), Yiep (2016), and Hammond (1996). Qi (2012) 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 study 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 when peer buddies were introduced and the participation levels increased. The addition of the peer buddies in class not only increased the students' with disabilities participation but also their social engagement with the peer buddies.

The findings in Yiep (2016) and Rider (2013) were typically the same as Qi (2012). Yiep (2016) reported observable social growth in peer tutors, and acceptance toward classmates with disabilities when teachers used a peer tutoring program. Rider (2013), research reveals that social interaction and acceptance is an important aspect of how students view their inclusion settings, however, they also describe how inadequate social interaction with general education students can lead to social isolation for students with special needs. Rider (2013) specially researched the relationships involving general education students assisting and socially interacting with students with special needs. Within the findings from the study found that both general education students and students with special needs were positively affected by the interaction in the GPE class.

As Hammond (1996) explained in his study that general education students were apprehensive about inclusion in the beginning, once the program began all involved became more comfortable with the change. The students in the general education population became very accepting and helpful as 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). Yiep believes that individuals can learn to be compassionate through working with persons with disabilities, because they learn to assist others and develop important social connections. Working with students with disabilities has social benefits for the peer tutor as it broadens the peer tutors' perspectives on inclusion and builds acceptance of unique abilities.

Examining previous studies of inclusive environments and peer buddy systems and using them to gear this study, was the overall intent and guide during this study. After instructing the peer buddies on proper peer tutoring methods then incorporating the thirteen peer buddies into the adaptive physical education class, resulted in a completely inclusive environment. This conclusion is taken from the end results of the data for the students with disabilities and the post survey of the peer buddies. Every student had an increase in their participation levels when the peer buddies were included and 92.5% of the peer buddies agreed that a Peer Buddy Program would be success at Jackson Memorial High School with only 7.5% saying not sure.

### **Limitations**

Limitations in the study effected the overall score of the data collected. The main limitation was in the way the data was collected. Since I was the teach in charge of instruction during the class period as well as the person collecting the data, I do not think that I was able to give a proper score since my complete focus was not on solely collecting data. While there was enough supervision and safety of the students was not an issue, the informal nature of the way I collected the data did not leave for clear, concise collection. It relied solely on observational participation of the data overall and not

broken down into specific sports or time period during the class. It was a difficult task of teaching the class as well as collecting the data and being able to write enough information on observational notes about each students' participation levels. The task of collecting the data and making observational notes would have been better off with an outsider looking into the class.

Another major limitation was many adaptive physical education students being absent from school or being taken out of the class for speech or occupational therapy. Due to the number of absences or students coming to class half way through the period, it was easier to give the students a score for the whole week instead of individual days. The way they were scored was also effected by only seeing the students every other day instead of every day of the week. One week I would see the students three out of the five days and the next week I would see the students two out of the five days. This did not allow for a proper routine to form. The way the data had to be reported was on twelve days from the start of the observational period to the end of the observational period. Not every day reported was the same date or day of the week for each student due to absences. This led to inaccurate reporting of each day with the peer buddies in the adaptive physical education class.

Another limitation was the lack of description on the motivation/participation levels of the adaptive physical education students. For example, there was no record whether it was a peer buddy being absent, a peer buddies attitude or participation level that had a negative or positive affect on the adaptive physical education student. There should have also been a recorded score for each peer buddy on the same participation scale was the adaptive students. Each day that I recorded a score for one of the students

with disabilities, I should have recorded the participation/motivational levels of their peer buddy. This would have given a more consistent record of the data on why the student with disabilities may have not participated as much during that specific day. Also, keeping a record of the specific sport we played that day would have shown a lack of interest in the activity that may have led to varying levels of participation.

### **Practical Implications**

A peer buddy system can be valuable to any classroom environment. Having peer tutors or peer buddies in any classroom setting but especially physical education can help focus on many skills. The main skill that it helps with is the social interaction of students with and without disabilities. It can help reiterate lessons on how to socialize or act with peers of their same age. Peer tutors in the classroom also focuses on listening, success, defeat, comprehension, strength, teamwork, cooperativeness, eye contact, focusing on one thing with other distractions, and adapting to new situations. Specifically toward physical education and peer buddies, it allows the students with disabilities to have lifelong learning with physical activities that one should learn and use throughout one's life. If a student with disabilities experiences an activity and they enjoy the new activity, this could be a healthy lifelong activity they continue after graduating from school. The part of the collaboration of students with and without disabilities that is the most admirable is not only the students with disabilities learning from their peers but their peers without disabilities are also gaining knowledge about people who are different from them. Being able to watch typically developing students gain respect and understanding of students with disabilities, I believe, is just as important as students with disabilities learning the proper social cues with their peers.

To use peer tutors at Jackson Memorial High School in the classroom, a program description would need to be introduced to the school board for approval. Since Jackson Memorial does not have a study hall class/program there would need to be the implementation of a study hall so the students could volunteer their time during that class period. The other options would include: a credit completion, replacing a general physical education class to combine on with the adaptive physical education class, or an after school club. All of these would give the peer tutor the opportunity to work in an inclusive environment. Each student would need to go through a training program to learn how to properly be a peer tutor. These training programs would have to establish clear expectations, goals for each student with disabilities, peer tutoring styles, and rules to follow. If there is not the opportunity to combine the two physical education classes then the general education students would be responsible for signing up and completing the training course. Overall, the main take away of the implications would be for all students recognizing the importance of interactions between students with and without disabilities. Each student would need to understand that they are all equal in the classroom and are all participating as peers, despite ability levels.

### **Future Studies**

Future studies should focus on more measurable data using on and off task behavior of students during specific activities. Simply focusing on observational participation levels does not give enough information at the conclusion of the study as to why a students' participation levels varied each day. The observation of the participation levels in the study was opinion based data when it should have been based on set goals or benchmarks for each individual student. For example, if the researcher still wanted to use

participation levels in the study they should structure it with how often and why a student is on or off task. Along with measuring the student with disabilities on and off task behavior, the peer buddies should also have their on and off task behavior measured. This would allow for more descriptive results or reasoning as to why a student may not have been participating as much during a specific activity.

There was a certain level of difficulty on collecting data with the number of students with disabilities. Each student with a disability has a variety of needs with different goals in adaptive physical education and in the classroom. Conducting a study similar to this should be done on a smaller group so it could be more attainable to reach each of those goals and collect clearer data. The person conducting the study should not be the teacher instructing the class as well as collecting the data. If possible, the person conducting the study should be observing another class or group of students so their full focus can be on collecting the data.

## **Conclusion**

In conclusion, the following questions were the focal points of this case study; “does the use of peer buddies in an adaptive physical education class improve the participation and motivational level of students with disabilities?” and “do the attitudes of the peer buddies working with the students with disabilities have an effect on the outcome of the participation and performance level of the students with disabilities?”. Both of the questions were answered through a series of observational data collection two to three times a week, but receiving an average weekly score. The observational data collection looked at overall participation in class as well as the influence the peer buddies attitudes had on the students with disabilities. This data collection lasted approximately

six months with three months of data without the peer buddies and three months of data with the peer buddies. The results from this study as well as observational opinion show that students with disabilities participation levels were benefited with the use of peer buddies in their adaptive physical education class. Not only were the students with disabilities more engaged in the activities but the peer buddies in the class also benefited positively from the social interaction.

The second question received additional data from the pre and post peer buddy survey. This allowed the peer buddies to answer questions using their opinions on if the use of peer buddies was a positive addition to the adaptive physical education class. This survey consisted of thirteen peer buddies who almost all saw the positive benefit of using peer buddies and thought the addition of a peer buddy program in adaptive physical education would be beneficial. Students expressed their change in attitude after working with students with disabilities and feeling more comfortable. Overall, the use of peer buddies at Jackson Memorial High School was a positive experience for all involved. Students with varying abilities were able to work side by side in an inclusive environment. This showed enhanced participation and socialization level as well as academic, physical, and mental levels from students with and without disabilities. More than just the adaptive physical education environment would benefit from the social interaction of students without disabilities in the inclusive environment working with students with disabilities.

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