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SOCIAL OUTCOMES OF INCLUSION ON ADOLESCENT
MALE STUDENTS WITH ASPERGER'S SYNDROME

by
Marc Cannuli

A Thesis

Submitted in partial fulfillment of the requirements of the
Master of Arts Degree
of
The Graduate School
at
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Approved by _____
Professor

Date Approved 4/26/01

ABSTRACT

Marc Cannuli

SOCIAL OUTCOMES OF INCLUSION ON ADOLESCENT MALE STUDENTS WITH ASPERGER'S SYNDROME

Dr. S. Jay Kuder

Master of Special Education

The objective of this research is to find whether students who have Asperger's Syndrome benefit in social skills from being included in the regular classroom. Despite the positive effects that may occur for the student being in the regular setting, it is hypothesized that the social skill deficits and behaviors of a student with Asperger's Syndrome will not affect their success in the regular education setting. A self-contained classroom was compared to an inclusion classroom using four male subjects with Asperger's. Appropriate conversations and two-way conversations were observed. Collection of data consisted of counting occurrences and finding the means and t-tests were utilized for data analysis. The major findings of this study were that students with Asperger's Syndrome benefited socially and behaviorally from the exposure with nonhandicapped students. The implication of this research shows that students with Asperger's Syndrome benefit from inclusion and that inclusion is a viable alternative for Asperger's Syndrome students.

Mini-Abstract

Marc Cannuli

SOCIAL OUTCOMES OF INCLUSION ON ADOLESCENT MALE STUDENTS WITH ASPERGER'S SYNDROME

Dr. S. Jay Kuder

Master of Special Education

It is hypothesized that the social skill deficits and behaviors of a student with Asperger's Syndrome will not affect their success in the regular education setting. The study found that students with Asperger's Syndrome benefited socially and behaviorally from the exposure with nonhandicapped students. This research shows that inclusion will benefit and be viable practice for students with Asperger's Syndrome.

Acknowledgments

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Chapter 1

Research Problem

Asperger's Syndrome is defined in DSM IV (p 77) in part, but not limited to, as a qualitative impairment in social interaction, as manifested by at least two of the following:

1. Marked impairments in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction.

2. Failures to develop peer relationships appropriate to developmental level.

3. A lack of spontaneous seeking to share enjoyment, interests or achievements with other people (e.g. by a lack of showing, bringing, or pointing out objects of interest to other people).

4. Lack of social or emotional reciprocity.

The disturbance also causes clinically significant impairments in or other important areas of functioning.

Children with Asperger's Syndrome face many challenges everyday. Their awkward social skills often cause them to be made victims of scapegoating. While clumsiness and obsessive interests in obscure subjects' make them look more peculiar. They tend to lack the understanding of human relationships and the rules that

govern conversations, which makes them look naïve and lacking common sense. They become easily stressed over common changes. To help them succeed in school; a highly individualized academic program that offers consistent success must be provided. Do not assume that children with Asperger's Syndrome understand because they responded. Lessons must be simplified when topics are abstract. Also, allow the child to work on assignments that interest them when appropriate.

It is important that children with Asperger's Syndrome have support staff when they are in an inclusive situation. This support staff can check in with the student and provide needed observations and assessments. The Asperger's child needs to see itself as competent and productive, so the learning environment must present this. Since these children can be emotionally fragile, the classroom must be highly structured. These educational situations can take place in regular educational setting.

The purpose of this paper is to find whether students who have Asperger's Syndrome benefit in social skills from being included in the regular classroom. Despite the positive effects that may occur for the student being in the regular setting, it is hypothesized that the social skill deficits and behaviors of a student with Asperger's Syndrome will not affect their success. The research will identify two skills that Asperger's Syndrome students face. First, making the appropriate personal comment to someone when they are unaware of how their comment could offend. Second, interpreting the meaning of comments literally, and the consequences that could follow.

Identifying these skills will help schools in a variety of ways. The instruction that a school offers may be adjusted to help benefit all children, regardless of their disabilities. Children with Asperger's Syndrome generally have average to above

average intelligence, but lack high level thinking and comprehension skills. They take conversations very literal and abstract thought is poor. To help them succeed in school the Asperger's student needs an academic program that is individualized towards them, but consistent. The implications for an Asperger's student could be very poor if issues such as the ones' above are not addressed. Schools, especially staff, could benefit from these implications. Schools must offer highly structured environments that can offer programs that help support Asperger's students. Teachers need to carefully monitor the student to offer extra help or assistance as needed. So, the teacher and the school have an added element to deal with in addition to their usual environment. Creativity in teaching styles will not only facilitate academic success, but also help an Asperger's student feel less alienated from other students and the demands of school.

Group dynamics could have the greatest effects from an Asperger's student. The intelligence of an Asperger's student should be emphasized in group settings, making the student an important part of the group. In this setting the Asperger's Syndrome student could learn appropriate responses to two-way conversations and model them at a later time. From this participation, both the regular education students and the Asperger's Syndrome students will benefit from group work.

The thesis will first begin with defining the population of the research. There will be four adolescent boys researched. To follow the student's progress, several instruments will be employed. Checklists, rating scales, observations, and interviews will be used for the purpose of this research paper.

Chapter II

Literature Review

Asperger's Syndrome

The term Asperger Syndrome dates back to 1944 when Hans Asperger's published a paper in which he described a group of children with a unique social disorder. About the same time Leo Kanner described 11 children with "early infantile autism", who demonstrated severe social and communication abnormalities as well as restricted, narrow interests (Miller and Ozonoff, 1997). What Kanner and Asperger did not realize was that their respective works were very similar, but the two conditions were described as basically a different type (p. 247).

Asperger Syndrome is a diagnostic concept with features somewhat similar to autism. Asperger Syndrome has been less studied and its validity is more controversial (Klin and Volkmar, 1995). Hans Asperger originally provided an account of a number of cases whose clinical features resembled Leo Kanner's description of autism: problems with social interaction and communication, and defined and distinctive patterns of interest (p. 2). In Asperger's work his children were unlike those with autism; they generally had higher intellectual and communication development. This lead Asperger to believe that people with this disorder represented a distinct and independent classification (Myles and Simpson 1998).

Since autism and Asperger Syndrome seem to be very similar and have been thought of as the same condition in some instances, researchers have questioned the validity of Asperger Syndrome. The syndromes are both characterized by similar impairments in social functioning and their range of interests, require at least two

manifestations of social impairment and at least one type of restricted interests or behaviors from almost identical lists of symptoms (p. 247). The commonly described clinical features of the syndrome include: paucity of empathy; naive, inappropriate, one-sided social interaction, little ability to form friendships and consequent social isolation; simple and monotonic speech; poor nonverbal communication; intense absorption in circumscribed topics such as the weather, facts about television stations, tables or maps, which are learned in rote fashion and reflect poor understanding, which may lead to the presumption of eccentricity; and clumsy and poor coordinated movements and odd posture (DSM-IV. 4th Ed, 1994). Autism, however, has one more criteria for communication than does Asperger Syndrome, but this absence does not mean there is an absence of a communication impairment, but language must not be delayed (Fine, Bartolucci, Ginsburg, and Szatmari 1992).

Both autism and Asperger Syndrome are considered Pervasive Development Disorders. Therefore their categories and symptoms should be similar and are intended that way through DSM-IV. So, a child cannot meet criteria for both autism and Asperger Syndrome, however, overlapping may occur. This overlapping helps reduce multiple diagnoses in individuals who exhibit more than one disorder (Miller and Ozonoff p. 247).

According to DSM-IV (1994), for a child to meet the criteria for autism they must exhibit six or more of the symptoms listed. Asperger Syndrome is considered when fewer than six of the symptoms are present. A diagnosis of Asperger Syndrome is not considered even if the child shows characteristic symptoms such as normal or precocious early language development, because the child may meet the six or more symptoms of autism.

Schopler (1996) points out that researchers have attempted to show that Asperger's is different from autism because of the following characteristics: more clumsiness, pedantic speech, a higher full-scale IQ, or more impaired executive functioning. From this there is a belief that Asperger's does not have its own, distinct casual mechanism or intervention. Since there is not a meaningful distinction between Asperger Syndrome and autism, do not separate them (p. 109).

Similarities have been noted, however, between Asperger Syndrome and High Functioning Autism (HFA). HFA is autism without the mental retardation. Gillberg (1998) states that there are currently no widely accepted guidelines for specifically for HFA. The HFA classification may be most appropriately met when the criteria for autistic disorder are met (American Psychiatric Association, 1994) and Full Scale IQ exceeds the mentally retarded range. As compared to Asperger Syndrome, HFA's generally a have lower Full Scale IQ, with less apparent Verbal/Performance IQ discrepancies. In Asperger's, Verbal IQ exceeds Performance IQ (Gillberg, 1998).

Asperger syndrome has thus been connected with autism. Asperger Syndrome children are generally characterized by relationship difficulties delayed speech and language development and other speech and language abnormalities, normal physical growth and development, insistence on environmental sameness, obsessive preoccupation with objects, and repetitive responses. Myles and Simpson (1998) call Asperger Syndrome an "upper element" of the autism spectrum.

Students with Asperger Syndrome are drawing increasing attention in the education community. This leads to a better understanding of the syndrome.

Students with Asperger Syndrome tend to have good grammatical language and average to above average cognitive abilities; they experience significant difficulties with social interactions (Wing 1991). Tantam (1991) noted that Asperger Syndrome is a highly disabling condition in regards to socialization (p. 178).

Children with Asperger Syndrome show an inability to understand complex rules of social interaction. Without positive social outcomes they can become socially isolated. This occurs even though the child appears to be interested in interacting with others, but their interactions tend to be inept or they cannot engage in age-expected social interactions, even play (Myles, 1998). This may be due in fact that the child may lack the appropriate understanding of social contact. Children with Asperger Syndrome may be characterized as naive, egocentric, disliking physical contact, talking at people instead of to them, using inappropriate gazes, lacking “social distance”, being insensitive and being unable to initiate and sustain conversations (Williams, 1995). These difficulties tend to isolate students with Asperger Syndrome. They are easily taken advantage of and need to be taught how to interact, to deal with social cues and be given repertoires of responses to use in various social situations.

Inclusive Education

In 1975, the United States Congress passed the Public Law (PL) 94-142, or the Education for All Handicapped Children Act. This mandated appropriate education for all students with disabilities. However, prior to this, many states had passed laws regarding special education, but these children had not been enrolled in school. This act paved the way for inclusion as it is seen in today’s schools.

The movement toward inclusion has created an emphasis on educating students with disabilities in general education classrooms. According to Salend and Duhaney (1999), approximately 73% of students with disabilities receive their instructional programs in the general education classroom or resource center, and that 95% of the students with disabilities are served in general education schools (p.114). Also, the Individuals with Disabilities Act (PL 105-17) encourage students with disabilities to be placed in inclusive settings.

For the purpose of this paper, academic outcomes of inclusion will not be addressed, but social outcomes shall. The inclusion process seeks to create schools in communities where all students are educated together in general education classrooms. The debate over the extent to which children with disabilities should be integrated in the general education classroom has been hotly contested, yet there is less disagreement over the potential social benefits that all students may receive (Maag and Weber, 1995).

Opponents of inclusion argue that total integration of all students with disabilities into regular education classrooms violates the law (Murphy, 1996). The argument continues with the rationale that the functional needs, communication and living skills, of many exceptional children cannot be addressed in the regular classroom adequately. Students with disabilities require at least some individualized instruction that only teachers with specialized training can provide (Fuchs and Fuchs, 1994).

Murphy (1994) states that the elimination of self-contained classrooms would have a negative effect on many students with special needs. Specialized instruction and functional skills would be reduced in the regular classroom. Most importantly

though, exceptional children in the classroom would be at an “increased risk for social isolation and rejection”(p. 481).

As a result of inclusion, their nondisabled peers would resent disruptive behaviors of exception children and social isolation will increase (Lewis, Chard and Scott, 1994). Murphy (1994) suggests that investigations of attitudes of students toward different types of placements will have exceptional children preferring separate special classrooms to inclusive classrooms. This is due in part to their social isolation.

However, proponents of inclusion believe that segregating children who have disabilities is discriminatory and that their needs can be met within the regular classroom, given appropriate planning, collaboration and services (Murphy, 1996).

Salend and Duhaney (1999) presented data from classroom observations, sociometric analysis, and social competence ratings to study the per interactions and social acceptance of eight students with severe disabilities and eight students without disabilities educated together in the general classroom. Data collected revealed interactions (play, talking, and physical affection) between the two groups were often initiated by students without disabilities. The data also revealed that although interactions between the two groups declined as the year progressed, the interactions did tend to be more natural. These results show a positive social outcome for inclusion.

Fryxell and Kennedy (1995) found that students who were educated in the general education classroom had a greater number of interactions and social contacts with their nondisabled peers. These results were based on data collected using direct observations of students and interviews with targeted students and their teachers to

measure the students' social relationships in two different placements. These disabled students received greater social supports and had larger networks of friends, which included nondisabled students. These results were compared to students who were educated in self-contained classrooms.

Students with disabilities also like the social outcomes of an inclusion classroom. Albinger (1995) reported that students were the target of name-calling and felt as though they had to make up stories to explain their leaving the inclusion classroom to receive extra help. The exiting of the inclusion class caused great embarrassment.

Studies reviewed reveal that the social outcomes of inclusion are varied. Placements in inclusive programs have shown that students with disabilities have improved not only test scores, but also on-task behaviors and motivation to learn. Also, the studies show that although students with disabilities interact more with their nondisabled peers, these interactions end to be assistive in nature and decline as the year progresses (Salend et. al. 1999). However, these students do interact more, receive and offer increased levels of social support, and develop friendship (p. 118). And finally, the research states that inclusive practices do not interfere with nondisabled youths, but actually benefits them with increased acceptance, understanding, and tolerance of individual differences, greater opportunities to have friendships with disabled students and improved ability to deal with their own "issues" (p. 120).

Next there must be an agreed upon definition of inclusion that educators can use. The term has been used in endlessly different ways. Policies such as the number of students with disabilities allowed in the classroom and the amount of in-class support

necessary must be established and clarified. These difficulties with definition have lead schools to have mixed reactions to inclusion.

However, there may be limitations to the research on inclusion that has been reviewed. Most of the studies cited had used small sample sizes, lacked random selection of participants, and focused on the impact of inclusion on students with learning disabilities and students with moderate to severe disabilities educated in elementary settings. These limitations make it difficult to generalize the findings to students with disabilities within secondary settings and larger populations of disabled students. Also, students and educators responded to interviews, surveys and questionnaires. The answers pulled may be affected by the respondents desire to give socially acceptable responses that may not accurately describe or reflect their actual attitudes or experiences toward inclusion.

Full Inclusion and Autism

The concept of inclusion is that students with special needs can and should be placed in the same setting as normally developing peers with appropriate support services, rather than being placed in special education classrooms and schools. The benefits of inclusion were stated before as increased expectations by teachers, behavior modeling, and more learning and greater self-esteem. However, Mesibov and Shea (1996) state that there is very little evidence to support this approach as it relates to children with autism. The research that will be discussed under this heading will deal specifically with High Functioning Autism (HFA).

The research to this point has shown that inclusion has dealt students with disabilities other than autism. There is a suggestion that more mildly handicapped students with fewer behavioral problems is typically the ones who benefit from integrated settings (P. 340). The research literature on inclusion and students with autism is limited, so the benefits cannot be accurately determined.

One viable alternative to inclusion that has been researched is peer-mediated instruction. These groups are called Cooperative Learning Groups (CLG's), and have been applied to all content areas using small groups to complete work and help with skills (Kamps, Leonard, Potucek p. 1995). The purpose of their study was to see the effects of CLG's as an inclusive practice for students with autism and their typical peer's (p. 90).

Through their research CLG's were generally regarded as a "positive" strategy for providing opportunities to autistic students to interact with peers (p. 106). However, since appropriate peer interactions increased, more research may be needed for CLG's to check for effectiveness. Thus, peer-mediated interventions demonstrate that children with autism and more profound disabilities can benefit from opportunities to interact with untrained normally developing peers (Rowers, 1996).

Conclusion

Since Asperger Syndrome is less familiar than autism, there seems to be confusion with Asperger Syndrome. This confusion has lead difficulty with obtaining services, benefits in the regular education setting and individual

differences (Schopler 1996). Through Kanner and Asperger's work, there seems to be a difference between autism and Asperger Syndrome.

The research to be presented will need to address these limitations. Given the unique needs of students with Asperger Syndrome, research needs to focus not only on the impact of inclusion on Asperger Syndrome students, but the social impact of inclusion on students with Asperger Syndrome. Since inclusion has the potential to have a positive impact on students with and without disabilities, these positive outcomes are not being realized for all students in inclusive settings.

Chapter III

Research Design

Subjects

Participants in this research are four white males with Asperger's Syndrome. All students attend the same middle school in a small, suburban school district with approximately 700 students in grades 7 - 12. The school district serves a wide array of socio-economic backgrounds. Each student is currently in a self-contained learning disabilities classroom and enrolled in the eighth grade. These students will move to an inclusion English class and receive in-class support from a special education teacher and an aide for English five times a week at the beginning of the third marking period.

Student L is fifteen years old and is described as high functioning by his former teachers. His full scale IQ 101 on the WISC-R. He is able to complete grade level assignments and receives resource room help five times a week for reading comprehension. Every two weeks the case manager gives individual and group counseling to the student.

Student L's language skills are grammatically appropriate, however social interactions are more limited than typical peers are. Student L participates well in independent classroom activities, but experiences difficulty in group work while in the self-contained classroom.

Student D and student W are thirteen-year-old twin brothers and are described by staff as immature and unresponsive. Each student receives resource room help five times a week by a special education teacher. They also receive individual, group and family counseling once a week by an outside psychologist.

Student D has a full scale IQ of 115 on the WISC-R and student W has a full scale IQ of 95 on the WISC-R. Both students are able to complete all grade level assignments, but they do not hand in homework assignments. Each student tends to have perseverance on irrelevant topics during class, which limits most social interactions. Also, each student has difficulty with abstract lessons. Inappropriate behaviors, such as whining, crying, and arm flaying occur in response to group work, task difficulty, or changes in routine.

Student J is fourteen years old and is described as an average student by staff. He has a full scale IQ of 122 on the WISC-R. This student is able to complete all grade level assignments, however his IEP stipulates that only work handed in should be graded. Student J has great difficulty with abstract ideas, but asks for assistance when these occur. He has not showed the typical outbursts that accompany a student with AS.

Procedure

The Asperger's syndrome students were prepared for their task in only one way. A preparatory meeting was held to discuss their move to an inclusive English class. This meeting included each student, their parent, school psychiatrist, special education teacher, aide, and the regular education teacher. The students were assured that they should not be afraid and that this move was not only going to be helpful academically, but socially as well. The regular education students were informed that four new students would be placed in their class. These students were informed that the four boys had Asperger's Syndrome, the disability was explained to them and the students were told that the Asperger's students were very well educated and will be a positive addition to the class.

Preparation of School Staff

To reduce variability across settings, the special education teacher gave the aide and the regular education teacher specific instructions. First, they were told only to intervene with group work when necessary and to discourage the target children from approaching the staff. Second, staff agreed that they would not model or train more appropriate ways of interaction. Finally, each staff member was updated with current issues and background knowledge regarding Asperger's Syndrome.

Design

The students were measured in two settings throughout two, fifteen day time periods. First a self-contained learning disabilities classroom was used for a total of fifteen days. Second, an English class with in-class support was used for a total of fifteen days. Each session had the students randomly assigned. The sessions lasted for 42-minute intervals and were broken up into the same intervals for each activity.

The four students were observed during English in a self-contained learning disabilities class for fifteen days (three school weeks). A teaching assistant familiar with the students and a special education teacher that works with the students daily conducted the lessons. The conditions for collection of the data consisted of one 42-minute class period in a self-contained setting, with 8 other special education students. Normal presentation of materials occurred with teacher led and small group activities.

The activity in the self-contained and inclusive classrooms involved reading a novel from the school's selected list for eighth grade. During data collection in the self-contained English class, the students read the novel The Contender. During the in-class support English class, students were reading the story Of Mice and Men. The students were divided into three groups of 4 students to complete all tasks.

Data was then collected in the inclusive setting. The special education teacher and the teaching assistant collected all of the data in the inclusive setting. Each of the four subjects has the same English class, and that was where data was taken from. Each subject was placed in a different group for class discussions during each English assignment. Again, the class lasted 42 minutes, but had not only special education students, but also consisted of honor students as well. Every group consisted of 5 students (selected by the in-class support teacher and reading teacher) who worked on their project for 20 minutes a class period.

All groups in the self contained and inclusion classroom had to complete four activities: 1) peer tutoring of vocabulary words; 2) completion of who, what, where, and why comprehension worksheets; 3) a skit acting out a selected part of the reading assignment; and 4) a written group project to be completed in class. During this phase, teacher-led activities continued as during the baseline activities.

Besides the academic component of the groups, a social component was to promote cooperation and appropriate interaction amongst the students. Students in each class setting were assigned roles in the group as materials manger, group leader, and timekeeper to facilitate the group's transitions. These roles were assigned randomly so that every child had an equal chance to have a turn.

The teacher's roles during the groups were to introduce all new material and information to the students, monitor the groups progress, provide necessary feedback (praise, redirection, assistance), and chart data for appropriate participation and involvement in two-way conversations.

Measures

The academic component was not the goal of this arrangement. By moving the

students to an inclusion setting, the researcher was measuring two-way conversation among the Asperger's students and the other students in their group and the number of appropriate social interactions among the Asperger's students and the other members of their group. Students of the groups were assigned roles to help facilitate transitions, manage materials, and help complete tasks. The teacher designated these roles at random every three days so all members had an opportunity to cover each responsibility.

To analyze the interactions of the children, the experimenters used rating scales. The rating scales measured the total amount of two-way conversations the subjects participated in and measured whether the conversations were considered appropriate.

Participation, for the purpose of this paper, will be defined as motor or vocal behavior directed to a peer in an attempt to attain a response. Appropriateness is being defined as an absence of negative connotations towards others in the group, an absence of arm-flaying, shouting and crying and any other behavior that is disruptive.

Chapter IV

Analysis of Data

The purpose of this research was to see if students with Asperger's Syndrome would demonstrate appropriate social skills displayed in the inclusive classroom as compared to a self-contained learning disabilities classroom. This was accomplished by measuring two skills: comparing the total amount of two-way conversations between students with Asperger's Syndrome and their classmates and second, comparing the total amount of appropriate responses to two-way conversations in these settings. It was hypothesized that despite the social skill deficits and behavior issues of an Asperger's student, these deficits will not affect their success in inclusive classrooms.

Two observers recorded each student's performance on all measures (two-way conversations and appropriate response in two-way conversations) across the two sites. Interobserver reliability was not completed for this research.

Results

The results demonstrated that students with Asperger's Syndrome in the inclusive classroom engaged in more two-way conversations than in the self-contained classroom and demonstrated more appropriate responses during two-way conversations. Moving Asperger's students to an inclusive setting appears to be an acceptable strategy to increase appropriate peer interactions.

Two-way conversations. Instruction in the self-contained classroom shows a significant amount of two-way conversations for students J and D, while students W and L had much lower incidences respectively. The average number of two-way conversations per day are recorded in Table 1. These results indicate that three of the four students measured increased their two-way conversations when moved from the

self-contained classroom to the inclusion classroom. Students D, W and L all showed increases, but only student L's increases are notable statistically.

Table 1
Two-Way Conversation Averages

Student	Self-Contained	Inclusion	Statistical Significance
J	6.67	3.6	.0013
D	3.93	4.47	.5324
W	1	1.47	.2353
L	.6	2.27	.0012

According to a two-tailed t-test, the difference in conversational interaction in the two classrooms is statistically significant only for students J and L. As seen in Table 1, this data is supported by the two-tailed P-value of each student in the self-contained class when compared to the inclusion class. However, by further looking at the data, there are gains by three of the four students. Students D, W and L all showed an increase in two-way conversation. Student J showed the most number of conversations among the measured group in the self-contained classroom and the second most in the inclusion classroom. This occurred not only daily, but also in overall occurrences. Also, although students D and W did not have statistical significance in their data, they did have an increase that was measurable and noticeable. Furthermore, Table 1 supports the increase in occurrences of two-way conversations among students D and W.

Appropriate conversations. Table 2 presents the individual means of appropriate conversations in the self-contained classroom and the inclusion classroom. During the self-contained class, Students D, W and L each had less than one appropriate response per class. However, when placed in the inclusive classroom each student had an increase that was measurable.

Table 2
Student Means of Appropriate Conversations

Student	Self-Contained	Inclusion	Statistical Significance
J	1.13	2.4	.0024
D	.8	2.33	.0047
W	.2	.93	.0031
L	.13	1.33	.0001

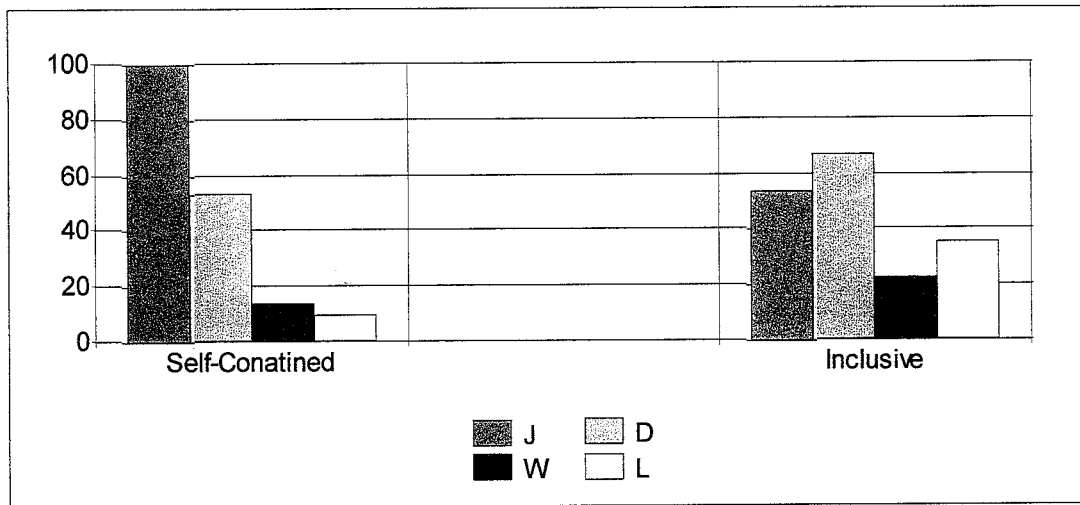
The gains of appropriate conversations are seen even more through Figure 2. In Figure 2, each student's progress is clearly visible. Student W increased his appropriate conversations from 3 incidences to 12 incidences. Also, student L increased his daily appropriate conversations from 2 incidences to 20 incidences over a fifteen-day period.

The data is further supported by two-tailed t-test results comparing the appropriate conversations of the self-contained classroom and the inclusive classroom. As depicted in Table 2, the difference in appropriate conversations in the self-contained as compared to the inclusive classroom for students J, D and W was statistically significant, while student L is considered extremely statistically significant.

Individual results. Statistically, the data does not support improvements for each subject. However, there were positive results for each student which can be seen in Table 1 and 2.

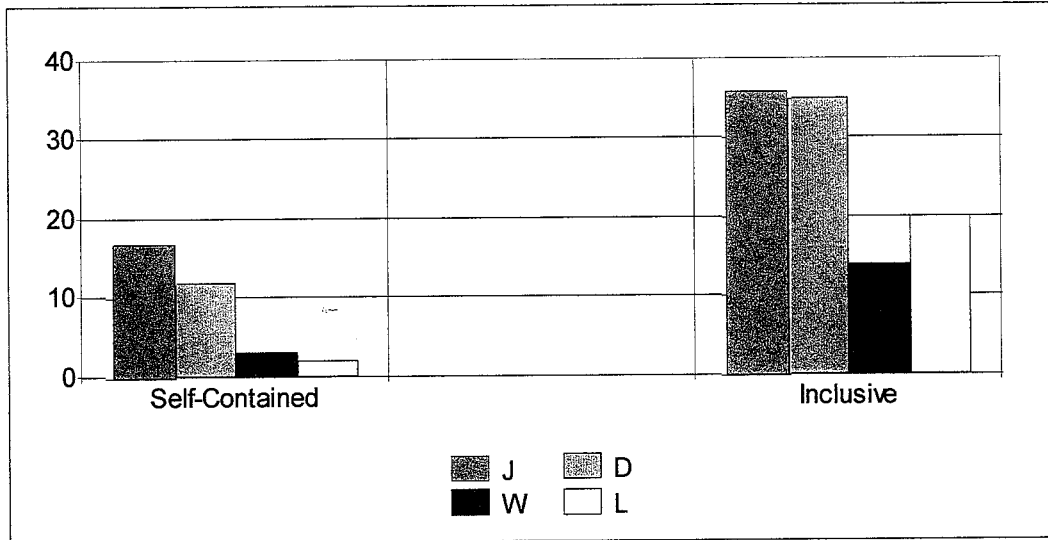
During two-way conversations, students D, W and L all had positive gains in their total amount of conversations from self-contained to the inclusive classroom. Yet, only student L had enough of a gain to be statistically significant, from 9 occurrences to 35 occurrences. Student J actually decreased in two-way conversations from 100 incidences to 54 incidences, but this was still statistically significant. A case for each student can be seen in Figure 1, their individual totals comparing the self-contained class and the inclusive class.

Figure 1
Individual Totals of Two-Way Conversations
Between Self-Contained and Inclusive Classrooms



During appropriate conversations, all individuals showed statistical significance according to their t-test scores. The individual totals for each student rose. This part of the research had the most significance statistically. The totals for the self-contained setting extend from 2 occurrences to 17 occurrences. In the inclusive class, the totals ranged from 14 incidences to 36 incidences. The totals can be seen in Figure 2.

Figure 2
Individual Totals of Appropriate Two-Way Conversations
Between Self-Contained and Inclusive Classrooms



Chapter V

Discussion

The purpose of this research was to see if students with Asperger's Syndrome would demonstrate different social skills in the inclusive classroom as compared to a self-contained learning disabilities classroom. This was accomplished by measuring two skills: comparing the total amount of two-way conversations between students with Asperger's Syndrome and their classmates and second, comparing the total amount of appropriate responses to two-way conversations in these settings. It was hypothesized that despite the social skill deficits and behavior issues of an Asperger's student, these deficits will not affect their success in inclusive classrooms.

Results of the research showed that students with Asperger's Syndrome did benefit from inclusion. A move to an inclusion classroom was an effective strategy in engaging two-way conversation and appropriate responses. The Asperger's student had an opportunity for increased student interaction and for integrating students with disabilities.

Findings

The two-way conversation gains show that the movement of students into inclusion as a viable option. Although only one student did not show a gain, the student's average of two-way conversations was still the second highest. All students had gains that were measurable and noticeable.

Appropriate responses also improved with the Asperger's student moving from a self-contained setting to an inclusion class. The four subjects had higher means of

appropriate responses in the inclusion class. These gains were more statistically significant than the other data collected as well. During this part of the research, the teachers and staff involved commented on the improvements that the Asperger's students made with their appropriate responses. Observations made by staff indicated that the Asperger's students helped other students practice with vocabulary in exchange for help with inference and abstract questions. This is out of character for someone with Asperger's Syndrome according to its DSM-IV definition. People with Asperger's Syndrome lack social reciprocity to develop relationships and their social levels are to low develop these social relationships (DSM-IV, p 76). This lead staff to change their teaching techniques to allow the Asperger's subjects more leadership roles within the group.

Asperger's was not made "official" until a large international field trial involving over a thousand children and adolescents with autism and related disorders was conducted. These results placed Asperger's in DSM-IV (Klin and Volkmar, 1995). Earlier research showed mixed opinions with Asperger's Syndrome and its validity (Myles and Simpson, 1998). The large scale field trails revealed evidence that Asperger's should be placed under a category different from Autism, under the overachieving class of Pervasive Developmental Disorders (Klin and Volkmar, 1995). The subjects support Schopler's (1996) information on characteristics of Asperger's Syndrome. The current subjects had full scale IQ's above 100 which also separates our subjects from being confused with High Functioning Autism. As Gillberg (1998) noted Asperger's Syndrome generally show higher full scale IQ's than High Functioning Autistic children.

Our subjects further substantiated Asperger's Syndrome with their preoccupation with trivial facts, insistence of environmental routine, average to above average cognitive ability, difficulty with social interactions, and difficulty with abstract thought (Myles and Simpson, 1998; Tantam, 1991; Wing, 1991).

As Myles (1998) stated, children with Asperger's syndrome tend to show an inability to understand the complex rules of social interaction. However, through inclusion, the current research found that Asperger's Syndrome subjects could understand rules of social interaction.

Inclusion is encouraged for students with disabilities, but will the students in the inclusion class have their needs met (Maag and Weber, 1995)? With the research presented, the Asperger's students had their needs met and made improvements within their disability.

The research presented supports Fryxell and Kennedy's (1995) research that students educated in the general classroom has a greater number of social interactions. Their data was also based on data collection of direct observations. The research from Fryxell and Kennedy also compared their results to that of a self-contained setting.

Limitations

There are a few variables that could have had an impact on the research. The first was the sample size. With only four subjects, the data collected would not seem very strong. Yet, when Kanner described his work with "early infantile autism", he had only eleven subjects. The research would have been much stronger with more subjects,

but cases of Asperger's Syndrome are very rare and to be able to place enough of these children in one area was out of the research's capabilities.

Second, the gender and race of the subjects is an issue. It has been documented that most cases of Asperger's Syndrome occur in males rather than females, however, the researchers could not find any information pertaining to cases involving minorities. So, to stretch this research across the lines of gender would be difficult, but not as troublesome as across minority lines. Myles and Simpson (1998) pointed out that the prevalence of Asperger's cases from boys to girls is two to three times as likely. Yet, when one looks for numbers of racial and ethnic numbers the data is very unclear. The closest answer to the prevalence of Asperger's Syndrome in minority populations is that "Asperger Syndrome has been identified throughout the world among all racial, ethnic economic and social groups"(p. 7).

Thirdly, the need for future research is necessary. There is limited research in regards to Asperger's Syndrome. This, in part, is due to the confusion of Asperger's and Autism. Proper identification is needed for this disability, which will strengthen Asperger's credibility as a disorder.

Finally, the area of time comes into account. The research only occurred for forty minutes a day for thirty days. This research would probably follow more along the lines of work done by Salend and Duhaney (1999) and Fryxell and Kennedy (1995). They presented their material in a very similar manner and achieved positive results for inclusion, but as the year progressed, the interactions between the nondisabled and disabled students decreased. However, the goal of inclusion was met with the increased social interactions among disabled and non-disabled students. This could lead to the social isolation of the Asperger's Syndrome child as the year progresses. More time

would be necessary to check on the long-term effects of inclusion on the Asperger's Syndrome child.

Implications

This research offers hope for students with Asperger's Syndrome, but can not be applied as the sole practice. Each student with Asperger's is very unique and different. What works with one will not work with all. With Asperger's Syndrome cases ranging from 1 in 1000 to 1 in 10,000 and having four students with this disability in a school of 700 leads to many questions. The one that really sticks out is that of misclassification. The chances of all four subjects having Asperger's Syndrome would seem very unlikely, so this research must be taken carefully. Although this syndrome was essentially unknown in English literature for years, increased interest and case reports have increased interest in the condition and, in turn, have the number of cases reported (Klin and Volkmar, 1995). Despite the new research leads, knowledge of Asperger's Syndrome is still limited.

Training an individual to work with an Asperger's individual is very minimal. Giving a broad background of the history, presenting past and current research, being able to identify the characteristics and have a strategy to deal with them is all the training necessary. For this research, this training of staff took only three hours over a three-day period.

This research has more credibility with the practice of inclusion for more severe disabilities. Some the subjects in this research had very bizarre and disruptive behaviors, however, during the inclusion class, the subjects never exhibited these behaviors. This data can be supportive of the inclusion practice and the positive aspects (modeling of

behaviors, increased social network, understanding, tolerance, etc.) it brings to all disabled children participating.

Conclusion

Since the samples were relatively small, the numbers of observations per child were limited, and since the statistical analysis was large at times, care must be taken when interpreting the results of the research. However, the social outcomes of inclusion on adolescent male students with Asperger's Syndrome was sufficient enough to demonstrate that they can benefit from opportunities to interact with their non-disabled peers. Children with Asperger's Syndrome can develop appropriate social skills as long as their levels of development appropriate placement, and knowledge of their disability is taken into account.

This finding does not suggest that all students with Asperger's Syndrome can be successfully placed in inclusion classrooms. Rather, a program that includes well-structured opportunities to interact with normally developing peers, with appropriate academics is a sound choice. On the smallest scale, this research provides the basic level of peer interaction for individuals with Asperger's Syndrome.

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