

Exploring the Effectiveness of a Peer-to-Peer Program on Special Education and General Education High School Students

Lydia Karr¹

¹City High School, USA

ABSTRACT

This article explores the efficacy of a Peer-to-Peer program on improving the social and academic goals of high school students with developmental disabilities. Past uses of Peer to Peer have focused exclusively on students with autism spectrum disorders, leaving a large gap yet to be explored among other developmental disabilities. The research follows a mixed methodology based on action research applied directly to five students in a general education setting over a four-week period. During the four-week period the interactions between the target student and the peer buddy were observed at least once a week and recorded. These observations occurred in tandem with weekly peer buddy surveys and meetings with the special education team. The researcher concluded that Peer to Peer was effective in improving the social and academic skills of the target students during the duration of the study. However, it was altogether inconclusive due to the limits of time and resources that existed for the researcher. With more research over a larger time period this approach to teaching special education students can be proved efficacious on a larger scale.

Introduction

In the past, society has created a large gap between people with disabilities and those without. Within the world of developmental disorders this remains true. Throughout history people with disabilities have been separated from people without disabilities in nearly all academic settings. Recently, it has started to improve with new laws and regulations requiring a certain amount of time be spent in general education classrooms for every special education student. These changes have encouraged the development of social and vocational skills for people with disabilities but are not enough. While creating a Peer-to-Peer program, researcher Maureen Ziegler found that only 29% of high school students with autism reported getting together with a friend only once a week in the last year (Ziegler, 2020).

For people diagnosed with Autism Spectrum Disorder (ASD), poor social skills, especially reciprocating interactions, are a common problem (Laghi, et. al., 2018). ASD is defined as “a group of neurodevelopmental disorders characterized by persistent deficits in social communication and interaction across multiple contexts” (Laghi, et. al., 2018). ASD, and other developmental disorders affect a large portion of our population. A research article in the Journal of Autism and Developmental Disorders states that ASD alone affects 1.5 million people in the United States (Laugeson, et. al., 2015). Social deficits extend beyond the simple diagnosis of ASD, in fact they are one of the major symptoms of any developmental disorder. In addition, poor social skills are the leading cause of other issues such as worsened academic outcome, social failure and isolation, anxiety, depression and more (Bellini, et. al., 2007). This means that for students with ASD, social relationships and all of the things that come with them are much harder to form, especially in the school setting. In fact, nonverbal skills such as personal space, eye contact, and body language are sometimes even harder (Wyman & Claro, 2020). Past research has been done analyzing ways to improve social skills for students with ASD, but limited actual implementation in the secondary school setting, especially among other developmental disorders instead of simply ASD.

In order for the social skills of students with ASD and other developmental disorders to improve peer intervention is necessary. Peer intervention programs have proven to be more successful and create long lasting relationships. The best way for these interventions to happen is with a mixed relationship between a student with a disability and a general education student and maintenance of the interventions (Laghi, et. al., 2018, & Bellini, et. al., 2007). A variety of different programs and interventions have tried to accomplish this, however only two have been even relatively successful.

Literature Review

In researching Peer to Peer I came across two large programs being implemented to improve the social skills of students with ASD: The UCLA PEERS Program and the GVSU Peer to Peer Program. Both programs have continued to develop over the years, growing other branches of programs with specific focuses.

The UCLA PEERS Program is a parent assisted program targeted at youth and adolescents with ASD (CARD, 2016). It has been around longer than the newer Peer to Peer program, in turn there is much more research on its effectiveness in school, home, and other settings. This being said, it has also had many smaller programs focusing on different things from age focus groups, parent focus groups, and more. However, even with this research there are still gaps in assessing the effectiveness of the PEERS Program among certain age groups, genders, ethnicities, locations and more. Because these programs are both still relatively new, the only way to really address these gaps is to continue research, even if it overlaps with some already published research.

However, the UCLA PEERS Program isn't designed to have Peer to Peer relationships. It is much more of a course with some practice, then a fully immersive Peer to Peer program in schools would be. The other large limitation with the PEERS Program is that it still relies a lot on adult supervision. The parents attend the PEERS sessions with their children, and the session is much less focused on improving skills specific to each individual. While PEERS is beneficial in some aspects, it does not diminish the role of paraeducators or other professional help that the ASD or developmentally disabled students need.

Wyman and his colleagues studied the effects of the UCLA PEERS program on a very controlled basis at a private school for students with special needs. While they made some small adjustments to the PEERS Program to improve the fit at that school, their findings align with other similar research studies. They did the research in a special education classroom specifically focusing on the UCLA PEERS curriculum (Wyman & Claro, 2020). This study illustrates one of the largest limitations of the UCLA program. The PEERS Program is designed to be administered in a controlled environment, often outside of school, with only other students with disabilities. The largest problem with this program lies in the design. The widespread acceptance and use of the UCLA PEERS Program has created a large gap in research of social skills interventions that are happening at school in both general and special education classrooms.

Peer to Peer is a program designed to be implemented at a school or district wide level. It partners peers with disabilities to one of their general education schoolmates to facilitate awareness about their disability, but also active support in social and academic situations that arise during the school day (Ziegler, et. al, 2020). This program was started in Michigan by Grand Valley State University in 1990 by a team of researchers working to improve social skills of school aged children with ASD (Ziegler, et. al, 2020). It is focused more on elementary, and junior high students with limited research on its impact in high schools and above. Since then Peer to Peer has been found to be extremely successful, in a variety of school settings.

Ziegler and her team at GVSU developed Peer to Peer from a simple research study into a research backed curriculum that can be used in many different schools. They found that in order for it to be successful, buy in is essential. Their recommendation is to have at least two professional coordinators in each school setting the program is taking place (Ziegler, et. al., 2020). In addition to this, they experimented with different orientation sessions and ways for the general education students to learn about their specific buddies' needs. They found that the most effective way is to have orientation sessions before the initial Peer to Peer starts to familiarize the peer links with their

buddies case reports, diagnosis, and other needs (Ziegler, et. al., 2020). While it is clear that Ziegler and her team at GVSU have created a very valuable program, to further validate these findings more research still needs to be done on the program in different settings across the country, with different sample sizes, and students with different diagnoses.

Similar research was done by Fiorenzo Laghi and his team at Sapienza University in Rome. They chose to begin research on a large gap in the peer mediated intervention field: the lack of research done during unmediated times. These times include recess, lunch and passing periods. Previous research done by Julia Hochman and Erik Carter at the Developmental Disabilities Institute has shown that these unmediated times are some of the most important social times of the day and can have the largest impact on students with ASD (Hochman, et. al., 2015). However, other than Laghi's study in Italy, very little research has focused on interventions being implemented during these times. Further research following some of the same criteria is needed in the US to verify Laghi's findings, and even create a similar Peer to Peer program focused more on these unmediated times.

While it is clear that there has been a lot of research done on the social and education downfalls of developmental disabilities in a variety of contexts, the amount of research in high school settings has been limited. The little amount of research done in high schools has focused almost solely on students with ASD, and not on other developmental disorders. This large gap was pointed out by a variety of researchers in the limitations of their work, of an adequate way to measure the social skills being observed, remains (Williams White, et. al., 2007). While some of these gaps may not be able to be addressed with our limited time and materials, others can and will be addressed. In order for a peer mediated social skills program to be successfully implemented, more research needs to be done. In this case, research needs to focus on the benefits and risks of a peer mediated program modeled after Peer to Peer, and how they can contribute to educational and social competence for people with disabilities.

In my research, I predicted that implementing a Peer to Peer based program in a suburban high school setting would provide social, mental, and academic benefits to students with developmental disorders such as ASD. My hypothesis led me to the essential question of my research project: Can a Peer to Peer program that pairs students with developmental disorder and general education students facilitate higher academic and social performance for both sets of students? In order to test my prediction I helped to create a program modeled off of the Peer to Peer program. Once implemented, I recorded and analyzed data from these new social interactions to observe the implications of this change.

Methodology

The goal of this study is to effectively examine the social and academic effects of peer mediated interactions in the high school setting. In order to effectively answer my research question, I conducted a mixed methods action research case study of six individual cases at Plainville Highschool¹ over a four week time period focusing on a Peer-to-Peer program currently being implemented. A case study with aspects of action research was deemed the best option because it allows for in-depth observation and research on each individual, which can help avoid generalizations. In this case, this was very important because it allowed this research to be used for the IEP

¹ Names have been changed to protect the anonymity of the location and participants.

goals of each individual student and their progress towards them (see Appendix E). Action research was also deemed necessary because of the dynamic needs of each student. The point of this method was to analyze the academic and social impacts of each individual student according to their specific needs. Ultimately, a mixed method case study with elements of action research was the best fit for this project.

This method is roughly based on the work of Lisa Sharon Cushing and Craig H Kennedy in their study at the University of Hawaii in 1997. In their research they used an independent observer to record changes in behavior from baseline (before any interventions), during peer interventions, and after peer interventions to monitor the progress of the special education student. This aspect will be implemented similarly in my study by observation logs from the paraeducators and researchers during intervention times. These observations took place over four weeks in the middle of a trimester, the time period was deemed sufficient by the researcher to obtain data, but not to overwhelm the students with the longevity of the study.

In order to choose participants in the study, the special education department of the high school was utilized. The special education students were chosen by their IEP case managers based on their schedules and IEP goals. The peer buddies were chosen on a voluntary basis. The researcher and special education teachers presented identical slideshows about Peer to Peer and what it involves to each of the classes, and students volunteered if they were willing to participate. Classes were changed early in the research due to lack of interest from general education students. The classes shown in the study include a diverse group of subjects and ability levels, which has never been done on this scale before. Additionally, the special education buddies have diagnosis beyond just ASD, which has been studied in the past. These factors were considered when choosing what classrooms to implement this program in.

My case study consisted of observations, surveys (see Appendix F and Appendix G), and meetings, all recorded in an observation log. A combination of these mediums was chosen to give the research both qualitative and quantitative data. The point of this group of mixed methods was to gain insight from multiple perspectives of the relationships that were being developed.

Observations were conducted by the researcher, paraeducator, and peer buddy and recorded via surveys and observation logs. Observations were split into two main groups, pre-study observations and during study observations. The researcher and special education team conducted the pre-study observations. The observations were targeted at the specific goals that each student had listed on their IEP in order to create a baseline for the data that would be collected during the peer mediated intervention time period. These observations were recorded entirely in notes by the researcher into an observation log. The observations during the study were recorded by the paraeducators, peer buddies, and the researcher. During the class time the paraeducator was instructed to record any interrupting behaviors, progress towards the two specific goals (see Appendix A-D) each student had, or any behaviors that they decided were progressing the social skills of the target students. These observations were then compared to the observations of the peer buddy and researcher to make sure they remained objective and were truly happening. These observations were collected weekly by the researcher via email and/or case meetings. The peer buddy student also had a log to record any comments, or changes in behavior that they noticed throughout the duration of the study. During this four week time period, the researcher visited each classroom at least twice to record independent observations to measure against the observations of the peer buddy and paraeducator. These visits occurred periodically throughout the study to accurately represent the changes that took place. Action research was also implemented into the observations of the interactions. When it was clear that changes needed to be made to improve the relationship between the buddies, meetings were held by the researcher with teachers, paraeducators, and peer buddies present.

In addition to naturalistic observations, the peer buddy was surveyed weekly to monitor their social and academic performances throughout the duration of the study. A survey was conducted with two main sections, one focusing on the peer buddies self-reflection, and one focusing on the peer buddies observations of the target student. The survey consisted of thirteen questions, six focusing on the peer buddy, and seven on the target student. The majority of the questions were multiple choice with answers falling across a scale of options. This was chosen to give

the research an aspect of quantitative data to be used in the analysis of results. The surveys were sent out on a weekly basis, with one being sent before the study began to get baseline data to measure against. The survey results were then analyzed to track the changes in performance and behavior of both students and look for any trends. These numerical results were then compared to the qualitative data to compare and contrast trends observed. This led to the results of the research.

Results

Overall, positive patterns emerged in the results of this study. However, no results were entirely conclusive because it is unknown if they will hold up longitudinally in other similar studies. The results of this study were both qualitative and quantitative as a result of the mixed methodology, in order to fully understand them they are separated by each individual of the study to best understand the individual impacts. Then the overall results are examined through a thematic analysis looking at each student's social and academic goals referenced on their cheat sheets (see Appendix A- Appendix D).

Students 1 and 7²:

The first student was a sophomore male with down's syndrome in a general education elective painting class. He had specific goals focused on initiating social contact and age appropriate social behaviors and conversations (see Appendix A). He was observed directly three times throughout the duration of the research. His buddy was a freshman male taking the same class that previously knew the student through extracurricular activities. The first observation noted that the target student was still struggling greatly with socially appropriate interactions and communication with his peers. However, by the second observation it had greatly improved as reported by both the peer buddy and the observed. There was positive progress made toward both IEP goals in this partnership and overall success in the class for both students.

Students 2 and 8:

This student was a freshman female with executive functioning problems and a language barrier in a general education elective painting class. She was focused on engaging in healthy social relationships and advocating for herself to peers and teachers (see Appendix B). She was observed three times throughout the duration of the study. Her buddy was a sophomore female who had previously known the target student. The target student had notable positive improvement in her self advocacy throughout the research. She began taking her work to teachers and home to show what she was working on in school, an interaction that had never previously occurred. This showed remarkable improvement toward one of the students goals and overall progress on her IEP.

Students 4 and 9:

This student was a freshman male with severe developmental disabilities in a general education required English class. He is a nonverbal student with cerebral palsy and focuses on increasing expressive communication skills through a new eye gaze tracking tablet and reading comprehension (see Appendix C and Appendix E). His buddy was a general education female student that was struggling with attendance, class engagement, and completion of class work. In this case both the peer buddy and the target student were being monitored for academic and social progress. The target student was being monitored on his communication with paraeducators, teachers, and peers. His specific goal was to use his new eye gaze technology to independently “socially communicate with peers and staff by greeting, responding to greetings, saying goodbye, talking about himself, or asking about others at least 10 times

a day” (see Appendix E). Throughout the research the student was able to improve on this goal the days that he was present in class by interacting with his peer buddy. However, in this case the peer buddy had significantly notable progress as well. As previously stated the peer buddy in this pairing was a student that was struggling in class. Throughout the duration of the study the general education teacher reported very noticeable differences in the peer buddies engagement and participation in class. The teacher noted that with the target student present the peer buddy went out of her way to include him and that she felt as if having a peer buddy gave the general education student a way to feel more purposeful in class.

Students 3 and 11:

This student was a freshman female with mild intellectual disability in a general education required math class. Her focuses were on setting and maintaining appropriate social boundaries and independent learning during independent work time (see Appendix D). Her buddy was a freshman male that was very successful in the class. After the first observation the paraeducator was removed from the classroom for a day and the peer buddy was given training on how to best work with the target student. After this, the student was consistently completing her work with only peer buddy support during class time. The observations also noted that the student was able to work independently without paraeducator support, a major improvement in her IEP goal. Throughout the duration of the research there was also less class interruptions and more interaction with appropriate boundaries being observed.

Students 5, 6, and 10:

This student was a senior male with ASD, anxiety and ADHD in a general education elective psychology class. This student had no academic limitations but was greatly struggling with being in this particular general education class because of his anxiety. The goal of Peer to Peer in this case was to decrease the amount of interruptions that the target student gave the class, increase the amount of time he spent in class and increase his social interactions with peers. He had two peer buddies both of which were females in their junior year of high school. The first observation of this class showed that the student only lasted about five minutes in class before leaving to do his work independently in his safe space. As the observations progressed it was noticed that the target student was able to spend thirty minutes in the classroom with relatively minimal interruptions. In this case the peer buddies were also able to provide the student with academic support when he was unable to be in class due to other circumstances.

The overall thematic analysis of the results focused on social and academic changes. The main social themes that came up were starting interactions and socially appropriate behaviors. Academic changes occurred in the study, but were an underlying result that saw positive growth for both students due to them not being directly monitored. However, thematic analysis was found to be more difficult because of the different goals of each IEP. Because of this, it was decided that thematic analysis on each individual student toward their IEP goals would be the most beneficial method of analysis.

² Student names were removed to protect the anonymity of participants.

Discussion

The positive trends that were observed on the relatively small scale of this research are a great sign for the future of Peer to Peer. The largest problems in past programs have been lack of independence for the special education students and lack of diagnoses diversity among participating students. In this research, Peer to Peer was able to address both of these issues while not regressing on any of the other progress other programs had made. The program implementation required some support, but eventually was completely peer run. For example, it was observed that Student 11 went from working full time with a paraeducator to functioning independently with her peer buddy for learning support. This change not only allowed her to be more independent but also taught the peer buddy important life skills. The peer buddy reported that this experience gave him insight into adapting learning methods to better fit individual needs and improved his social skills. Positive experiences for both students then increase classroom morale and overall experience. In addition to this, the social skills developed by the peer buddies are something that they will use in their work and academic lives.

The primary gap in the research was that Peer to Peer has never been used with students that have developmental disorders that aren't ASD. Through the observations and progress monitoring it was obvious that in my research Peer to Peer was effective in a variety of students. My research included students with Down's Syndrome, Cerebral Palsy, executive functioning disorders, and other developmental disabilities, and was effective in each case. Only one of the five students actually had ASD, this means that the success of Peer to Peer in this case was the first documented time of it happening and being successful on a larger group of eligible special education students. For example, Student 7 saw great progress toward his individual social goals (see Appendix A) after the implementation of Peer to Peer. His peer buddy reported increases in initiation and longevity of conversation between the two buddies, a huge improvement toward the previously mentioned goals. In fact it was observed by the researcher that by the last date of observation the target student was able to initiate and hold conversations with his buddy, something not previously happening. Another large improvement was seen towards the students goals of age appropriate social behavior (see Appendix A). In the last observation it was noted that the peer buddy called out the student on their inappropriate behaviors and that the student then decreased the frequency of these actions. This intervention was remarkably more successful coming from peers than it had been in the past coming from paraeducators and teaching. This success with this particular student, and all of the other students show that implementing this program on a larger group of special education students is effective in improving their social and communication skills.

The academic validity of Peer to Peer was demonstrated most in the general education required classes and the psychology class. Two particular cases saw academic improvement in target areas, these were students 9 and 10.

The first was with student 9 where the peer buddy was able to help the educators adapt the curriculum to meet the target students' needs. This was a part of the action research where I was able to work with the peer buddy to create adapted vocabulary cards and quizzes for the target student that he could use on his eye gaze device. This work allowed the target student to work successfully with his different abilities in a general education setting while also allowing the previously underachieving student to get credit for class work she was not previously completing. This example highlights the academic advantages this program brought to both the general education and special education students. Similar academic progress was observed in Student 10. The peer buddies were able to work with the target student during the times he wasn't able to be in class by giving him the work he missed and explaining it to him. This was able to help the academically capable target student to work successfully in the general education classroom without any additional educator support.

While these results may be hard to generalize to the population, they effectively prove that Peer to Peer can be used on a larger population of target individuals. The diversity of students involved and the dynamic approach of action research allowed for significant progress in the field to be made. This research should be continued on a larger scale to confirm that these results hold up longitudinally. This being said, for these particular students Peer to Peer was an effective way to progress toward their social and academic IEP goals.

Implications

The patterns that emerged in this research have large implications on the entire educational community. The largest impact of the study is on both the general education and special education students. Not only was progress made toward the specific education plans of each student, but they also gained social interaction that was not previously occurring. This goes on to play a large part in the development of new special education curriculums. As students with developmental disorders have success outside of their special education classroom, it urges more schools and teachers to allow them independence and interactions that were not happening in their special education classrooms. This then prepares the students to be more independent in their future endeavors. For many special education students, this type of unmediated social interaction with peers is extremely rare. The implementation of Peer to Peer allows these interactions to happen more naturally. The implications of this study go beyond educational improvement and transfer into real life skills that students with disabilities need to be successful on their own.

The positive implications of this research go beyond just the special education students. The peer buddies participants gained valuable interpersonal skills that are useful for the remainder of their lives. The students were able to interact and learn from students that were different from them both socially and academically. This gave them the opportunity to learn how to work with people that are different from themselves, which is extremely beneficial in the workforce.

Limitations

While it is clear the findings of this research have very important implications on the approaches to special education curriculums, it is important to note that there were some limitations to my research. As this research was longitudinally short, it is impossible to know if the themes that were found would hold up on a larger scale. In addition to this, naturalistic observation was not possible given the nature of the research. This means that there was room for researcher bias that could skew the results. Because of limited time and resources, it was decided that the method of action research would be the most appropriate. Another large limitation was the amount of time that the peer interactions were observed. These limitations also had some positive effects. Since the interactions were not being constantly monitored the occurrence was more natural and independent for both students. Although limitations were present, the research has valuable findings for educators and students all alike around the world.

Directions for Future Research

Future research in the field is necessary to get conclusive results about the effectiveness and applicability of this research. This research should include a larger group of target students if possible. A larger group of target students allows for the strategy of Peer to Peer to be observed on different students with different specific diagnoses and needs. While this is hard to coordinate and monitor on a larger scale, I believe that results will not be generalizable to any population without a larger base of target students in more diverse school populations. I also recommend that future researchers include action research in their methodology. In the process of doing research on such a diverse group of subjects, it is important to be able to make adaptations and changes to meet the needs of each individual involved. I found action research to be extremely beneficial and necessary throughout my research to ensure a positive experience for both of the students involved.

References

- Bellini, S., Peters, J. K., Benner, L., & Hopf, A. (2007, May/June). A Meta-Analysis of School-Based Social Skills Interventions for Children With Autism Spectrum Disorders. *Remedial and Special Education, 28*(3), 153-162. [http://littleredcaraba.com/Training-module-readings/Belliini%20et.%20al%20\(2007\).pdf](http://littleredcaraba.com/Training-module-readings/Belliini%20et.%20al%20(2007).pdf)
- CARD. (2016, February 1). *PEERS® Parent-Assisted Social Skills Group for Teens with Autism to Be Offered at CARD Centers Nationwide*. CARD: Center for Autism and Related Disorders. Retrieved November 5, 2021, from <https://www.centerforautism.com/peers-parent-assisted-social-skills-group-for-teens-with-autism-to-be-offered-at-card-centers-nationwide/>
- Hochman, J. M., Carter, E. W., Bottema-Beutel, K., Harvey, M. N., & Gustafson, J. R. (2015, Oct). Efficacy of Peer Networks to Increase Social Connection among High School Students with and without Autism Spectrum Disorder. *Grantee Submission: Exceptional Children, 82*, 96-116. ERIC. Retrieved October 20, 2021, from <https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=ED576637&site=ehost-live>
- Laghi, F., Lonigro, A., Pallini, S., & Baiocco, R. (2018, August). Peer Buddies in the Classroom: The Effects of Spontaneous Conversations in Students with Autism Spectrum Disorder. *Child & Youth Care Forum, 47*(4), 517-536. Education Source. 10.1007/s10566-018-9449-y
- Laugeson, E., Gantman, A., Kapp, S., Orenski, K., & Ellingsen, R. (2015, December). A Randomized Controlled Trial to Improve Social Skills in Young Adults with Autism Spectrum Disorder: The UCLA PEERS Program. *Journal of Autism and Developmental Disorders, 45*(12), 3978-3989. Education Source. 10.1007/s10803-015-2504-8
- Sharon Cushing, L., & Kennedy, C. H. (1997, Spring). ACADEMIC EFFECTS OF PROVIDING PEER SUPPORT IN GENERAL EDUCATION CLASSROOMS ON STUDENTS WITHOUT DISABILITIES. *Journal of Applied Behavior Analysis, 30*(1), 139-151. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1284027/pdf/9103989.pdf>
- Williams White, S., Keonig, K., & Scahill, L. (2007). Social Skills Development in Children with Autism Spectrum Disorders: A Review of the Intervention Research. 1-11. <https://static.springer.com/sgw/documents/1379065/application/pdf/Autism3.pdf>
- Wyman, J., & Claro, A. (2020, June). The UCLA PEERS School-Based Program: Treatment Outcomes for Improving Social Functioning in Adolescents and Young Adults with Autism Spectrum Disorder and Those with Cognitive Deficits. *Journal of Autism & Developmental Disorders, 50*(6), 1907-1920. Advanced Placement Source. 10.1007/s10803-019-03943-z
- Ziegler, M., Matthews, A., Mayberry, M., Owen-DeSchryver, J., & Carter, E. W. (2020). From Barriers to Belonging: Promoting Inclusion and Relationships Through the Peer to Peer Program. *Teaching Exceptional Children, 20*(10), 1-9. 0.1177/0040059920906519