

3-23-2011

The Use of Curriculum Modifications and Instructional Accommodations to Provide Access for Middle School Students with Autism to the General Curriculum

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DOI: 10.25148/etd.FI11050307

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FLORIDA INTERNATIONAL UNIVERSITY

Miami, Florida

THE USE OF CURRICULUM MODIFICATIONS AND INSTRUCTIONAL
ACCOMMODATIONS TO PROVIDE ACCESS FOR MIDDLE SCHOOL
STUDENTS WITH AUTISM TO THE GENERAL CURRICULUM

A dissertation submitted in partial fulfillment of the

requirements for the degree of

DOCTOR OF EDUCATION

in

EXCEPTIONAL STUDENT EDUCATION

by

Whitney Moores-Abdool

2011

To: Dean Delia C. Garcia
College of Education

This dissertation, written by Whitney Moores-Abdool, and entitled The Use of Curriculum Modifications and Instructional Accommodations to Provide Access for Middle School Students with Autism to the General Curriculum, having been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this dissertation and recommend that it be approved.

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Date of Defense: March 23, 2011

The dissertation of Whitney Moores-Abdool is approved.

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Florida International University, 2011

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DEDICATION

This dissertation is dedicated to my husband Yasin Abdool, whose respect for education and strong support has made it possible for me to get so far with God's help. I would like to acknowledge sincere appreciation for my mother, Susan Wilcox, who encouraged me along the way and offered me her sage advice when I needed it most. Finally, my children also deserve thanks for their patience while I pursued this degree.

ACKNOWLEDGMENTS

My sincere gratitude goes out to Dr. Elizabeth Cramer and Dr. Patricia Barbetta for creating the Urban SEALS grant. The opportunities they offered me as a graduate assistant were invaluable and set the stage for my professional path into the challenging world of peer reviewed publications and competitive conference presentations. Through their encouragement and support I was able to experience the rewards of academia, participate in professional development activities, and offer service to the community.

I would like to express my appreciation to Dr. Patricia Barbetta, Dr. Maureen Kenny, and Dr. Hillary Landorf for serving on my committee and for taking the time required to help me successfully complete this dissertation. Their timely feedback and thoughtful comments added a special dimension to my writing and to my development in academia.

Finally, I would also like to extend my heartfelt thanks to Dr. Ann Nevin and Dr. Linda Bliss. Their professional interest and mentoring afforded me the vision I required to achieve monumental things as a graduate student, like acceptance to the American Educational Research Conference and publication in *Teacher Education Special Education*. Dr. Ann Nevin always pushed me in the direction of success by sharing with me tips about publication and involving me in current special education research. Dr. Linda Bliss asked me questions and exposed me to different types of qualitative research, opening my eyes to the possibilities for creating dialogs in the field of education.

ABSTRACT OF THE DISSERTATION
THE USE OF CURRICULUM MODIFICATIONS AND INSTRUCTIONAL
ACCOMMODATIONS TO PROVIDE ACCESS FOR GENERAL
CURRICULUM FOR MIDDLE SCHOOL STUDENTS WITH AUTISM

by

Whitney Moores-Abdool

Florida International University, 2011

Miami, Florida

Professor Elizabeth Cramer, Major Professor

The number of students identified as having autism increased by 500% in the past 10 years (United States Government Accountability Office, 2005). All students with disabilities are required to be placed in least restrictive environments and to be given access to the general curriculum in the major subjects of math, reading, writing, and science as mandated by federal legislation such as the Individuals with Disabilities Education Act (IDEA, 2004) and No Child Left Behind (NCLB, 2001). As a result of this legislation, an increasing number of students with autism are being educated in inclusive classrooms.

Most studies on general education access and curriculum modifications and/or instructional accommodations center on students with intellectual disabilities (e.g. Soukup, Wehmeyer, Bashinski, & Boviard, 2007; Wehmeyer, Lattin, Lapp-Rincker, & Agran, 2003). Wehmeyer et al. (2003) and Soukup et al. (2007) found included students with intellectual disabilities had more access to the general curriculum than mostly self-

contained students. This meant included students were more likely to be working on the general curriculum as mandated by NCLB than those in only self-contained classrooms. This study builds and expands the research of Wehmeyer et al., as well as Soukup et al., by examining how students with autism are given access to the general curriculum through curriculum modifications and instructional accommodations used by general education teachers in three schools. This investigation focused on nine inclusive classrooms for students with autism using a parallel mixed methods design (Newman, Newman, & Newman, 2011). Classroom observations using both an IEP related checklist and field notes, teacher interviews, an archival document review of the Individual Education Plan (IEP) for the selected students with autism were performed.

Findings of this study were organized by interview questions and subsequent coding categories. Quantitative data were organized in a nominal scale. Participants asserted that their middle school students with autism functioned well in their classrooms, occasionally exhibiting behavioral differences. Most instructional accommodations on IEPs were being implemented by participants, and participants often provided additional instructional accommodations not mandated by the IEP. The majority of participants credited county workshops for their knowledge of instructional accommodations.

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CHAPTER I

INTRODUCTION

Identification of cases of autism has increased at an unprecedented rate in recent years. The U.S. Centers for Disease Control (Centers for Disease Control [CDC], 2009) reported in a prevalence study of autism that 1 in 110 8-year-olds have been identified with the disorder. The 2005 U.S. Government Accountability Office (U.S. GAO, 2005) Report to the House of Representatives on Special Education reported a 500% increase in the number of students aged 6 to 21 identified with autism in the past 10 years. The U.S. GAO cited the following as possible reasons for the dramatic increase in autism rates as: (a) improved diagnoses, (b) broader array of conditions falling within the range of autism, and (c) increased rates of autism in the general population.

Despite what seems to be an alarming surge in rates of autism, some contend that what is being witnessed is the result of disability category shifting. Shattuck (2006) examined longitudinal federal and state special education disability categories and determined that students who would have previously been identified with mental retardation, specific learning disability or other health impairments were now categorized under autism. When more conditions were included in the category of autism, like mental retardation and specific learning disability, there were corresponding declines in the above listed disability categories pointing to the possibility of disability category substitutions. Regardless of the reasons for increased numbers of students being identified as autistic; elevated rates of autism have impacted many aspects of our society, especially the public educational system.

Defining Autism in Education

The medical and education communities differ in how each defines autism. The medical community categorizes autism as a pervasive developmental disorder and defines it as a person having deficits in the following areas: (a) qualitative impairment in social functioning; (b) qualitative impairment in communication; and (c) restricted repetitive and stereotyped patterns of behavior (American Psychiatric Association [APA], 2000). The medical community separates disabilities that have autistic features in the areas of communication, social interaction, and restricted repetitive/stereotyped behaviors due to other features that make them distinctive disorders. For example, some disorders that could fall into the category of autism in education, but are distinct disorders in the medical community are Rett's Syndrome, Childhood Disintegrative Disorder, and Asperger's Syndrome, to name a few. Rett's Syndrome only affects girls; Childhood Disintegrative Disorder, also results in loss of fine and gross motor skills from the ages of 5-30 months; and Asperger's Syndrome, is also called *high functioning autism* because many with this syndrome have above normal intelligence (APA, 2000; CDC, 2007; U.S. GAO, 2005; U.S. Department of Health and Human Services, [U.S. DHHS], 2001). Unlike the medical community, education places all such disabilities with autistic features under the umbrella of autism and according to federal law (i.e., Individuals with Disabilities Education Act [IDEA], 2004) it is defined as follows:

Autism means a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age 3, adversely affects a child's educational performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped

movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences. The term does not apply if a child's educational performance is adversely affected primarily because the child has an emotional disturbance, as defined in this section. (20 U.S.C. § 1414(300.8).

Thus, IDEA offers a broad definition of autism that includes multiple disorders and syndromes (Fogt, Miller, & Zirkel, 2003; U.S. GAO, 2005). The fact that numerous disorders and syndromes fall under the disability category of autism in education has contributed directly to the rate increases witnessed over recent years (Shattuck, 2006). Additionally, it should be acknowledged that the term Autism Spectrum Disorder is frequently used to refer to autism because of the variability in the manifestations of the disorder (CDC, 2007). However, since federal law does not differentiate among disabilities with autistic qualities, the term autism will be used in this study.

Autism and the General Education Classroom

Large numbers of students with autism are being taught in their local neighborhood schools. According to the 2005 Annual Report to Congress (U.S. Department of Education [USDE]), there were 2,434 students with autism ages 6- to 21-years-old receiving 79% of their education in the general education classroom in 1993, as compared to 37,650 doing so in 2003. This indicates that there are growing numbers of students with autism being educated in general education classrooms.

Numerous factors have contributed to this trend, ranging from federal laws to societal attitudes. The most pivotal change in education for students with disabilities in general education classrooms dates to the implementation of the federal law, Education for All Handicapped Children Act of 1975 (PL 94-142), which is now known as the

Individuals with Disabilities Education Act (IDEA, 2004). The law itself has undergone several revisions over the years from 1975 to 2004, including but not limited to: (a) disability category changes, (b) age group modifications, (c) a name change, and (d) expansion of services (National Information Center for Children and Youth with Disabilities, 1996). One of the most significant revisions of IDEA pertinent to autism was in 1990 when it was added as a disability category (U.S. Department of Education Office of Special Education Programs [USDE OSEP], 2006), having not been included in the law previously.

Although IDEA (2004) has been revised several times, the law retains its basic foundational tenets which include: (a) a free and appropriate public education (FAPE); (b) the right to be educated in the least restrictive environment (LRE); (c) the right to an individualized education plan (IEP); (d) the right to non-discriminatory identification and evaluation; (e) the allowance of parental participation; and (f) the right to due process. These elements remain an integral part of public education. It can be argued that LRE, one of the six original components in IDEA, has had the most influence on students with disabilities being educated in general education classroom settings with their non-disabled peers (Dybvik, 2004; Itokonen, 2007; Simpson, de-Boer-Ott, & Smith-Myles, 2003).

Prior to IDEA, the large majority of students with disabilities were taught in self-contained classrooms or separate schools from students without disabilities (Hitchcock, Meyer, Rose, & Jackson, 2002; Osgood, 2008; Stainback & Smith, 2005). As a result of LRE and the increase in inclusive practices, the use of separate educational models has steadily decreased (Hitchcock et al., 2002; Osgood, 2005; Simpson et al., 2003). LRE,

according to IDEA (2004), is described as educating children with and without disabilities together, unless the nature of the child's disability is so severe that education with non-disabled peers in general education classrooms would not benefit the child with the disability. In addition to the basic tenet of LRE, subsequent revisions of IDEA have also precipitated increased rates of inclusion in general education classrooms. For example, in the 1997 revision, the law mandated that all students with disabilities be provided access, involvement, and opportunities to progress in the general curriculum (Karger & Hitchcock, 2003), which includes the educational standards expected of all students within a school district (IDEA, 2004).

While IDEA (2004) has been a driving force for change in the education of students with disabilities, another federal law, The No Child Left Behind Act (NCLB, 2001) has also contributed to these changes. NCLB has stressed not only access to the general curriculum, but also access to all state mandated tests for students identified for special education (Karger, 2005; Karger & Hitchcock, 2003) such as state mandated assessment in the major subjects of math, reading, writing, and science in the third, fifth, eighth, and tenth grades. As a result of the combined requirements of IDEA and NCLB, general education teachers are required to adapt their instructional strategies in the general education classroom to accommodate students with disabilities (Karger, 2005; Simpson et al., 2003; Wagner, 2002).

The degree of intervention needed to facilitate appropriate social, behavioral, communicative, and academic supports for students with autism in general education classrooms varies. Because of variability in manifestations of their disability, students with autism need curriculum modifications or instructional accommodations to access the

general curriculum (Hanbury, 2005; Myles, 2005; U.S. DHHS, 2001; U.S. GAO 2005; Wagner, 2002). Curriculum modifications require the teacher to make adjustments to what is being taught or expected in the general education classroom, for instance a student could be given shorter assignments (National Dissemination Center for Children with Disabilities [NICHCY], n.d.). Instructional accommodations are changes in the methods used for student responses or curricular involvement (NICHCY, n.d.). For example, an accommodation for a student who has trouble writing answers could be to giving answers orally (NICHCY, n.d.). Instructional accommodations do not inherently change the curricular content, or the length of the assignment; these accommodations only change how the content is accessed or the method of student response.

Access to the general curriculum can also be provided through the application of Universal Design for Learning (UDL). The concept of UDL is to ensure that content is accessible to all learners by making it available through various means that are based on pre-existing student needs in the classroom (Hitchcock & Stahl, 2003). While UDL is now applied in education, it was initially conceived as Universal Design, a concept used in architecture and product development to create access to places and products for all types of people (Center for Applied Technology [CAST], n.d.). Examples of universal design in architecture include curb cuts on sidewalks for those in wheelchairs; and in product development, the use of closed captioning of video for those with hearing impairments (CAST). Both applications of universal design extended beyond their intended users. This can be illustrated by the example of curb cuts that not only make sidewalks accessible for people in wheelchairs, but also allow people pushing strollers,

riding bikes, and using skates or skateboards to transition more easily from the street to the sidewalk.

The application of UDL in education extends the use of technology to create accessibility to learning for all different types of students, including those with disabilities. One example of UDL could be applied to the ubiquitous classroom textbook. The use of UDL principles can extend the role of the textbook to offering the text on an audio CD, or making it accessible through a computer application. Students having the ability to change the size of the font in a textbook or using text-to-speech features makes the information more accessible. It is especially useful for students who may require such instructional accommodation to access the information due to their own processing difficulties or varied learning styles. Allowing accessibility by variety of means increases the potential for students to interact with the information. Not only can students with disabilities benefit from the use of UDL, implementation of this concept can be of assistance to all students. For the intentions of this study, the availability of UDL features in the general education classroom, while perhaps not exclusively directed towards students with autism, will be classified as an instructional accommodation.

All curriculum modifications and instructional accommodations for students designated eligible for special education, as per federal law, must be outlined in the student's IEP (IDEA, 2004). According to the U.S. Department of Education, Office of Special Education and Rehabilitative Services (U.S.DE OSERS, 2000), each IEP is required to contain, among other things, the following: (a) annual measurable goals related to either the students' academic, behavioral, physical or social needs; (b) a list of special education and related services that may include supplementary aids/services for

the student, curriculum modifications, or supports for staff; (c) an explanation of participation with non-disabled children in general education classes; and (d) a statement regarding student participation or non-participation in state mandated assessments, and what modifications are required. Furthermore, each student with an IEP is required to have a team of qualified school professionals and family members to make decisions about his or her IEP; this is called the IEP team (IDEA, 2004). An important 2004 IDEA revision specifies that general education teachers must be a part of the IEP team and, furthermore, their role requires them to do the following:

Participate in the development of the IEP of the child including the determination of appropriate supports, and other strategies, and the determination of appropriate positive behavioral supports, and other strategies, and the determination of supplementary aids and services, program modifications, and support for school.... (20 U.S.C. § 1414(1)(A)(i)(IV))

Unfortunately, according to an investigation by the U.S. DE OSERS (2002), most general education teachers did not feel they were adequately prepared to work with or provide instructional accommodations for students who have disabilities. In addition, Robertson, Chamberlain, and Kasaril (2003) interviewed 187 second- and third-grade students and their teachers in general education classrooms regarding their relationships with included students who have autism. The researchers found that increased behavioral symptoms led to decreased levels of social inclusion and acceptance by peers and general education teachers. Moreover, general education teachers reported the need for supplemental training and support to successfully include the students with autism (Robertson et al.).

The 27th Annual Report to Congress on the implementation of the IDEA revealed that younger students with autism are included more frequently in general education classrooms than their older counterparts (U.S.DE OSERS, 2005). This may be due to the fact that the curriculum tends to be more specialized at the secondary school level, and inclusion may become more difficult for general education teachers to implement successfully without the proper training or supports at such levels (Cole & McLeskey, 1997; Rice, 2006). Middle school students with autism are included at lower rates than elementary school students with autism (U.S.DE OSERS, 2005). Thus, little is known about the curriculum modifications and the instructional accommodations being used to help middle school students with autism access the general curriculum.

Purpose of the Study

General education teachers are expected to meet the needs of a diverse array of students. Both IDEA (2004) and NCLB (2001) require that students with disabilities be given access to the general curriculum and state mandated assessments. Furthermore, the convergence of access requirements and a dramatic rise in numbers of students with autism call for an investigation into what is being done in classrooms to address this issue.

This study was proposed because research on the use of curriculum modifications and instructional accommodations by teachers in general education classrooms for students with autism is limited. Three research studies were identified that explored the curriculum modifications and instructional accommodations that teachers use for students with disabilities in general education classrooms. Two of the studies (Soukup, Wehmeyer, Bashinski, & Boviard, 2007; Wehmeyer, Lattin, Lapp-Rincker, & Agran,

2003) focused on elementary and middle school students with cognitive disabilities and collected data through classroom observations. The one study that explored modifications and accommodations used by general education teachers with students with autism used survey methodology and included no observations in secondary classrooms (Newman, 2007).

Given the paucity of research, this study was conducted due to the need to understand more about which curriculum modifications and instructional accommodations general education teachers actually use in classrooms to provide access to the general curriculum for middle school students with autism. Moreover, this research went beyond self-reports in survey research and examined teacher practices in classrooms. Ultimately, now that more is known about the curriculum modifications and instructional accommodations general education teachers are using, we have a better idea of how school students with autism are accessing the general curriculum.

Statement of the Problem

This study investigated the curriculum modifications and the instructional accommodations general education teachers use to provide access to the general curriculum. Research was needed to determine the following: (a) the types of curriculum modifications and instructional accommodations general education teachers use to facilitate access to the general curriculum for middle school students with autism, and the degree to which they are based on the students IEPs, (b) where general education teachers acquire knowledge about curriculum modifications and instructional accommodations (Cole & McLeskey, 1997; Mastropieri & Scruggs, 2001). In summary, this study was conducted because no studies were found that investigated the curriculum

modifications and instructional accommodations used in the general education classroom that provide access to the general curriculum for middle school students with autism.

Research Questions

The following research questions were investigated through the use of qualitative research methods, direct classroom observation, school document analysis, and teacher interviews:

1. What types of curriculum modifications do general education teachers use to provide access to the general curriculum for middle school students with autism in the major subjects taught in the general education classroom?
 - a. To what extent are the curriculum modifications used by general education teachers derived from the students' individual education plans (IEPs)?
 - b. Where do general education teachers report learning the curriculum modifications that they use to provide access to the general curriculum for middle school students with autism in the major subjects taught in the general education classroom?
2. What types of instructional accommodations do general education teachers use to provide access to the general curriculum for middle school students with autism in the major subjects taught in the general education classroom?
 - a. To what extent are the instructional accommodations used by general education teachers derived from the students' individual education plans (IEPs)?
 - b. Where do general education teachers report learning the instructional

accommodations that they use to provide access to the general curriculum for middle school students with autism in the major subjects taught in the general education classroom?

Delimitations

This study was restricted to three “A-rated” middle schools and a total of nine middle school teachers, three at each school, who had at least one student with autism in their classroom. Students with disabilities are included at a higher rate in elementary, and inclusion numbers start to decrease in secondary settings (U.S.DE OSERS, 2005). IDEA(2004) offers a broad definition of autism that includes multiple disorders and syndromes (Fogt, Miller, & Zirkel, 2003; U.S. GAO, 2005); therefore the intellectual functioning of included middle school students will not be a determinant factor in choosing participants for the study. Although federal laws (NCLB, 2001; IDEA, 2004) require all teachers to include students with disabilities, this study will focus solely on teachers with a 5-year permanent certification in the subject areas of English, math and science, excluding any teachers also certified in exceptional student education.

Operational Definitions

Access to General Curriculum

Access to the general curriculum is defined by IDEA (2004) as students attaining the educational standards within the school district that are applicable to all students in the local education agency (IDEA, 2004).

Autism

A pervasive developmental disorder and defines it as a person having deficits in the following areas: (a) qualitative impairment in social functioning; (b) qualitative

impairment in communication; and (c) restricted repetitive and stereotyped patterns of behavior (APA, 2000).

Coding and Theme Analysis

Coding is the process of “sorting through statements by content, theme, or event rather than by people who told you the information,” (Rubin & Rubin, 2005, p. 219).

Coding Categories

“Terms and phrases developed to be used to sort and analyze qualitative data,” (Bogdan & Biklen, 2007, p. 271).

Curriculum Modification

Curriculum modifications are adjustments to what is being taught or expected in the general education classroom for students with disabilities, for instance a student could be given shorter assignments with adjustments to what is actually being taught from the curriculum (NICHCY, n.d.).

Descriptive Field Notes

These types of notes are what a researcher experiences through his or her five senses and writes down while compiling and reflecting on the data in the study (Bogdan & Biklen, 2007).

Document Analysis

The use of written materials or photographs that are used as a supplemental source of information which has a main source of data which includes participant observation or interviewing (Bogdan & Biklen, 2007).

Feeder Pattern

Feeder patterns are the flow of schools that the students take as they progress through their education. The patterns are determined by the location of the students residence and that location within the school boundary (Cobb County, n.d.)

Gate Keepers

Persons who have the ability to grant the researcher access to their subject of study (Bogdan & Biklen, 2007).

How-to Articles

Articles that describe specific classroom strategies that may be sound in nature, but usually do not include research references.

Individuals with Disabilities Education Act 2004 (IDEA)

A federal law stipulating the requirements of public schools in regard to provision of educational services for students with disabilities. The basic the law retains its basic foundational tenets of the law include: (a) a free and appropriate public education (FAPE); (b) the right to be educated in the least restrictive environment (LRE); (c) the right to an individualized education plan (IEP); (d) the right to non-discriminatory identification and evaluation; (e) the allowance of parental participation; and (f) the right to due process.

Individual Education Plan (IEP)

An individualized education plan (IEP) is a written document for a student with disabilities that is periodically reviewed and revised based on the student's needs. Each IEP includes a statement on present levels of performance, and must also state how the

student's disability impacts involvement/progress in the general curriculum (IDEA, 2004).

Individual Education Plan Team

This is the team that writes the Individual Education Plan (IEP) for a student with a disability. It consists of the parents of the student with a disability, one general education teacher, one special education teacher, and a representative from the school, and any other entities that the parent deems appropriate to attend (IDEA, 2004).

Instructional Accommodation

Instructional accommodations are changes in the instructional methods used in student responses or curricular involvement for students with disabilities, for example an accommodation for a student who has trouble writing down answers could be to give answers orally but the curriculum content itself does not change (NICHCY, n.d.).

Least Restrictive Environment (LRE)

Least restrictive environment (LRE) consists of educating children with and without disabilities together, unless the nature of the child's disability is so severe that education with non-disabled peers in general education classes would not benefit the child with the disability (IDEA, 2004).

Major Subjects

Major subjects include all subjects that require grade level ratings on the federally mandated state assessments given on a yearly basis. In the state of Florida major subjects includes writing, reading, math and science (Bureau of Family and Community Outreach, 2005).

Meta-Inferences

These are defined as using multiple sources of information in research to arrive at an insight that would then facilitate implications to be drawn from the data (Newman et al., 2011).

Methodological Eclectism

The process by which once a researcher identifies their research questions they consider a diverse array of methodological tools to answer those questions (Tashakkori & Teddlie, 2010),

No Child Left Behind, 2005 (NCLB)

NCLB is a federal law that has many requirements related to the provision of educational services to students in the public school. Access to the general curriculum for all students, including those with disabilities, is one requirement of this law.

Responsive Interviewing

This type of interviewing requires the interviewer to acknowledge the human elements of the interview, to maintain flexibility of design, and to recognize that the interviewer is the main tool of the research (Rubin & Rubin, 2005).

Self-Contained Classrooms

Classrooms designated exclusively for students with disabilities (Osgood, 2008).

Universal Design for Learning (UDL)

Creating content that is accessible to all learners by making it available through various means based on pre-existing student needs in the classroom (Hitchcock & Stahl, 2003). An example of UDL is extending the role of the traditional textbook by offering the text on an audio CD.

Chapter Summary

The identification of instances of autism has increased at a substantial rate in recent years. The U.S. GAO report to the House of Representatives on Special Education (2005) reported a 500% rise in the number of students ages 6- to 21-years-old identified with autism in the past 10 years. It is possible that there are valid reasons for the increases in the identification of instances of autism, such as better assessment criteria (U.S. GAO, 2005) and disability category substitutions (Shattuck, 2006). Regardless of the causes, the fact remains that public education has undergone significant changes as a result of these increases.

Public Education is guided by federal legislation such as IDEA (2004) and NCLB (2001). IDEA (2004) requires that students with disabilities be placed in LREs, while NCLB (2001) requires that they be given access to the general curriculum and state mandated assessments in the major subjects of math, reading, writing, and science. As a result of both federal mandates, an increasing number of students with autism are being educated in the general education classroom. Students with autism can be successful if general education teachers use curriculum modifications and instructional accommodations to give them access to the general curriculum (Dybvik, 2004; Osgood, 2005; Villa & Thousand, 2005).

The rise in prevalence of autism and the demand to provide instruction for middle school students with autism in the general education classroom has created a need to determine which curriculum modifications and instructional accommodations are being used to provide access to the general curriculum and if these are a part of the IEPs. It should also be determined where general education teachers receive their training.

Therefore, this study observed general education teachers in the classroom and asked them where they acquired knowledge about curriculum modifications and instructional accommodations for their middle school students with autism.

This study investigated curriculum modifications, instructional accommodations and explored: (a) the use of curriculum modifications and instructional accommodations by general education teachers for middle school students with autism in the general education classroom, and the extent to which they are derived from the students' IEPs, and (b) where general education teachers reported learning about the curriculum modifications and instructional accommodations they used to provide access to the general curriculum.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter provides a review of the literature on curriculum modifications and instructional accommodations used by classroom teachers to ensure access to the general curriculum for students who have disabilities. The first section describes the landscape of the literature currently available regarding curriculum modifications and instructional accommodations for students with who have disabilities, including those with autism. The second section describes the research conducted on the meaning and degree of access to general curriculum for students with disabilities. The third section reviews studies on instructional supports for students who have disabilities, and the final section of this review offers an analysis of the literature reviewed and a summary of the relationship to the research questions.

Literature Landscape of the Literature on

Curriculum Modifications and Instructional Accommodations

An abundance of descriptive “how-to” articles that tell how-to implement specific classroom strategies and teacher/administrator advice commentaries pervade the literature on curriculum modifications and instructional accommodations. Most of the articles are directed to general education teachers and school administrators and focus on descriptions of the behavioral manifestations of autism, considerations for inclusion, and instructional recommendations for students with autism (e.g., Dahle & Gargiulo, 2004; Harrower & Dunlap, 2001; Mastergeorge, 2007; Safran, 2002) as well as access to the general curriculum for students with various other disabilities (Connor & Lagares, 2007;

Godek, 2008; Worrel, 2008). However, research on these topics is sparse. In order to provide a full understanding of the literature on curriculum modifications and instructional accommodations, this section will include a brief summary of some of the how-to articles that appear in the literature. on the landscape of articles that appear in the literature. Thereafter, the focus will shift to research studies on the meaning and definition of access to the general curriculum, and research studies on instructional supports.

Dahle and Gargiulo (2004) provide an example of a *how-to* article that promotes the use of structured teaching approaches integrating academic and learning accommodations tailored for students with autism. Another article for teachers contained in a Phi Delta Kappa *Fastback* (2004), which is an informative booklet on education topics, includes detailed instructional implications and strategies in domains such as social interaction, academic obstacles, and instructional accommodations for students with autism. Similarly, Safran (2002) provides general education teachers ideas on how to set up a classroom, how to help students transition and develop social skills, and concludes with recommendations for instructional accommodations and accessing resources.

In addition to articles offering general education teachers ideas about instructional accommodations for students with autism, other articles offer general education teachers and administrators tips on what to do and what not to do when it comes to inclusion of students with disabilities in general. For example, Worrel (2008) explained seven potential barriers to secondary school inclusion and their remedies. Similarly, Connor and Lagares (2007) provided 25 instructional strategies for social studies teachers to use that

improve access to the general curriculum and success on state assessments for included high school students with disabilities. In addition to articles for teachers, there are also articles that come from the administrative point of view. For instance, Mastergeorge (2007) examined inclusion and gave administrators, as well as teachers, guidelines to promote the academic success of students with autism. The article incorporated topics like social and environmental classroom considerations, how to establish routines, and how to use students' restricted interests in the classroom.

When one examines the landscape of how-to articles that tell how-to implement specific classroom strategies for teachers and administrators, one finds that some authors direct their articles towards schools. For example Godek (2008) offered tips for schools on how to provide the necessary supports for a student with autism. The author related the story of a student with disabilities named William from pre-kindergarten through high school. For each school level there were multiple ideas on how to support this type of student in a general education classroom. While the article is informative and brings to light many important considerations for schools, it fails to address access to the general curriculum and instead focuses exclusively on individual student goals.

The how-to articles and the teacher/administrator advice commentaries follow similar formats and are abundant in education journals. Generally present in these articles are descriptions of the behavioral manifestations of various disabilities and proscriptions for ameliorating the challenges of inclusion by detailing strategies general education teachers can use to successfully include students with autism or other disabilities. Despite the fact that these types of articles permeate the literature on curriculum modifications

and instructional accommodations, all of the articles failed to support their recommendations with research.

Research on the Meaning and Degree of Access to the General Curriculum

Access to the general curriculum is interpreted in many school districts as simply a student with disabilities being placed in a general education classroom (Soukup, Wehmeyer, Bashinski, & Boviard, 2007). Placement does not necessarily equate with access to the general curriculum (Browder, Wakeman, & Floweres, 2006; Newman, 2006; Wehmeyer, 2006) because a student with a disability could physically be in a general education class working with a para-professional doing different work and not gaining access to the same content as the rest of the students. Additionally, most school districts do not have clear policies on strategies to promote access to the general curriculum for students with disabilities (Soukup et al., 2007). Research on curriculum modifications and instructional accommodations has been limited to the meaning and degree of access to the general curriculum for students with disabilities, and to the types of curriculum modifications and instructional accommodations offered to students with disabilities.

Research on the definition of access to the general curriculum was conducted by Dymond, Renzaglia, Gilson, and Slagor (2007). Dymond et al. conducted a mixed methods study in an urban school in a small mid-western state and interviewed 20 general education social studies/science teachers and 15 special education teachers to explore their definitions of access to the general curriculum. General education social studies/science teachers defined access for these students as being able to use the same curriculum and materials as students without disabilities. In contrast, special education

teachers' defined access to the general curriculum as the use of an adapted curriculum tailored to individual student needs that also developed appropriate life skills. All of the interviewees believed that special education teachers were responsible for providing access to the general curriculum. General education teachers reported that they were the content experts, while special education teachers stated they were skilled in individualizing student instruction. Half of the general educators and only 8% of special educators interviewed defined access to the general curriculum for students with significant cognitive disabilities as having access to the same curriculum content as those students without disabilities. The limitations of this study included the small sample size and the fact that teachers from only one school were interviewed.

The degree of classroom participation and access to the general curriculum that middle school students with cognitive disability have in relation to their classroom setting, meaning inclusive or self-contained, was the subject of a study conducted by Wehmeyer, Lattin, Lapp-Rincker, and Agran (2003). Participants included 33 middle school students in grades 6 through 9 at two schools. A time sample observation coded the subject content being taught, the type of setting, and whether or not there was a peer without a disability present in the classroom. Accommodations, adaptations and augmentations were coded broadly, not by specific types. For example, if an accommodation was documented, it was not stated if it was extended time, reduction in amount of work, and so forth. It was only noted that an accommodation, adaptation or augmentation was provided to a student. Wehmeyer et al. also examined school records to uncover anecdotal data such as IQ-test scores, accommodations used, and current goals and objectives to provide a clear picture of the participants in the study.

Wehmeyer et al. (2003) analyzed variances across 439 observations first to determine if there was a difference between inclusion status of a student and what they were studying, either IEP goals or general curriculum, and to what degree accommodations, modifications, and augmentations were present. A second variance analysis performed by Wehmeyer et al. examined class content being studied in the different types of general education classes (like math, science/health, social studies, art/music, English/language arts, and history) which were then grouped with special education classes to assess each type of class and its impact on access to the general curriculum for students with cognitive disability. The researchers found that variances were based on the amount of support required for a student and were correlated to the amount of time spent on accessing the general curriculum. Students requiring limited support were engaged in activities related to the general curriculum in 87% of the intervals. Yet students requiring intensive support were engaged in activities related to accessing the general curriculum in only 55% of the intervals. Students in inclusive settings were 40% more likely to be working on general curriculum than their counterparts in self-contained classrooms. In contrast, students in self-contained classrooms were more likely to be working on their IEP goals than students in inclusive settings.

In a similar study to that of Wehmeyer et al. (2003), Soukup et al. (2007) investigated the level of general curriculum access for elementary students with cognitive disability. Access to the general curriculum was determined by variables such as type of classroom, meaning either being in a general education classroom or a self-contained classroom, and what type of work was being done by the students. Included in the sample

were 19 elementary school students aged 7 to 12 years old who were observed in either science or social studies class. Classroom observation data on accommodations and adaptations, as well as access to the general curriculum, were collected using the Access CISSAR, a computer-based time sampling program.

Factors that led to increased levels of general curriculum access were determined by Soukup et al. (2007) to be instructional grouping, physical arrangements, and if it was a general education or a self-contained classroom. Students who spent a greater amount of time in the general education classroom worked 98% of the time on grade level standards, but only worked 10% of the time on IEP goals. Students in the low inclusion group spent almost 58% of their time working on IEP goals in self-contained classrooms. Accommodations, which mostly included paraprofessional or peer support, were given 67% of the time for all students and were followed by adaptations like reduced work, lower reading levels, or key words represented in pictures 18% of the time. The researchers concluded that students included at a high or medium rate were more likely to have higher access to the general curriculum than students with low inclusion rates.

Unlike the Wehmeyer et al. (2003) researchers, the researchers in the Soukup et al. (2007) study coded three types of student interventions giving specific examples of each. These researchers coded for specific types of augmentations, modifications, and accommodations in the interval recordings. Augmentations were defined as types of strategies for learning, test taking, organization, self regulation, and other. Augmentations were never observed during the interval recordings.

Soukup et al. (2007) investigated the presence of the following adaptations or modifications in the classroom: (a) adjusted reading demand, (b) adjusted cognitive

demand (not reading), (c) non-print content, (d) content through technology, (e) enhanced content, (f) non-traditional response to instruction, (g) non-traditional instructional materials, and (h) other. Only four out of the eight modifications were observed in the classroom in 17.6% of the time samples. The most frequently used modifications in descending order were adjusted cognitive demand (8.4%), followed by using non-print content (7.7 %), adjusted reading demand (6.2%), and enhanced content (0.6%).

Accommodations in the Soukup et al. (2007) study consisted of the student with a disability having any of the following in the classroom: (a) paraprofessional, (b) peer support, (c) note-taker, (d) environmental adjustment, (e) extended time, (f) redistributed time, (g) assistive technology, and (h) other. Accommodations were observed 67.4% of the time, but these only included paraprofessional support (65.4%), peer support (1.0%), and a note-taker (2.7%). Based on these results, it appears that the most preferred accommodation was providing a paraprofessional in the general education classroom.

Limitations of the study included small sample size and possible teacher effects because most of the students had the same teachers. The researchers believed that their results were within the norm of what can be found in similar settings since both their study and the Wehmeyer et al. study (2003) found that higher rates of inclusion resulted in higher rates of access to the general curriculum.

Establishing a model instructional implementation method for access to the general curriculum for students with cognitive disability was the goal of a study conducted by McDonnell, Mathot-Buckner, Thorson, and Fister (2001). McDonnell et al. sought to increase general education inclusion time for students with cognitive disability and to enhance the quality of instruction by employing a multiple probe across subjects

single subject design to examine the use of class-wide peer tutoring (CWPT), multi-element curriculum, and accommodations on the responding and competing patterns of included students with moderate to severe disabilities in a junior high school. A random selection of participants in McDonnell et al. comprised of three students with moderate to severe disabilities, three students without disabilities, one special education teacher, and three general education teachers. Dependent measures were academic responding and student competition using the Code for Instructional Structure and Academic Response (MS-CISSAR). Experimental conditions of this single subject multiple baseline design included the baseline and intervention measurements and an instructional package.

CWPT was the first component of this study and was implemented two times per week for 15 minutes a session by general education teachers who were told to create peer tutoring teams. Each team consisted of one above average student, one average student, and one below average student. Each team member took turns in the different roles of peer tutor, tutee, and observer. The peer tutor chose the problem or task and gave the instructional cue. The observer assisted the peer tutor by giving the tutee feedback on his or her performance. The tutee role was to receive instruction from the peer tutor and feedback from the observer. These roles rotated each session. The general education teacher was instructed to develop help procedures in case any student could not fulfill his or her role. For example, if a student had difficulty performing a task like reading a set of directions, another member would assist the student having the difficulty.

The second component of that study was multi-element curriculum. Multi-element curriculum mirrors the definition of curriculum modifications. Both definitions require general education teachers to make changes to student expectations and modify

instructional materials in order for students with disabilities to gain access to the general curriculum. Multi-element curriculum in this study included a change in focus on the instructional objectives for the students with disabilities to a subset of skills. For example, whereas students without disabilities were working on calculating ratios, proportions, and percents in a pre-algebra class, the student with cognitive disabilities was only required to convert numbers from percentages to decimals with the aid of a calculator. Another illustration of multi-element curriculum in Physical Education (PE) class was having the student with cognitive disability learn how to do a chest pass of the ball, dribble with one hand, and make a foul shot. Unlike the student with a cognitive disability, students without disabilities worked on making shots from the sidelines and foul line, throwing speed and push passes, as well as dribbling from the right hand to the left. The student with cognitive disability in the history class was required to be able to identify pictures of the state flag and a special type of wagon, whereas the students without disabilities had to learn about the historic developments in the state that led to statehood.

The final component of this study was focused on accommodations which were developed for each of the three students with cognitive disability by the general education teacher and the special education teacher. Accommodations for many of the tasks these students were required to do involved reduced response demands. For example, the student in the pre-algebra class was given fewer problems to complete and allowed to use a calculator to complete the work. The student in the PE class was allowed to shoot the ball closer to the basket than the students without disabilities, and only had to be able to dribble with one hand. Lastly, the student in the history class was given verbal rather than

written directions and was permitted to point to pictures that represented the correct responses, instead of answering with verbal or written responses.

As a result of the combination of CWPT, multi-element curriculum, and accommodations, the researchers found an increased participation of students with disabilities in the general education classroom. Limitations of the study included the small sample size, and the effects of implementing the instructional program with three different teachers. A recommendation for further study was to examine each strategy individually for students with disabilities that function at different levels.

Access to the general curriculum for students with disabilities is not only an issue with which individual schools must grapple, but also with which school districts must address. The Montgomery County Public School (MCPS) district began a phase out of 30-year old learning centers (LCs) for students with learning disabilities in an attempt to increase student access to the general curriculum as mandated by the NCLB (2001) and IDEA (2004). Additional factors for the LC phase-out consisted of lower academic performance for LC students than their included disabled peers, an overrepresentation of African American and Hispanic students, difficulty integrating LC students into inclusive settings, and excessive numbers of students in LCs as opposed to their home schools. The overall aim of the phase-out was to move students who were recipients of special education since kindergarten from the LC to more inclusive settings in their home schools. An evaluation of the phase-out process and the transition of these students into general education classrooms was conducted by Merchlinsky, Cooper-Martin, and McNary (2009).

Merchlinsky et al. (2009) utilized surveys, interviewed prime stakeholders in the process, and performed classroom observations on inclusive practices. Evaluation results indicated that while the MCPS offered training on inclusive practices, the training was poorly attended by teachers and support staff. Classroom observations by Merchlinsky et al. found that only 27% of sixth grade and 23% of seventh grade general education teachers were using differentiated instruction to assist included students to access the general curriculum. LC transitioned students scored lower on standardized tests than students with similar disabilities. School staff expressed that included students transitions from LCs required more support in the general education classroom than other students with disabilities.

Based on the research of the meaning and degree of access to the general curriculum it is evident that there exist differing views among teachers as to who is supposed to provide access to the general curriculum for students with disabilities. It is also clear that research on the use of curriculum modifications and instructional accommodations has been limited almost exclusively to students with cognitive disability. Additionally it has been shown that with support, general education teachers can successfully offer access to the general curriculum for students with disabilities. However, many general education teachers lament that they do not have enough training to support students with disabilities in the general education classroom. As a consequence, there are compelling reasons to examine what teachers are doing in the classroom and where they have received training to provide access to the general curriculum for students with disabilities, and specifically for students with autism, since this has not been a research topic.

Research on Instructional Accommodations That Provide General Curriculum Access

Access to the general curriculum is a national concern as evidenced by the National Longitudinal Study-2 (NLTS2) funded by the U.S.DE, Institute of Education Sciences (2009). NLTS2 researchers followed youth with disabilities for 6 years from middle school to high school. Not only was access to the general curriculum examined for students with disabilities, there were many different components to this longitudinal study, including the analysis of inclusion rates for students with disabilities, substance use among students with disabilities, mobility skills of the visually impaired, and general education participation/academic performance of students with LD and autism.

The sub-study on general education participation for students with Learning Disabilities (LD) reported on by Newman (2006) included more than 1,000 youths with LD. The sample was designed to represent 1,838, 848 youths. The researchers found that 94% of students with LD were taking at least one class in a general education classroom and had some type of instructional accommodation or classroom support. Conversely, of those included in general education classrooms, 35% received no curriculum modifications and instructional accommodations, 52% were reported as having some curriculum modifications, and 11% received substantial curriculum modifications in the general curriculum. The types of instructional accommodations that students received included the following: (a) 76% receiving extended time for tests and 67% receiving extended time for assignments; (b) 63% having special education teachers monitor their progress; and (c) 37% receiving more frequent feedback from their general education teachers.

It is positive that the majority of students with LD received some sort of instructional accommodation in the general education classroom. In spite of this, the fact that three-fourths of them scored below the normal sample mean across assessment subtests administered in the NLTS2 survey indicates that more should be done to increase the opportunities for academic success of these students. Finally, 80% of students with LDs have difficulty with reading (Fuchs, Fuchs, & Compton, 2004) and none of the mentioned instructional accommodations specifically addressed this particular problem.

Researchers in the NLTS2 also investigated the experiences of students with autism in secondary settings. Newman (2007) reported the following results of the survey in regard to access to the general curriculum and instructional accommodations for secondary students with autism: (a) 33% of students received no instructional accommodations, (b) 47% received some accommodations, (c) 12% received substantial accommodations, and (d) 8% received a specialized curriculum. The types of instructional accommodations received by students with autism included: (a) 52% had extended time for test taking and completing assignments, (b) 49% had alternative tests or assessments, (c) 41% had slower paced instruction, (d) 38% had curriculum modifications of shorter or different assignments, (e) 33% had modified tests, and 30% had modified grading, and (f) 25% of students had tests read to them. In addition to curriculum modifications and instructional accommodations, 81% of students with autism had learning supports like a teacher's aide or peer tutor, and 57% had some sort of technology aid, like a calculator, computer, or books on tape. Lastly, the survey found that the majority of students with autism had related services like case management or speech language pathology services.

Providing access to the general curriculum for students with autism can be particularly challenging for teachers in general education classrooms. This is in part due to the individual student differences in the manifestation of autism, and also because, often, teachers do not have adequate classroom supports (Robertson et al., 2003). Research on the inclusion of students with autism has focused on a variety of issues. For instance, there have been numerous studies on early intervention for students with autism in pre-school settings (Goin-Kochel, Myers, Hendricks, Carr, & Wiley, 2007; McGee & Daly, 2007; Nelson, McDonnell, & Johnston, 2007; Schwartz, Sandall, Garfinkle, & Bauer, 1998). Other studies have been conducted on the social integration for students with autism with their peers (Boutot & Bryant, 2005; Owen-DeShryver, Carr, Cale, & Blakely-Smith, 2008).

Similarly, studies on specific behavioral interventions strategies like video modeling (Banda, Matuszny, & Turkan, 2007; Delano, 2007) and social stories (Ozdemir, 2008; Spencer, Simpson, & Lynch, 2008) have been used to address social skills deficits in school settings.

A majority of these studies investigated important social and behavioral issues for teachers, parents and students with autism. However, none of the research addresses the academic needs of middle school students with autism. Additionally, with the exception of the NLTS2 survey, the research does not answer the question “What types of curriculum modifications and instructional accommodations do general education teachers use in the regular classroom to provide access to the general curriculum for middle school students with autism?” As a result of the paucity of research literature specifically related to general curriculum access, curriculum modifications, and

instructional accommodations for middle school students with autism, this review will expand its focus to encompass studies conducted that used samples of students with autism in general education classrooms from pre- kindergarten through 12th grade.

Early Intervention Studies and Case Studies

Early intervention is generally recommended for students with autism. Therefore the fact that the majority of studies on instructional accommodations for students with autism focus on pre-kindergarten and kindergarten classrooms is not surprising (Alston & Kilham, 2004; Schwartz et al., 1998). One such study by Alston and Kilham (2004) investigated the use of instructional accommodations for two pre-kindergarten students with autism in both a general education classroom and a self-contained classroom. Observations were conducted 2 days per week for 30 minutes per day for 6 weeks. Although the sample size was limited, the researchers found that paraprofessionals did not use instructional accommodations with the students consistently across settings, and that inclusionary practices might improve with increased training and support for both general education teachers and paraprofessionals.

Schwartz et al. (1998) used a case study methodology to present three case studies on included students with autism in their pre-school and kindergarten years who achieved positive outcomes as a result of early intervention. The setting was in an early childhood education center at the University of Washington. Each inclusive pre-school class contained a total of 15 students, nine of whom qualified for special education services through a diagnosis of autism or pervasive developmental disorder (PDD). The other six students were considered typically-developing students. All classes followed a blend of applied behavior analysis and early childhood education/special education practices.

Teachers in the program fill out an activity matrix for each child with a disability that was correlated to the objectives on the students IEP. Adaptations and modifications are provided as dictated by the students' IEP. The researchers did not indicate which specific adaptations and modifications were used, but did state that students in some cases were given physical prompting and continuous reinforcement to facilitate participation.

Schwartz et al. (1998) selected participants based on recommendations from teachers who were asked to nominate students that showed good progress in the program. Multiple sources of data were collected including assessments, standardized tests, student IEP's, and other archival records. Initially, all of the students in the case study exhibited non-compliant and disruptive behaviors prior to entrance into the program. All three of the students in the case study entered inclusive settings upon exiting the pre-school program, and one of them even exited special education. The researchers attributed the success of the program to the focus on individualized instruction, and the use of specific instructional strategies that addressed student needs. The limitations the researchers mention are the fact that the case study was based on retrospective data, there was no random selection, and these students were not representative of all of the students in the program. Recommendations for the field included items related to the expense and the viability of such programs in a public school environment.

Coffey and Obringer (2004) completed a case study using semi-structured interviews with a mother and father on the experiences of their two children with autism in regard to school accommodations and inclusive settings. The older child in this study was a 14-year-old boy in the eighth grade with above average intelligence. The younger child in this study was an 11-year-old girl with below average intelligence. The family

lived in a small southeastern university town. The relevant information in this study was the availability of curriculum modifications and instructional accommodations like preferential seating, peer tutoring, modified testing and homework, and extended time for assignments. According to the parents, the curriculum modifications and instructional accommodations contributed to the academic success of their son. Limitations noted for the study included the fact that only one family was interviewed, and the children might not be representative of all children with autism since the manifestations of the disorder vary from one person to another. The researchers expressed in summary that with the proper supports in place, a family that has more than one child with a disability can function at an optimum level.

In summary, progress is being made on the provision of instructional accommodations for students with disabilities that provide access to the general curriculum as indicated by the reviewed studies. While the NLTS2 study surveyed general education teachers on the curriculum modifications and instructional accommodations they use for secondary students with both LD and autism, none of the studies have actually observed what teachers are doing in the classroom to provide access to the general curriculum for students with disabilities. There exists an alarming absence of any research that clarifies what teachers are doing to provide access to the general curriculum for middle school students with autism and where they received their training to provide that access.

Chapter Summary

Federal mandates and public interest in providing access to the general curriculum for students with disabilities exist, and much is being done to make this a reality for all

students. However, it is clear that there is inadequate research conducted on this topic. Furthermore, there are different interpretations of what access to the general curriculum actually means for students with disabilities (Browder et al., 2006; Dymond et al., 2007; Newman, 2006). Many in special education try to make the point that access to the general curriculum for students with disabilities does not just equate to student placement in general education classes alone (Hitchcock et al., 2002; Karger & Hitchcock, 2003; Smith, 2006; Wehmeyer, 2006). The point brought forth both in the Wehmeyer et al. (2003) and the Soukup et al. (2007) studies is an important consideration for general and special education teachers, as well as students with disabilities. The general curriculum and IEP goals must be linked. This will alleviate the dilemma of teachers having to choose between providing access to the general curriculum or working on IEP goals that frequently do not relate to the general curriculum, thereby becoming non-compliant with NCLB's mandate to provide access to the general curriculum for all students regardless of disability.

Dymond et al. (2007) analyzed how general and special education teachers defined general curriculum access for students with significant cognitive disabilities, and found that both groups had different definitions and ideas of who should provide the access. General education teachers believed that special education teachers should provide the access to the general curriculum even though they considered themselves the content specialists, and special education teachers preferred to focus on IEP goals which were not necessarily linked to the general curriculum. This study was informative because it reflects the differences of opinion that general education and special education teachers have about whom should provide access to the general curriculum. Because of

the difference of opinion about who is responsible for providing access to the general curriculum, and federal mandates that require all teachers to provide access to the general curriculum, it is critical to understand how access to the general curriculum is actually being provided in the general curriculum.

McDonnell et al. (2001) examined the effects of CWPT, multi-element curriculum, and instructional accommodations for three students with moderate to severe disabilities in a junior high school. The researchers were able to determine that the use of these strategies did increase participation in the general curriculum, and they did provide concrete examples of instructional accommodations. Because this was a single subject multiple baseline design the study, more research is needed. The study was informative and provided a good model of what can be done to increase access to the general curriculum for students with disabilities. The researchers illustrated how the provision of curriculum modifications and instructional accommodations can increase to the general curriculum for students with disabilities. That begs the question though, without the aid of an intervention model like the one performed in this study, what are general education teachers doing to provide general curriculum access for students with autism?

Merchlinsky et al. (2009) examined one school district's transition of students with learning disabilities from LCs to more inclusive settings in their home schools. The researchers reported that the majority of general education teachers did not attend trainings on inclusion, and that close to three-fourths of teachers providing instruction for these newly included students did not use any type of instructional accommodations. At the end of the school year it was found that these newly transitioned students scored

substantially lower on standardized tests than those students with similar disabilities that had been included from the beginning.

The NLTS2 findings reported by Newman in 2006 and 2007 examined instructional accommodations for secondary students with learning disabilities and autism. This research indicated that 94% of secondary students with learning disabilities and 47% of students with autism received some type of instructional accommodation or classroom support. The predominate type of instructional accommodations found in the NLTS2 studies for both types of students was extended time on assignments and assessments.

There were significantly more instructional accommodations for secondary students with autism (Newman, 2007) than secondary students with learning disabilities (Newman, 2006). This was a national sample and represented a good snapshot of what types of instructional accommodations were being used for students with disabilities. However, the NLTS2 study does not provide a clear picture of where general education teachers learned about the curriculum modifications and instructional accommodations they were using to provide access to the general curriculum for middle school students with autism since the researchers used a survey methodology. The NLTS2 researchers did not enter the classrooms to observe the use of curriculum modifications and instructional accommodations; nor did they indicate what types of supports and resources general education teachers report needing to provide general curriculum access for middle school students with autism.

The studies conducted by Alston and Kilham (2004) and Schwartz et al. (1998) offer insights into the patterns of implementation of instructional accommodations in pre-

school early intervention programs for students with autism. Alston and Kilham (2004) found that instructional accommodations were not implemented consistently and made recommendations for more staff training on the subject. Schwartz et al. (1998) analyzed the progress of the three students with autism using IEPs, assessments, and school records. Schwartz et al. (1998) did not specify curriculum modifications and instructional accommodations that directly contributed to general curriculum access for the students with autism they reported on in their case study.

Federal laws like IDEA (2004) and NCLB (2001) require that students with disabilities be given access to and make progress in the general curriculum. Two key methods of providing access to the general curriculum for students with disabilities include offering curriculum modifications and/or instructional accommodations (Karger & Hitchcock, 2003). Studies that addressed the issues of general curriculum access and curriculum modifications and/or instructional accommodations mostly center on students with significant cognitive disabilities (Dymond et al., 2007; McDonnell et al., 2001; Soukup et al., 2007; Wehmeyer et al., 2003). For instance, both the Wehmeyer et al. (2003) and Soukup et al. (2007) studies found that students with significant cognitive disabilities in inclusive settings tended to have more access to the general curriculum than students spending most of their time in self-contained classrooms. However, Soukup et al. (2007) observed that the most commonly used instructional accommodation for students with cognitive disabilities was having a paraprofessional in the classroom. Additionally, curricular modifications were used less than 20% of the time, and the most frequently used curricular modification was adjusted cognitive demand.

Both the Wehmeyer et al. (2003) and Soukup et al. (2007) studies focused on what the students were doing in the classroom in regard to accessing the general curriculum. None of the work by Wehmeyer et al. (2003) and Soukup et al. (2007) focused on what the general education teachers were doing to provide access to the general curriculum and where they acquired that knowledge. An added component of the Wehmeyer et al. study (2003) was the review of archival data, such as the student's IEP. Their intent of the archival record review is to ascertain if IEP objectives were being worked on in class, or if the lesson objectives were derived from the general curriculum. An additional area requiring research is a review of archival records in order to compare which curriculum modifications and instructional accommodations were mandated in the IEP to which were actually being implemented in the general education classroom.

It is important to build on the research conducted by Wehmeyer et al. (2003) and Soukup et al. (2007) of elementary and middle school students with cognitive disabilities to reveal what curriculum modifications and instructional accommodations are being used to provide access to the general curriculum for middle school students with autism. Applying a similar research model to determine which curriculum modifications and instructional accommodations are being used to provide access to the general curriculum for students with autism will open a window into current instructional practices that have up until this point been unknown.

To date there has been only one study located which reported on the use of curriculum modifications and instructional accommodations for students with autism (Newman, 2007), however this did not involve actually entering the classroom since the researchers utilized a survey methodology. As a result it is not clear what is being done to

provide general curriculum access for middle school students with autism, who in general are included at lower rates than their elementary school peers (U.S.DE OSERS, 2005). Furthermore, no research has been conducted with general education teachers to determine where they learned about curriculum modifications and instructional accommodations for students with autism.

This study investigated which curriculum modifications and instructional accommodations were being used by general educators to provide access to the general curriculum for middle school students with autism. In addition, this study explored where general educators learned about curriculum modifications and instructional accommodations that they used in the classroom.

CHAPTER III

METHODS

This study examined the use of curriculum modifications and instructional accommodations used by participants to provide access to the general curriculum for middle school students with autism. This chapter describes the research design, the setting of the study, and the procedures for data analysis. In this chapter there is also a discussion of parallel mixed methods design, naturalistic inquiry methodology, nominal survey collection, and data management.

Increasing rates of students with autism, coupled with the demands for general curriculum access, have resulted in the need to examine how these students are being provided access to the general curriculum. There is limited research on general curriculum access specifically related to curriculum modifications and instructional accommodations that middle school students with autism receive in general education classrooms. The majority of research on access to the general curriculum focuses on the meaning of general curriculum access, and on the social/behavioral aspects of inclusion for students with autism, not the curriculum modifications and instructional accommodations that are currently in use in the general education classroom.

As a result of this gap, this researcher asked the following questions:

1. What types of curriculum modifications do general education teachers use to provide access to the general curriculum for middle school students with autism in the major subjects taught in the general education classroom?

- a. To what extent are the curriculum modifications used by general education teachers derived from the students' individual education plans (IEPs)?
 - b. Where do general education teachers report learning the curriculum modifications that they use to provide access to the general curriculum for middle school students with autism in the major subjects taught in the general education classroom?
2. What types of instructional accommodations do general education teachers use to provide access to the general curriculum for middle school students with autism in the major subjects taught in the general education classroom?
 - a. To what extent are the instructional accommodations used by general education teachers derived from the students' individual education plans (IEPs)?
 - b. Where do general education teachers report learning the instructional accommodations that they use to provide access to the general curriculum for middle school students with autism in the major subjects taught in the general education classroom?

Research Design

This study used a parallel mixed methods design approach (Newman, Newman, & Newman, 2011) with a predominant emphasis on the qualitative portion. Choosing a research methodology requires the researcher to consider which approach best satisfies the research question (Newman, et al., 2011). The parallel mixed methods design requires the researcher to collect data from both the qualitative approach and the quantitative

approach, and at the final stage of collection *meta-inference* are created to answer the research questions (Newman et al., 2011). Meta-inferences are defined as using multiple sources of information to arrive at insight that would then facilitate implications to be drawn from the data (Newman et al., 2011). For the objectives of this study, since the major portion of this research consisted of the qualitative component, the term *coding category* is used in place of the term meta-inference. A coding category serves the same function as a meta-inference and is defined as the construction of phrases formed to be used to separate and evaluate qualitative data that leads to the development of themes in the research (Bogdan & Biklen, 2007). The quantitative data was subsumed into the coding categories and discussed within the context of the themes.

Using the parallel mixed methods design allowed this researcher to collect data from both a qualitative and a quantitative perspective (Newman et al., 2011). As part of the qualitative piece of the study the naturalistic approach allowed the researcher to obtain a contextual description of what was being studied by actually being in the researched environment (Bogdan & Biklen, 2007). For the quantitative portion of the study, a nominal measurement (Hinkle, Wiersma, & Jurs, 2003) was used through the aid of a checklist of curriculum modifications and instructional accommodations to enhance documentation of classroom observation field notes.

Qualitative Component

This research extended the research conducted by Wehmeyer et al. (2003), as well as that of Soukup et al. (2007), who both researched access to the general curriculum for students with cognitive disabilities. Both the Wehmeyer et al. (2003) and Soukup et al. (2007) studies utilized observations with time samplings. This study incorporated

classroom observations, but added the use of field notes. Neither the Wehmeyer et al. (2003) nor Soukup et al. (2007) study interviewed teachers to determine which curriculum modifications or instructional accommodations they used and where they learned about them. After completing the classroom observations, this researcher performed nine, one-hour teacher interviews to determine what was being done to provide general curriculum access by general education teachers that may not have been apparent in the classroom observations.

Rationale for naturalistic inquiry. Naturalistic inquiry provided a snapshot of how today's general education teachers are providing access to the general curriculum for students who have autism. The benefit of this approach was that a realistic picture of curriculum modifications and instructional accommodations being implemented in the classroom was revealed. Based on the review of literature performed by this researcher, no studies have yet used naturalistic inquiry to explore this topic. As a result, little is known about what general educators actually do to facilitate access to the general curriculum for middle school students with autism.

By physically being in the general education classroom, this researcher had the opportunity to understand the classroom culture, as well as the scope and frequency with which curriculum modifications and instructional accommodations were implemented for middle school students with autism. Giving voice to teachers about their experiences with curriculum modifications and instructional accommodations provides an understanding of how curriculum modifications and instructional accommodations are being used to provide access to the general curriculum for middle school students with autism.

General education teachers are required to provide access to the general curriculum for students with disabilities. However, no one actually knows how this is being done, to what extent, and where these teachers have acquired this knowledge on instructional accommodations and curricular modifications that provide access to the general curriculum. This researcher located only one study that asked teachers about their training in the area of curriculum modifications and instructional accommodations for middle school students with autism (Teffs & Whitbred, 2009). Federal mandates and societal expectations make it imperative to develop a deeper understanding of how the issue of access to the general curriculum is being approached by general education teachers. Conducting observations in general education classrooms revealed what general education teachers are implementing for students with autism in a way that a survey or interview could not capture. Real time observations allowed the researcher to experience the classrooms in a dynamic manner, which enhanced the richness of the data for this study.

Rubin and Rubin (2005) argue that there are four questions that distinguish the naturalist research approach from other approaches. First, it must be determined what the goal of the research is and does it uncover and describe complex situations, or document an issue that requires further action? (Rubin & Rubin, 2005). Secondly, there is the question of the truth of the research. Does the research adequately represent the objective truth of the researcher, those observed and interviewed, or a blend of all of these perceptions? Thirdly, what is the primary tool of inquiry? Finally, what is the impact of the researcher on the research process itself?

Certainly, access to the general curriculum is a complex situation that can be investigated to reveal the objective truth of the participants. The primary tool of this research was the researcher which is certain to impact participants, and it did so in different ways with the participants. For example, in one classroom the participant made comments to me about the topic during the lesson. On other occasions, students asked me who I was and what I was doing in the classroom. To these questions I responded in a low voice that I was a student observing the teacher. This illustrates that despite every effort by the researcher to avoid impacting participants during the study, there are some unavoidable effects due to the presence of the researcher in the classroom environment.

Engaging in self-reflection that addresses issues of researcher bias and over identification with the participants will aid the researcher to improve the interview quality (Rubin & Rubin, 2005). Naturalistic researchers must try to actively identify feelings and ideas that might impact how the data is interpreted by recording feelings and ideas during the inquiry (Rubin & Rubin, 2005). Additionally, naturalistic researchers must be careful not to ask leading questions or fail to follow-up on areas requiring more attention during the interview process (Rubin & Rubin, 2005).

Quantitative Component

The quantitative portion of this study included nominal data obtained from the checklist of curriculum modifications and instructional accommodations that was used in tandem with the notation of field notes during classroom observations. As part of the process to determine the best methodological tools to evaluate this data, in what is known as *methodological eclectism* (Tashakkori & Teddlie, 2010), it was decided that a nominal scale (Hinkle, et al., 2003) would be useful in classifying curriculum modifications and

instructional accommodations in this study. A nominal scale consists of grouping objects according to defined characteristics and counting each object (Hinkle, et al., 2003). In this study the objects being counted and then compared were the instructional accommodations listed in the middle school student with autism's IEP to the instructional accommodations that were actually observed in the classroom or discussed in the participant interviews (see Table 14). Additionally, a comparison of instructional accommodations across the subjects of science, math, and English was totaled to indicate observed instructional accommodations (see Table 3). Participants in this study did not use any curriculum modifications as evidenced by classroom observations and participant self-report in the interviews.

This study extends the work of Wehmeyer et al. (2003) which incorporated a review of archival data, like the IEP and psychological reports. However, that study did not collect nominal data that would indicate frequency of instructional accommodations used in the general education classroom. Their main objective for the review of archival documents was to determine which objectives the student was working on in the general education classroom, and to obtain an overall picture of the student. However, in this study the review of archival data was exclusive to the IEP section on curriculum modifications and instructional accommodations. The intent of the archival data review for this study was to determine if there was a connection between what was observed in both in the checklist and in the field notes, what was discussed in the teacher interviews, and what was outlined in the students' IEP regarding curriculum modifications and instructional accommodations. All of these information sources were then compared for

fidelity of implementation in the general education classroom by frequency of occurrence in the observation or as discussed in the interviews.

The Setting

The setting of the study was in metropolitan Broward County, Florida, the nation's sixth largest school district (School Board of Broward County, n.d.). The total number of students served from kindergarten to grade 12 is 255,000. The district teaches over 30,000 students with special needs and has a total of 53,909 students enrolled in its middle school program, sixth through eighth grades. Students come from a wide range of backgrounds representing over 166 countries and speaking over 50 different languages. The student population consists of 37.8% Black students, 29.5% White students, and 26.1% Hispanic students. Less than 7% of the student population was represented by Asian, Multi-racial, and Native American students. The total number of instructional staff, meaning teachers and other professionals, is 23,477. There are a total of 41 middle schools divided among four areas in the county.

A total of six middle schools in the feeder pattern of elementary schools with autism clusters were contacted about participating in this study. Elementary schools with autism clusters have self-contained classrooms with teachers and autism coaches who specialize in educating elementary school students with autism and assist them with transitioning into general education classes. These schools were chosen because they would be more likely to have included middle school students with autism who had matriculated into their programs from the autism cluster schools. Out of the three schools who agreed to participate in this study, all were graded as "A" schools. The demographic information for each school is represented in Table 1.

The Participants

In this section, there is a discussion of how the researcher approached what Rubin and Rubin (2005) refer to as the *gatekeepers*. These are the people who have the authority to grant access to potential participants in the study. The participant selection process and the criteria for participant selection are also described in this section.

Table 1

School Information

Schools	Total Student Enrollment	Free and Reduced Lunch Percentages	Hispanic	Ethnic/Racial Make-Up Percentages		
				Black	White	Other
1	1,631	14.1%	20.0%	4.7%	67.0 %	5.0%
2	1,267	41%	21.8%	37.3%	34.4%	4.0%
3	2,235	21%	21.1%	9.4%	63.8%	4.5%

Gatekeepers and Gaining Access

Gatekeepers are defined as persons who have the ability to grant the researcher access to their subject of study (Bogdan & Biklen, 2007). Upon completion and approval of Internal Review Board (IRB) applications from both Florida International University and the School Board of Broward County, this researcher personally telephoned and emailed chosen schools to speak with the principal, who is considered the gatekeeper for each school, about obtaining permission to conduct research on the chosen sites in accordance with the School Board of Broward County policy. After obtaining permission from the principals, this researcher was referred to the Exceptional Student Education

(ESE) Specialist who is the professional at each school in charge of assuring all identified students with disabilities are provided with individual education plans (IEPs), and the resources necessary to be successful in school as mandated by IDEA (2004). The ESE specialist was approached to assist in locating middle school students with autism and their general education teachers since they worked with these students on their IEPs. The ESE specialists at all of the schools liaised with the general education teachers who taught middle schools students with autism in the subjects of English, math and science assisting with the setting of initial observation schedules for this research study.

Participant Selection

The participants chosen for observations and interviews on curriculum modifications and instructional accommodations were those teachers who met the criteria for the study and agreed to participate in the study after being contacted by the ESE specialist. Participants included three teachers from each respective subject area of English, math, and science at each of the three schools, totaling nine general education teachers. The choice to select teachers from three different schools expanded the research by providing a broader picture of what is being done in middle schools with regard to the use of curriculum modifications and instructional accommodations for students with autism. Previous studies on curriculum modifications and instructional accommodations, like the Wehmeyer et al. (2003) and the Soukup et al. (2007) studies only focused on one school. Participants are identified by pseudonyms in order to protect their confidentiality.

Criteria for Participant Selection

ESE Specialists at three local middle schools were consulted to locate participants who met the criteria for this research study. Criteria for participant selection required that

the participants have a permanent teaching certificate which indicated that they should be knowledgeable and experienced in their respective teaching areas lending credibility to the research design (Rubin & Rubin, 2005). Additionally, they had to be the current teachers of middle school students with autism in the major subjects of math, reading, writing and science. Major subjects were determined based on requirements for NCLB (2001) for areas to be tested on state mandated assessments. While there are four subjects tested annually, reading and writing are taught by one teacher, the English teacher. For this reason, the researcher interviewed one English teacher, one science teacher, and one math teacher at each of the three schools chosen who agreed to participate in the research for a total of nine teachers, three in each subject area. Participants with credentials or certifications in special education were not considered for observation or interview because they did not exemplify the typical general education teacher.

As part of the ethical framework for conducting research outlined by both the Florida International University and the School Board of Broward County's Institutional Review Boards, the researcher sought to ensure that participant rights were protected. The researcher completed both the *Human Participant Protections Education for Research Teams* (National Institute of Health, 2005) and the *Social and Behavioral Responsible Conduct of Research Course* (Collaborative Institutional Training Initiative). The researcher applied the ethical considerations learned in these trainings to safeguard participants from any form of oppression in this investigation. The following will describe the participants selected for the study.

Demographic information for English teachers. The English teachers observed and interviewed had similar backgrounds. Ms. K, a White woman, and Mr. B, a White

man, were both in their early forties and Ms. W a Black woman was in her late thirties.

All teachers had a bachelor's degree in English or English Literature and were certified in English Grades 6-12.

Demographic information for math teachers. The math teachers observed and interviewed had varied backgrounds. Mr. M, a White male in his early sixties taught for over 30 years. Mr. O, a Hispanic male in his late thirties taught 7-10 years. Ms. C, a Black female in her early forties taught for 10 years. All math teachers had bachelor degrees, but none had graduate degrees.

Demographic information for science teachers. All of the science teachers observed and interviewed were White females in their early thirties. Ms. L and Ms. S had been teaching for 5-6 years and Ms. F had been teaching for over 10 years. All teachers had bachelor's degrees and there were none with advanced degrees.

The Researcher

The researcher for this investigation is currently a Florida Department of Education Certified teacher in three subject areas, English grades 6-12, special education Pre-K-12, and as a school social worker Pre-K-12. The researcher has worked in the Broward district as a school social worker, counselor, and as a special education teacher, but had not worked at any of the research sites.

Limiting Researcher Bias

As a special education doctoral candidate, this researcher has had training on strategies to provide access to the general curriculum and has taught students with disabilities. Additionally, she has been exposed to many positive attitudes towards inclusion of students with disabilities. However, this researcher has not worked as a

general education teacher in a public school using curriculum modifications and instructional accommodations to provide access to the general curriculum. As a result of this researcher's reflection she realized she must strive to be non-judgmental and act as a neutral observer in the general education classroom. In this respect this researcher identified biases in self-reflections throughout the research process.

For example, when documenting field notes during observations, this researcher also recorded personal feelings and ideas related to the observation. These personal feelings and ideas were be notated as *O.C.*, which refers to *Observer's Comments* in the field notes (Bogdan & Biklen, 2007). The *O.C.s* helped me understand the school culture better. In one observation, this researcher noticed a student coming in the classroom in the middle of a lesson with a book and sitting by himself at a table. It was notated, "what is that student doing?" in the *O.C.* Later, when interviewing the teacher, the researcher found out that the teachers had their own discipline system that they used before they called the principal or security. In the case mentioned, when a student was disrupting class, they were sent to another teacher's class with work for the duration of the period. As a result of the *O.C.*, later this researcher was able to make sense about what was observed with the participants.

Table 2

Qualitative Sample of Participants

Participants ^a Subject Grade	Race/ Ethnicity Gender	Total Years Teaching	Total Years at Current School	Teaching Certificate(s)
Ms. K Eng. 6 th	W F	3-4	3-4	English 6-12
Ms. W Eng. 6 ^t	B F	6-7	6-7	English 6-12
Mr. B Eng. 6 th	W M	3-4	3-4	English 6-12
Mr. M Math 8 th	W M	30+	10	Middle Grades Math 5-9, Math for Business / Math 6-12 ESOL
Mr. O Math 8 th	H M	7-10	5-6	Middle Grades Math 5-9
Ms. C Math 6 th	B F	10	5-6	Elementary Ed. 1-6
Ms. L Sci. 8 th	W F	5-6	1-2	Biology 6-12
Ms. S Sci. 7 th	W F	5-6	1-2	Middle Grades Eng. 5-9 Elementary Education 1-6 Middle Grades Integ. Curriculum 5-9 Middle Grades Social Studies 5-9
Ms. F Sci. 6 th	W F	10	5-6	Middle Grades Sci. 5-9

Note. W=White, H= Hispanic, B= Black, F=Female, M=Male, Eng=English, Sci=Science, Integ=Integrated

^aAll participants' names are pseudonyms.

Data Collection Procedures

The data collection procedures included three components, which were classroom observations, general education teacher interviews, and document reviews. The following sections describe each of these components in detail in regards to this study.

Classroom Observations

The researcher observed each of the 9 participants once a week for 4 consecutive weeks at each school for a total of 36 participant observation hours. Observations were used to gain clear insight into the teacher implementation of curriculum modifications and instructional accommodations for students with autism in each of the general education classrooms selected for the study. A possible consequence of performing classroom observations is what Bogdan and Biklen (2007) refer to as *observer effect*. These consist of the unintended consequences that may impact the participants of the study during the research phase. In consideration of these possible *observer effects* this researcher sat where the participant asked her to sit and was as unobtrusive as possible during observations. In only one instance did a participant acknowledge this researchers presence in the classroom in a joking manner with the students describing this researcher as a “visitor.” The observations were recorded through the use of descriptive field notes and then typed into a Word document.

Descriptive Field Notes

The use of descriptive field notes enabled the researcher to document the use of curriculum modifications and instructional accommodations. Field notes are defined by Bogdan and Biklen (2007) as what a researcher experiences through his or her five senses and writes down while compiling and reflecting on the data in the study. This form of data collection serves to augment the other forms of data collection in this study by providing a contextual backdrop for subsequent data obtained in teacher interviews and through document reviews (Bogdan & Biklen, 2007). Creating rich detailed data requires the researcher to include portraits of the subjects, reconstructions of dialogue,

descriptions of the physical setting, accounts of particular events and activities, and the observer's behavior in the research setting (Bogdan & Biklen, 2007).

The descriptive field notes also included information such as demographics and socio-economic status of students attending the three schools where data were collected to provide a clearer picture of the data sources. Additionally, a folder with a checklist of common curriculum modifications and instructional accommodations (see Appendix C) was used to notate curriculum modifications and instructional accommodations as they occurred. This tool facilitated easy recognition of curriculum modifications and instructional accommodations being used in the classroom, since there are numerous approaches to curriculum modifications and instructional accommodations.

General Education Teacher Interviews

Conducting general education teacher interviews allowed this researcher to gather information from participants about the curriculum modifications and instructional accommodations currently practiced in the general education classroom for middle school students with autism. The interview format gave participants an opportunity to share their experiences with curriculum modifications and instructional accommodations, to tell where they received training on how to implement curriculum modifications and instructional accommodations, and to provide details about school-based supports and resources they require.

Upon initiating contact and confirming participant willingness to participate in individual interviews, this researcher scheduled mutually convenient interview times for the researcher and the interviewee. Interviewees were informed of their participant rights and the reason for the Consent to Participate in Research form approved by Florida

International University Institutional Review Board (FIU IRB) (see Appendix B).

Participant signatures were obtained and it was further explained that if at any time the interviewee felt uncomfortable with the interview he or she should express this sentiment and the interview would be concluded with no negative consequences. Participant confidentiality was affirmed and explained to the participant. The participants were offered a copy of the Florida International University IRB proposal at the time of the interview. Then, the researcher asked the participants to complete the demographic information form (see Appendix D).

Participants were interviewed with an interview protocol and the interviews were recorded via a digital recording device. Participants were given a bookstore gift card upon completion of the interview as a token of appreciation for their time. The interviews were then transcribed by this researcher and the descriptive field notes were transcribed in a separate document. The data were then analyzed for patterns and then *coding categories* were determined as per coding procedures recommended by Bogdan and Biklen (2007) based on the topics and patterns that emerged from the data. According to Rubin and Rubin (2005) the first process for analyzing transcripts is to make copies in multiple locations and then read the transcripts looking for themes and topics that will give a clear picture of the issue being researched. After carefully reading each transcript, all transcripts were synthesized to refine the dominant themes or topics found in the transcripts (Rubin & Rubin, 2005). Once themes and topics were determined, the data were coded to facilitate easy reference to each theme or topic.

Interview protocol. The intent of the interview protocol (see Appendix A) was to determine which curriculum modifications and instructional accommodations participants

reported using to provide access to the general curriculum in the general education classroom for middle school students with autism. Additionally, the use of the interview protocol permitted the researcher to guide the interview (Rubin & Rubin, 2005) in a consistent manner among participants and to answer questions regarding what types of school-based supports and resources general education participants reported needing to provide access to the general curriculum for middle school students with autism.

The interview protocol was used as a guide in the participant interviews. It consisted of instructional questions that were mostly open-ended questions in order to obtain detailed responses (Bogdan & Biklen, 2007) on the use of curriculum modifications and instructional accommodations implemented in the classroom to provide access to the general curriculum for middle school students with autism (see Appendix A).

Piloting the interview protocol. The interview protocol was piloted with three State of Florida Certified teachers by giving them a copy of the interview protocol during individual mock interviews to confirm that the interview questions related to the research questions. One participant recommended dividing the question about the characteristics of students with autism into two questions. This question was changed to reflect characteristics of students taught in the past, and a second question was added about current students with autism. No other recommendations were made from participants. Upon completion of changes in the interview protocol, participants were emailed the finalized interview protocol to confirm appropriateness of each question. All teachers confirmed that the questions related to the research questions and no further changes were recommended.

Document Review

The last part of the data collection process involved a document analysis of the students' IEPs to determine which curriculum modifications and instructional accommodations had been written into the IEP and were being implemented based on the observations in the classroom. This information was found on what is referred to as the *Supplementary Aids and Services* page in the IEP. Since all IEPs in this school district are now electronic, the IEP specialist agreed to make a copy of this page with identified student data blacked out and give it to the researcher. At the top of each page the pseudonym of the participant was written down by the researcher.

Materials

The materials for this study included a notebook for field notes with a black ball point pen. The heading of the page included the location, type of class, date, time, and teacher participant pseudonym. The field notes page was used to record actual events in the classroom, like student and teacher interactions and the use of curriculum modifications for the indicated student with autism. A notation of O.C. was used to document this researcher's feelings, ideas, and questions during the observation. A folder with a checklist of curriculum modifications and instructional accommodations (see Appendix C) based on the publication titled *Accommodations and Modifications, What Parents Need to Know* developed by the Bureau of Instructional Support and Community Services Florida Department of Education and the Florida Developmental Disabilities Council Inc. (2003) was available to notate any such accommodations being used in the classroom during instruction. In addition to the field notes, the researcher employed a

SONY ICD-SX68ZDR9 Digital Voice Recorder to record participant interviews with the aid of the interview protocol (see Appendix A).

Phases of the Study

Data Collection Phase

The data collection phase took place in three distinct stages. The first stage included participant classroom observations. The interviewer observed and generated field notes for nine participants (three teachers in English, three teachers in math, and three teachers in science), for nine, 1-hour increments a week over a period of 4 weeks for a total of 36 observation hours. During this stage, quantitative data for the nominal scale were also collected via the Curriculum Modifications and Instructional Accommodations Checklist (see Appendix C).

The second stage of the data collection was the participant interview after the completion of the observations. The participant interviews consisted of 1-hour interviews using an interview protocol (see Appendix A), a SONY ICD-SX68ZDR9 Digital Voice Recorder, and the technique of responsive interviewing. Responsive interviewing required the interviewer to acknowledge the human elements of the interview, to maintain flexibility of design, and to recognize that the interviewer is the main tool of the research (Rubin & Rubin, 2005). For example, this researcher maintained flexibility with the location of the interview. All teachers preferred to be interviewed on the school campus, and usually during their planning periods or during lunch. This researcher, as the tool of inquiry, had to be flexible with the participant's location requests. On one occasion, a teacher got a phone call during the interview. This researcher turned off the recorder and waited for the participant to complete their call. The fact that participants

have relationships outside of the interview that may impact the interview, like the phone call, was an example of a human element in the interview.

The third stage of the data collection was a document analysis of IEPs for the middle school students with autism in the general education classrooms where the observations and participant interviews occurred. The document analysis was conducted to determine which curriculum modifications and instructional accommodations were prescribed for the selected students by the IEP, and to compare this to the information gathered from classroom observations and participant interviews. Two of the teachers taught the same student; therefore only 7 IEPs were reviewed in the document analysis.

Data Analysis Phase

Qualitative analysis. Rubin and Rubin (2005) suggest that coding and theme analysis preparation of the data is the first step of analysis. The second step of data analysis involves the researcher making a decision on the data analysis approach (Rubin & Rubin). After that step this researcher analyzed data according to emerging themes and topics by coding the data within coding categories (Bogdan & Biklen, 2007).

Interviewees were re-contacted via email to confirm statements and meanings were interpreted accurately. This is what is referred to as member checking (Rubin & Rubin).

Quantitative analysis. This researcher analyzed data from individual observations, interviews, and IEPs and compared implementation patterns of curriculum modifications and instructional accommodations across all data sources placing them in a nominal scale. The benefit of including the quantitative data is that it produced specific numbers that could be compared and analyzed to assess frequency and trends in the data

(Creswell, 2005). A comparison of implementation patterns by both participant and by their subject area (see Table 3) were compiled. Additionally a concise listing of all IEP curriculum modifications and instructional accommodations in relation to participant implementation based on either observation or interview data were compared (see Table 14).

Interpretation Phase

The collected data were interpreted to determine patterns of implementation of curriculum modifications and instructional accommodations used in the classrooms based on the observations, common themes and topics among the participants expressed in the interviews, and the types of curriculum modifications and instructional accommodations prescribed in the students IEPs. The contexts and patterns of participant implementation of curriculum modifications and instructional accommodations were examined in light of the literature review.

Member checks were conducted twice during the research. Rubin and Rubin (2005) assert that requesting feedback for research manuscripts is an important part of presenting research results. Consequently, this researcher conducted the first member check upon completing of the interview process. Interviewees were contacted via email to confirm the text in the recorded transcripts. No participants responded to that email. Subsequently, the second member check was conducted when the findings of the coded data were completed. The findings were emailed to the participants and they were requested to give their feedback and to confirm that the themes reflected their statements accurately. Only one participant responded and confirmed that themes accurately reflected her statements.

Data Management and Maintaining Confidentiality of the Data

Data were stored in a locked cabinet. Communications via email were conducted via this researcher's Yahoo email account, and stored in a secure electronic folder. All participants observed and interviewed were assigned pseudonyms to maintain participant confidentiality.

Chapter Summary

The researcher examined the use of curriculum accommodations and instructional modifications for middle school students with autism. This chapter began with a description of the methods to be utilized for this study, an explanation of the purpose of this study, and the research questions. The research questions centered on the types of curriculum modifications and instructional accommodations participants used for middle school students with autism and the extent to which these are derived from the student's IEP. Additional research questions included where participants reported learning the curriculum modifications and the instructional accommodations that they used.

The Naturalistic research inquiry approach was used in this research to attain a contextual description of what is actually being studied. There were three phases in this study which included: data collection, data analysis, and interpretation. Data collection procedures incorporated the use of classroom observation with descriptive field notes, general education teacher interviews, and document reviews. An interview protocol was used to guide the general education teacher interviews. During the data analysis phase the researcher began by performing a coding process that analyzed themes from all of the data collected. The researcher compared the coded data from the classroom observations, the teacher interviews, and the document analyses during the data analysis phase

discovering themes and topics in the research on the use of curriculum modifications and instructional accommodations for students with autism in the general curriculum.

The researcher used member checking, which requested feedback on the accuracy of collected and interpreted data from participants during the study. This was done once in the data analysis phase and once during the interpretation phase. First the researcher sought confirmation that the interviews were accurately transcribed in the data analysis phase, and thereafter the researcher submitted the coded data via email to the participants to obtain feedback concerning whether or not the participants found the interpretation to be accurate. Only one participant responded to the email regarding the data analysis giving the feedback that the analysis was accurate.

CHAPTER IV

Results

The subsequent chapter will report the results of the three components of this study including: (a) 36 –hours of general education teacher observations, (b) nine general education teacher interviews, and (c) an IEP document review. The format of this chapter will revolve around the general education teacher interview questions integrating results from the general education teacher interviews and the IEP document review where relevant to the themes. Bogdan and Biklen (2007) recommend that when coding data that the researcher develop what they refer to as *coding categories* after the data have been reviewed for patterns and emerging themes. Therefore, within the framework of the general education teacher interview questions the coding categories contain the participant phrases that exemplify each relevant theme. Furthermore, information relevant to the respective coding categories from the general education teacher observations and the IEP document reviews are subsumed into each respective theme.

Each section is organized by the general education teacher interview questions and subsequently subdivided by the coding categories and related themes. The results of the first and second general education teacher interview questions are combined and organized as follows: (a) interviewee descriptions of middle school students past and present with autism, and (b) a summary of included middle school students with autism's academic/behavioral characteristics. The interviewees' descriptions are reported to offer the reader an idea about the type of middle school students with autism that were typically included in the general education classrooms observed.

Thereafter, the results of the third and fourth general education teacher interview questions are combined, since they both involve the use and knowledge of curriculum modifications. Additionally the responses to the fifth and sixth general education teacher interview questions are also merged because they both include the use and knowledge of instructional accommodations. Subsequently, the responses to the seventh general education teacher interview question about the IEP, presents general education teacher attitudes and dispositions towards the IEP. Additionally general education teachers' observed and reported implementation of mandated IEP curriculum modifications and instructional accommodations are shared.

Reported Characteristics of Middle School Students with Autism

This section includes the results of the first two general education teacher interview questions in relation to the themes that emerged. The interview questions, coding categories, and themes are illustrated in Figure 1.

Participants Perspectives on the Capabilities of Middle School Students with Autism

This section describes the participants' perspectives on the capabilities of middle school students with autism. Two themes emerged from the responses to this question. First, most of the middle school students with autism taught by participants functioned at high levels and were mostly perceived as "normal." Second, these students were noted for their attention to detail and their good handwriting

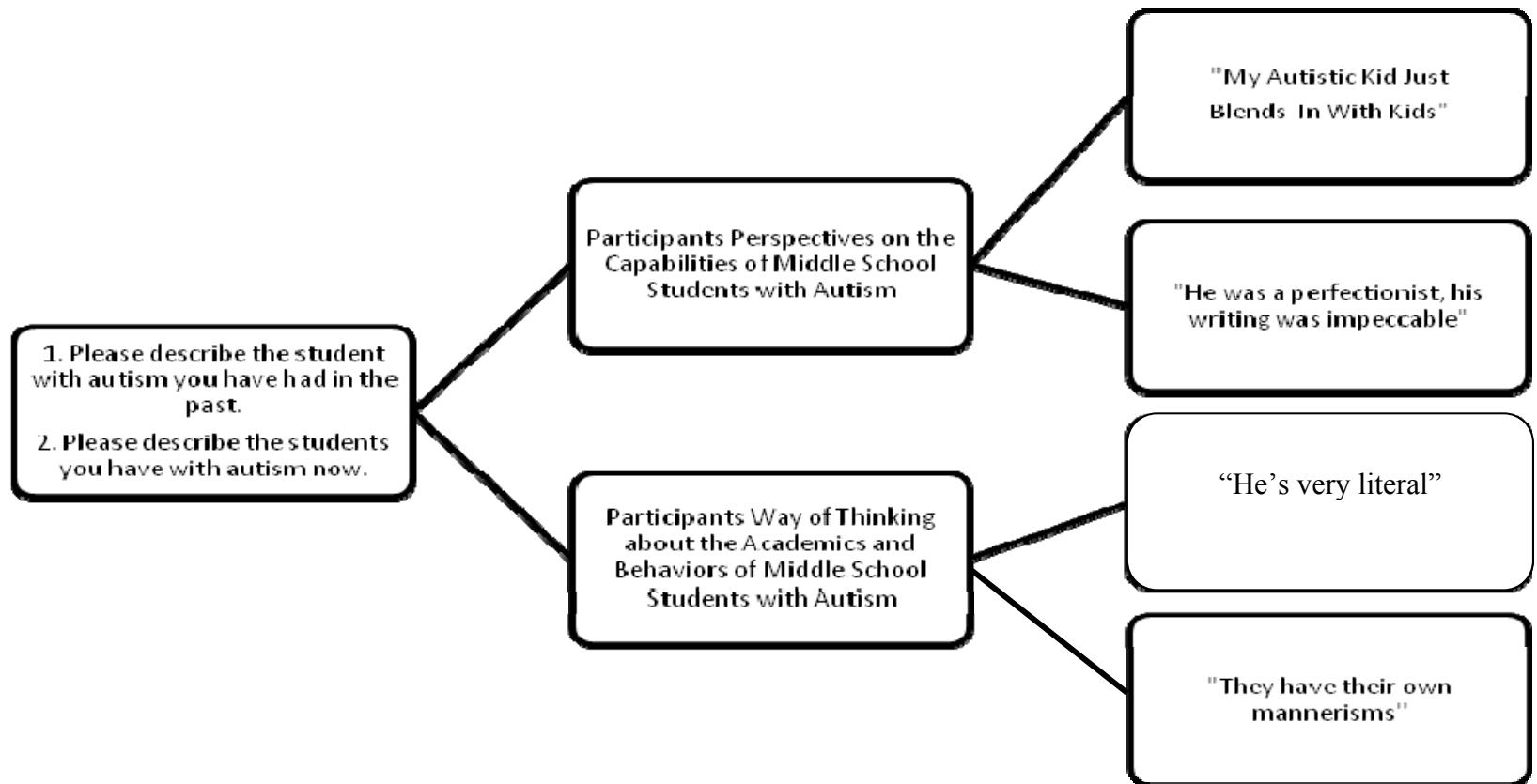


Figure 1 Coding categories for teacher interview questions 1 and 2

“...My Autistic Kid Just Kind Of Blends In With The Kids...”

Participants interviewed for this study reported that their middle school students with autism were mostly male and were described them as high functioning with some minor social skills issues. Ms. C, who is a 6th grade math teacher describes her middle school students with autism past and present thusly:

I have had mostly students with Aspergers. So their developmental level, they were on it academically... But socially, they had issues with the social. Um so in the past I've had no major academic concerns, but the social skills were the issue... This year my autistic kid just kind of blends in with kids, they don't really question why comes (he) late, why he leaves early. And when he makes an inappropriate comment, which is not often, it is no big deal.

Ms. S, a science teacher, described her middle school students with autism stating that “All of the students were male with the exception of one. In my previous years teaching all of these students were high functioning and very intelligent. Each student displayed trouble with social behaviors...” Mr. O, a math teacher, asserted that “if you are to sit in my class for a period for a day you wouldn't be able to tell that they were autistic, and because they participate and respond regularly in class.” He also described these students as “highly functional and with a few behaviors that are a bit odd or different from the, norm, um you really can't tell that they are not a, uhh normal student.” Ms K, an English teacher echoed these sentiments stating “they're usually high functioning, so it's not really noticeable...”

Ms. W, an English teacher, described her middle school students with autism as “very functional, they have been able to at least function on the level of my students academically. However, they exhibit some social differences...” Mr. B, also an English teacher, stated about his students with autism that “they are very functional, they function well in the classroom, they are able to do their work...” Ms. F, a science teacher,

explained that her students with autism were “very nice, well mannered um mostly boys, but I have had two girls in the past 10 years.”

“He was a perfectionist, impeccable.”

A few of the participants remarked on the careful attention to detail that middle school students with autism displayed in their academic work. Ms. L, an English teacher, described her current middle school student with autism this way,

like with Sam (pseudonym), who’s the student in the class now, he seems to want everything perfectly neat...he wants to make it very particular other than that if there’s extra time needed he’s neat about his work so he can take it home.

Mr. M, a math teacher, stated that his previous middle school student “was a perfectionist, his writing was impeccable, but he was a perfectionist he had to get it done in his own time, and that’s fine.” Ms. F, a science teacher, noted that “their handwriting is beautiful, you can read everything they write.”

**Participants’ Way of Thinking about the Academics
and Behaviors of Middle School Students with Autism**

Participants not only described the capabilities of their middle school students with autism; they also shared their thoughts on how the students’ academic performance and how autistic types of behaviors in class impacted learning processes.

“..He’s very literal”

Concrete thinking was noticed by a two of the teachers across the curriculum. Ms. C, a math teacher, recounted this story about her current middle school student with autism,

This year’s student he’s uh, taken me a little while to get used to, pleasant kid, wonderful kid. He is very literal, and I am very sarcastic and so he does not get my sense of humor...um so I think this one time in the first couple weeks I said something like “that drives me bananas,” and he said, “oh I have a banana,” he’s very literal.

Ms. K, an English teacher, shared this about her middle school students with autism,

they just require a little bit more explanation on certain things, because of the way they think more concretely, and especially when you're talking about symbolism or foreshadowing or a figurative language, they have a hard time understanding the more abstract the concepts, so you have to find something to help them to understand what you're saying.

None of the other participants discussed this particular characteristic which has been noted in the literature as a common characteristic for students with autism.

“They have their own mannerisms.”

Across all subjects many of the teachers appeared cognizant of various types of different types of behavior displayed by middle school students with autism. For the most part, the behaviors discussed did not cause major class disruptions and most students were easily redirected. Ms. K noticed that with her current middle school student with autism that class transition is very difficult for him. She states that

I'll say just leave it we're coming back, grab your lunch and let's go. It's very difficult for him to walk away if his folders are not straightened up, put away in his backpack zipped up. It has to be exactly perfect before he can release himself to the next task.

Mr. B, an English teacher, reported that his middle school students with autism had

their own mannerisms, things that are a little bit unusual... a lot of hand gestures, waving their hands, but most kids seem to you know, just ignore them and just treat 'em like they are you know, regular students, regular classmates

Ms. S, a science teacher, reported that over the years her middle school students with autism, who had partial inclusion

displayed trouble with social behaviors, [they] would get extremely upset if someone touched their stuff, if I moved their seat, grab at light beams from projectors. However, after having these students for two subjects, two years in a row, they were able to go [full] mainstream with regular ed. students and pass their classes.

Mr. O, a math teacher, attributed the middle school students with autisms' behaviors to a lack of focus stating "they start focusing on a particular object and they'll make noises with it or they will be engrossed with that you can obviously tell they are not paying attention they are somewhere else." Mr. M, also a math teacher, told about a student that used to sing in his class. He described how he got the student back on track thusly, "ya know I would have to go 'bang bang' or say 'Jim' he'd stop, I would just keep right on going, where I wouldn't make a big spectacle out of it." Lastly, Ms. W, an English teacher, also described her middle school student with autism as

not directly focusing on the teacher, also possibly a lot of foot tapping on the floor, they typically do this when they are nervous or something. Even more so, one student in particular did rocking at times, mostly when they were anxious or they have a test or some type of umm activity that may cause a little anxiety.

Participants in this study described many positive attributes that have noticed with middle school students with autism. Additionally, they appeared to be aware of some of the behavioral manifestations middle school students with autism may display in the classroom.

Participants Ways of Thinking About Curriculum Modifications

This section will give the results of the general education teacher interview questions three and four and the themes that emerged from the participant's responses. Furthermore, information from the classroom observations and IEP document reviews will be addressed as relevant. The coding categories are illustrated in figure 2. Curriculum modifications are actual changes in the content of what is being taught to the students. For example, in a lesson about the seven continents, a student with a curriculum modification may only have to remember and learn about one continent, as opposed to all seven.

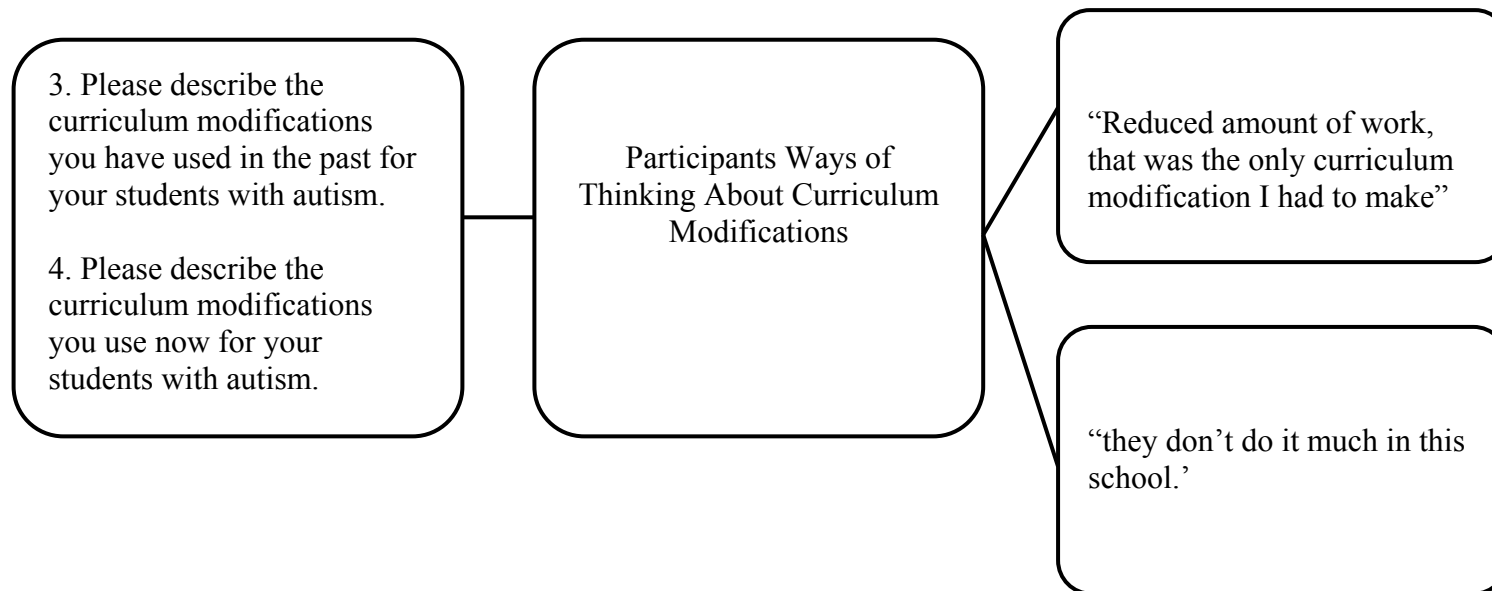


Figure 2. Coding categories for teacher interview questions 3 and 4

"Reduced amount, that was the only curriculum modification I had to make..."

One of the findings on curriculum modifications was that many of the general education teachers used the term curriculum modification interchangeably with instructional modifications, as evidenced by Mr. M stating that "reduced amount, that was the only curriculum modification I had to make for John." When Ms. L was asked about curriculum modifications she explained that "you had to take away some questions, so if you're doing 1-20 with everyone else you might only do 1-10." After the first couple of interviews this researcher started explaining the difference between curriculum modifications and instructional accommodations before asking the interview questions.

"They don't do it much in this school."

One of the other findings found in regard to curriculum modifications is that they are not used often for middle school students with autism in the schools studied.

According to Ms. K, an English teacher, she used curriculum modifications when she co-taught in another state with a team teacher. She shared that

in the past the only things I can think of, if you have a test and you're modifying it for them, which they don't do much in this school, I worked in a school where I had a team teacher where I would work with her on doing a modified testing for an autistic child.

Ms. K explained that she learned about curriculum modifications when she

went to college in Illinois that was very comprehensive. You could not graduate without learning how to teach every special needs type of student. Otherwise anything you might encounter you had to learn about. For me I know that in Florida you can get a temporary certificate without a degree in education.

While interviewing Mr. B about using curriculum modifications he explained that he does "not [use them] so much, not for autism" adding that "the ones (students) over the years have all done quite well." When asked if she used curriculum modifications for

her middle school students with autism Ms. C stated “ummmm no, only because of the way that the math material is designed. We teach by the lesson.” Ms. S asserted that “I don’t really modify the curriculum. I give low level students the opportunity to try harder level work...I do not change the curriculum, but the delivery is tailored to meet the needs of all kinds of learners.”

According to the IEP document review of the middle school students with autism that were taught by these participants, there were no curriculum modifications listed as part of their supplementary aids and services page, nor was anything indicated on the section for special considerations. Furthermore, within the context of the classroom observations, none of the middle school students with autism appeared to be receiving curriculum modifications.

Participant Activity Codes for Instructional Accommodations

This section will share the results of the general education teacher interview questions five and six and the themes that emerged. Moreover, information from the classroom observations and IEP document reviews will be addressed as pertinent to the results. The interview questions, coding categories, and themes are illustrated in figure 3. Instructional accommodations do not change the content of the curriculum they merely adjust how the content is delivered. For example if a test is given orally instead of written, the content has not changed, only the delivery of the content has changed.

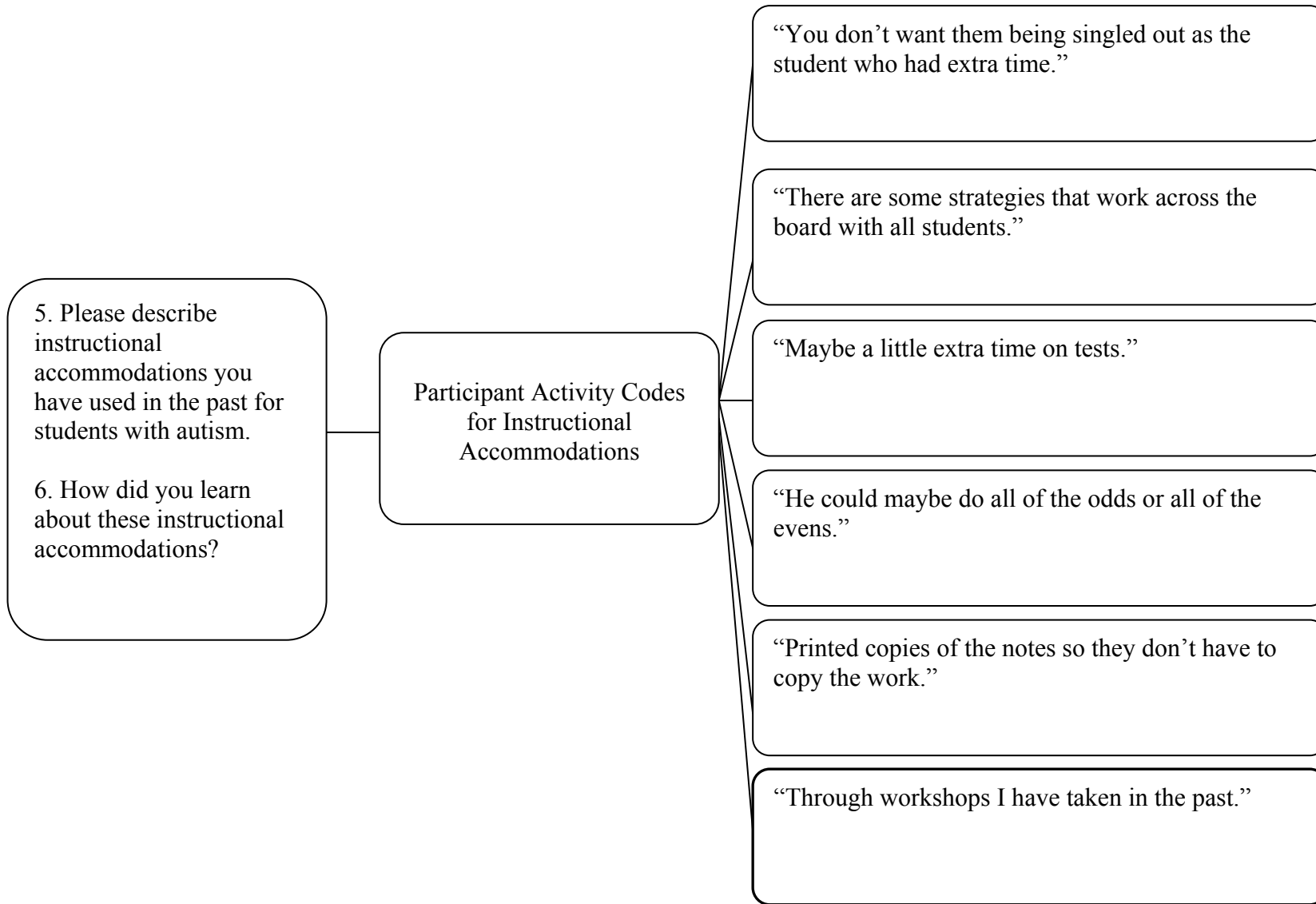


Figure 3 Coding Categories for Teacher Interview Questions 5 and 6

"You don't want them being singled out as the student who had extra time."

Two participants expressed concern over their middle school students with autism being noticed by their peers if instructional accommodations were observed. Ms. K stated that many of her students need instructional accommodations and that if

I would give [instructional accommodations to] him [middle school student with autism], which is nice because they hate being different, it's so difficult at this age. You hand one of them something and everyone around them wants to know why they didn't get it. They want to know why they don't have it. It's good that he's in this class because he gets the same as everyone else.

Mr. M asserted with regards to respecting the privacy of students that as teachers "we must know where our limitations are as far as what we can and what we can't do. There's nothing that's written that says we can't give modifications to anyone, but there's something that says everyone doesn't have to know about it."

"There are some strategies that work across the board with all students."

Both in the general education teacher interview and in the classroom observations participants spoke about and were observed providing numerous instructional accommodations for the entire class. According to Mr. O, he stresses that he does

have modifications, but generally what I do because most of my students are low level, the modifications that I am using for my special needs students, or my ESE students, or students with autism... I actually incorporate those modifications for the rest of the students because I find them beneficial at their lower levels.

Ms. K echoed this sentiment by asserting

...it's detailed where I am teaching lower level students now so the accommodations I would make for the lower level threes and fours, so this year I've not had to do anything. But if I were teaching level threes and fours is what they call them, and if I had a student with autism I would probably, if I was giving a lecture, I would print out the notes for them as well... But like I said my student right now is in a class with children who require the same type of modifications I would give him.

Mr. M also believes that all students require accommodations sometimes. He pointed out that

I do that with not only the kids that I have to do it with but I do it with everybody. Because over the years I've done lower level kids all the way to gifted and it is extremely effective if you treated everybody like they needed help, which they do.

As part of my classroom observations I found that the participants offered many instructional accommodations not mentioned in the middle school students with autism's IEPs see Table 3. The most frequently used instructional accommodation was the use of visual aids like whiteboard, overhead, or chart. This instructional accommodation was noted in 30 out of 36 observations. General education teachers in math, followed by general education teachers in science, used visual aids like the white board, overhead, or chart the most.

The majority of general education teachers utilize document cameras in the classroom in conjunction with the visual aid of a whiteboard. These observation notes from Mr. B engaging his students in grammar and punctuation corrections typifies the manner in which document cameras and whiteboards are used in tandem in the classroom, "The teacher writes on each sentence displayed on whiteboard using document camera to show work after student raises hand with the punctuation and verb tense corrections.

All students are writing and making corrections to sentences in their notebooks."

Mr. O also uses the document camera in tandem with his whiteboard in his math class.

Here is an example of this arrangement from the classroom observation field notes

"Does anyone remember what an arithmetic sequence?" Teacher is talking at the front of the class in front of the white board. Student volunteers to display their homework with the document camera.

Teacher uses the homework that is projected to explain the arithmetic sequence. Teacher uses a different color marker to show the pattern on the white board. Teacher asks the class questions and students volunteer answers. “What do we need to add to 3m to get 13?” Teacher notices that one student is answering every question correctly. Teacher gives a reason of why we have to do the pattern or the expression with a logical example of using a more complicated problem that would need a specific arithmetic sequence. The teacher gives a specific explanation and does a “think aloud” to show concept that is illustrated on board with the document camera.

The whiteboard and the document camera were frequently used visual aids. The second most frequently implemented instructional accommodation, used in 22 of the 36 classroom observations, was using different color markers to emphasize information on the whiteboard. For example, Figure 4 illustrates Ms. K’s whiteboard in the back of the room.

(black color) Lang. Arts Focus Blocks 1,3,5,6,8	(red color) Bench Mark	(purple color) Student Objective	(blue color) Our Class Agenda -Check for research -Worksheet on quotes -Begin drafting essay -Skip a line -Follow rubric on rough draft sheet
Block 4	Essential ?’s	-I will be able to write a thesis statement	

Figure 4. Example of Ms. K’s Whiteboard in Different Color Markers

Table 3

Instructional Accommodations Observed from the Accommodations Checklist

Types of Instructional Accommodations	Number of Times Accommodation Observed by Subject		
	Science	Math	English
<u>Instructional Accommodation</u>			
-student re-phrases directions	0	0	1
-student uses assignment book	8	3	4
-give step-by-step instructions	2	4	0
-complete sample problems	2	10	3
-combine spoken directions with visuals	7	7	5
<u>Instructional Accommodations-Reading</u>			
-highlight ideas in text	1	0	0
-tape recorded version of reading	1	0	0
-videotape or movie to present info	5	1	0
<u>Instructional Accommodations-Lectures or Discussions</u>			
-visual aids like white board, overhead or chart	10	12	8
-overview of content before starting lesson	4	3	6
-give summary of info from lecture	2	0	0
-encourage questions	6	3	6
-write important ideas on the board			
use different colors	8	8	6
-repeat/summarize main points	4	5	5
-use pictures to represent what is given orally	1	5	1
<u>Instructional Accommodations-Organization</u>			
-color coding to identify different tasks	1	6	0
-use special folder or binder to stay organized	5	2	7
-provide a checklist of materials for each class	2	3	4
<u>Instructional Accommodations-Math</u>			
-allow students to use calculator or chart of basic math facts			
for computation	n/a	5	n/a

n/a= not applicable

The third most frequently used instructional accommodation was combining spoken directions with visuals. This was observed in 19 of the 36 observations. This instructional accommodation was observed 7 times in both math and science and 5 times in English. During a classroom observation Ms. S gave directions for an assignment illustrating spoken directions with visuals, see the following field notes.

For the students are that are done I have something I want you to put in your spiral notebook. I am going to put it under the doc cam. So if you want you can move your seats so you can see. Teacher starts doc cam and the display shows on a large screen. Teacher displays a notebook with sections. The title on the page is 'compare & contrast- how technology helps society and harms society.' The compare and contrast is a colored light red. How technology helps is written in green. Teacher directs student to get ruler if needed to draw straight lines.

"Maybe a little more time on tests."

Based on the IEP document review all middle school students with autism in this study had what was referred to as *Flexible Scheduling/Timing* on their Supplementary Aids and Services page. The offering of flexible schedule/timing was observed in Ms. C's classroom where the middle school student with autism was given 10 extra minutes to complete his class work assignment. While not noted in other classroom observations several of the participants mentioned that their middle school students with autism had extended time for both tests and assignments. Mr. O stated that for his students "incorporate(s) may be a little more time on tests." Ms. F also asserted that

If the student shows that he might need extra time and the IEP doesn't say extra time I will give him extra time. I will modify to what will help them to succeed, I don't want to see them fail.

Ms. S stated briefly that she gives "extra time for tests and assignments" for her middle school students with autism. Ms. L, when discussing extra time, made the point that she

would offer to any student who needed that type of instructional accommodation
expressing that

But I still yet again think that it's a personal thing, even if it didn't say that my student got extra time and you noticed they needed extra time, and you know that they can, they have an IEP or you know they're autistic or whatever, I think you have to take that step, even if it doesn't say they don't get extra time, are you not going to give it to them?

Ms. K asserted that even though her middle school student with autism has
extended time

...he really doesn't need it when it comes to doing work he can get the work done the same as everyone else. On occasion, may be three times, he's used the advantage of turning it in later. I think one time it's because he had done the assignment incorrectly, he didn't understand how I explained it. So he had done it but it wasn't right, so I said take it home and redo it. His parents, his father especially, are in constant contact with me in e-mail, here's what he did wrong here's what he needs to fix, have him bring it back. So you know again, the extended time helps too as far as the strategy because there are no late penalties.

Many participants also expressed that middle school students with autism have
difficulty with the pacing of their work. Mr. B shared that

you know I can just let them do the work that they do. When they do work they do it very well. But they can't always stay up with the entire pacing of the course. I kind of let them work at their own speed.

"He could maybe do all the odds or all the evens."

Another type of frequently mentioned instructional accommodation was that of decreased workload. Based on the document review of IEP's only two of the students had decreased workload as an instructional accommodation. Despite this fact numerous participants mentioned that they provided this instructional accommodation to their middle school students with autism. Ms. L revealed that it depended on the student and that, "sometimes you have to take away some of the questions. So if you're doing 1-20

with everyone else, you might only do 1-10 just to make sure they understand it, and they get it.”

Mr. O takes the idea of decreased workload a little farther than most as evidenced by his explanation where he stated

I’ll reduce for them the number the amount of assignments, or the amount of uh questions on a particular assignment. Or if I do assign them the entire assignment then I am generally looking for particular parts of that assignment that they master. Whereas, the rest of the assignment might be just something that they can be exposed to.

Ms. F also uses the instructional accommodation of decreased workload maintaining that “he doesn’t have to finish the whole assignment. If the assignment was to do 15 problems, he could do maybe all the odds or maybe all the evens.

“...Printed copies of the notes so they don't have to copy the work...”

As per the IEP document review only one student had the instructional accommodation of flexible presentation-provide a copy of directions for tasks when available. Although the instructional accommodation of providing copies of directions or copies of notes was not required; many of the participants mentioned that for them that is a common practice. Ms. F stated that for her middle school student with autism when she gives out a vocabulary chart she has the she “the other students write the chart[s] out, [and] I have the charts printed for him.” Ms. S also shares that she gives her middle school students with autism “printed copies of notes so they do not have to copy the work they copy too slowly to keep up.” Ms. C also provides copies to her middle school students with autism saying that

Uh if there is something projected, that student can have his copy you know they can write on the copy, versus the transfer because sometimes they have a problem with the transferring of information. Sometimes they, depending upon their needs, they may have more of an aid, more assistance.

"Through workshops I have taken in the past..."

Participants reported learning about curriculum modifications through a variety of sources including college courses, workshops and trainings, and support specialists. In total 6 out of the 9 participants reported that they learned about the curriculum modifications and instructional accommodations through county based workshops, and 7 out of 9 learned this information from ESE specialists and/or support specialists. Additionally, 5 out of 9 participants relied on their intuition about their middle school students with autism to provide instructional accommodations. Only one participant credited college based coursework for the knowledge related to curriculum modifications and instructional accommodations. A summary of reported sources are represented in Table 4.

Ms. F discussed that she had learned about instructional accommodations

...through workshops that I have taken in the past, through workshops and things I have given, been given here at school, uh you sit down with your support facilitator, she reviews with you the accommodations that the kids need. I have been doing this for a while so I can pick up on the things that they might need more help with.

Ms. L also stated that she gets ideas from other teachers, and trainings

saying,

And you can always go to somebody and say what can I, can you give me ideas? Well at least in my department, we have a great department, so going to someone in the department and saying I need help, and they come up with their own ideas but you know we can all go through training and it gives you ideas. But I still think that some things will work for one and some things won't.

Mr. M attributed his knowledge of instructional accommodations to

"use(ing) your head..but I think the strategies came from when I was growing up."

Table 4

Information Sources on Instructional Accommodations

Teacher Pseudonym Subject/Grade	County Workshops	Organization Trainings	College Courses	Support Specialists or Other Teachers	Teacher Intuition
Ms. K English 6 th	N/M	N/M	Yes	Yes	N/M
Ms. W English 6 ^t	Yes	N/M	N/M	Yes	N/M
Mr. B English 6 th	Yes	N/M	N/M	N/M	N/M
Mr. M Math 8 th	N/M	N/M	N/M	Yes	Yes
Mr. O Math 8 th	Yes	Yes	N/M	Yes	N/M
Ms. C Math 6 th	Yes	N/M	N/M	Yes	Yes
Ms. L Science 8 th	Yes	N/M	N/M	N/M	Yes
Ms. S Science 7 th	N/M	N/M	N/M	Yes	Yes
Ms. F Science 6 th	Yes	N/M	N/M	Yes	Yes

N/M= not mentioned

Participants’ Ways of Thinking About the Individual Education Plan

This section will share the results of the general education teacher interview question seven and the themes that emerged. Additionally, information from the classroom observations and IEP document reviews will be addressed as appropriate. The interview questions, coding categories, and themes are illustrated in figure 4.

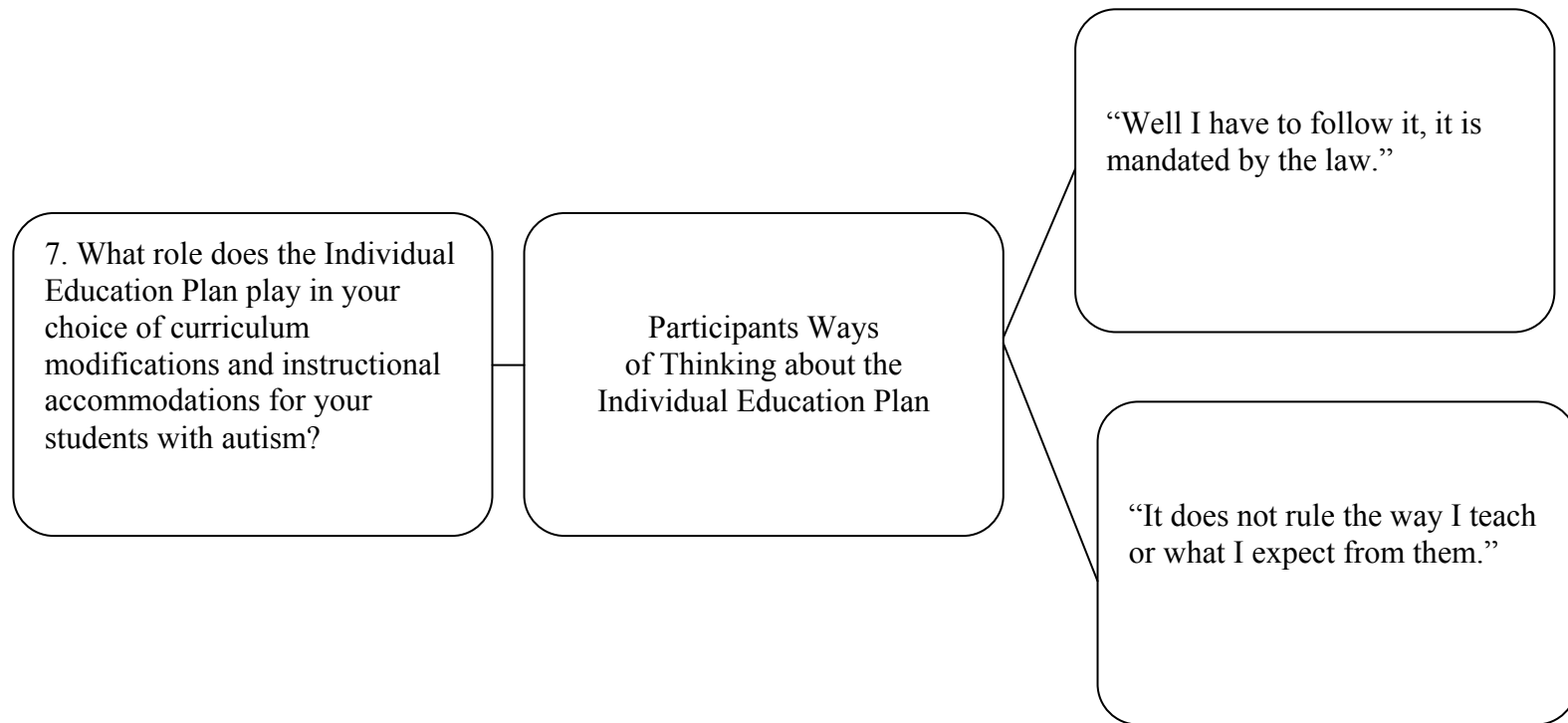


Figure 5 Coding Categories for Teacher Interview Question 7

"Well I have to follow it, it is mandated by the state."

Participants were asked about the role of the IEP in choosing curriculum modifications or instructional accommodations for middle school students with autism. Many participants emphasized the legal aspect of IEP implementation. For example, Ms. F asserted in regard to the IEP that "well I have to follow it, it is mandated by the state that I have to follow it. Um what I will do more if I need to, it shows if the student shows that he might need it." Ms. L also reiterated the legal nature of the IEP by stating "well obviously if it says that they get something, then they get it no matter what, that is absolutely adamant."

Other participants noted that it is a source of information on what instructional accommodation are required for their middle school students with autism. Mr. B verbalized about the role of the IEP, "Well I use it, weighs out what accommodations we need to provide." Mr. M emphasized when discussing the IEP that teachers must

by law understand things about the child that are in the IEP or EP that you have to do. So years ago when they had these things, when I first got into teaching you know, you try to understand exactly what the kids need and this and that. And that's when I decided okay let's just make everybody just understand that I'm going to treat everyone the same way. And if I have to go a little bit overboard I'm going to treat everyone the same way. That way I knew I had everybody covered there wasn't anything I left out. If I needed to place somebody up front, that I needed to have in a certain seating position, that's what I would do. If I needed to write in down something for them that's what I did. If I gave them modifications for homework ya know that's what I gave them and may be three or four more problems for everybody.

Ms. W went as far as calling the IEP

the guiding force for what I do in my classroom with those students. I use that as a tool of reference. I use that as a guide because the student has goals that they must meet and as a teacher it's my responsibility that I make sure that we meet those goals.

Ms. C agreed that the IEP plays a large role in the delivery of instruction for her middle school students with autism mentioning that

when it comes to a kid that has already been identified as ESE you want to cut down on that lag time and just you know read it. This is what they are identified as having a problem with, so it's a big role for me. When you see it's an ESE kid you can go to virtual counselor and print out the IEP right there.

"It does not rule the way I teach or what I expect from them."

Participants stated in interviews that although they followed what was mandated by the IEP for their middle school students with autism, oftentimes participants stated that they went beyond what the IEP required. Ms. S believes that the IEP "does not rule the way I teach them or what I expect from them. I usually give more accommodations than what the IEP states they are entitled to have. It is a case-by-case basis though."

Similarly, Ms. F shared this common sentiment by saying

if the student shows that he might needs extra time and the IEP doesn't say extra time, I will give him extra time. I will modify to what will help them to succeed, I don't want to see them fail.

Mr. O has a similar approach of trying to customize instructional accommodations in relation to the IEP for each student, he explains how he does it this way

generally the IEP will help target for that particular student what to focus on. If I do get a student and I give them a test and because there is the inclusion idea that they get the same test as everyone else. I am going to look at particular problems and maybe within those particular problems, like with addition side of it, or maybe I am just looking at the distributive side of the type of property that will work in that. And that is pretty much where my adjustment is because they are mainstream I don't want to adjust too much because then even though they are mainstream they're doing something completely different than the other students. It's sort of like isolating them. So I try to stay away from that as much as I can.

Mr. B summarizes the role of the IEP in the choice of instructional accommodations and going beyond the IEP by stating "a lot of the accommodations are made for almost every student, some of them are just good teaching techniques."

IEP Document Review Results

This following section will review results of comparing each IEP for the middle school student with autism to the instructional accommodations discussed by or observed in the participants’ classroom on a teacher-by-teacher basis by schools.

Ms. K was not observed implementing instructional accommodations for the middle school student with autism as per his IEP, see Table 5 below. However, she did mention flexible scheduling/timing-extra time for assignments in the interview stating

...that he has extended time for things but he really doesn’t need it when it comes to doing work, he can get the work done as the same everyone else on occasion may be three times he’s used the advantage of turning it in later.

Table 5

*School 1 English Ms. K
IEP- Document Review of Instructional Accommodations*

Supplementary Aid And Service By Student IEP	Discussed in Interview	Observed in Class
Flexible Presentation-Repeat/Paraphrase Directions (Student)	N	N
Flexible Scheduling/Timing-Extra Time For Assignments	Y	N
Flexible Setting-Close Proximity When Giving Directions Or Lessons	N	N
Flexible Presentation-Repeat, Clarify, Summarize Directions (Teacher)	N	N

Y= Yes, N=No

Mr. M was observed implementing the instructional accommodation for his middle school student with autism IEP for *flexible presentation: verbal encouragement*. However, during the interview he mentioned almost all of this students’ IEP instructional accommodations with the exception of flexible presentation-repeat, clarify, summarize directions. Mr. M stated in regard to extra time and additional time for his student “so

therefore rather than stress him out. I know that if I gave Joe enough time, where I would give other kids may be 15 problems, I would give Joe may be 8 or 10 problems.” In relation to preferential seating, Mr. M acknowledged “If I needed to place somebody upfront, then I needed to have in a certain seating position that’s what I would do.” However, despite this statement his current middle school student with autism was sitting in the middle row situated in the back of the room.

Table 6

*School 1 Math Mr. M
IEP- Document Review of Instructional Accommodations*

Supplementary Aid And Service By Student IEP	Discussed in Interview	Observed in Class
Flexible Presentation-Repeat, Clarify, Summarize Directions (Teacher)	N	N
Flexible Presentation- Verbal Encouragement	Y	Y
Flexible Scheduling/Timing-Add'l Time For Task (Total Time = Twice The Allotted Time)	Y	N
Flexible Scheduling/Timing-Extra Time For Assignments	Y	N
Flexible Setting-Preferential Seating	Y	N

Y= Yes, N=No

Ms. L referred to five out of seven of the instructional accommodations her middle school student with autism had on his IEP in the interview. These instructional accommodations included: (a) flexible scheduling/timing-additional time for task (total time = twice the allotted time); (b) flexible scheduling/timing-extra time for assignments; (c) flexible scheduling/timing-extra time for processing information (written); (d) flexible scheduling/timing-extra time for processing/responding (oral); and (e) flexible setting-

preferential seating. Ms. L referred to the instructional accommodation of flexible scheduling like this

sometimes you have to take away some of the questions so if you're doing 1-20 with everyone else you might only do 1-10 just to make sure they understand it, and they get it. If there is something that you might only have to change questions around or change the whole assignment around so that they are comfortable and understand it and they can get it. But you know making sure they have enough time. And if the assignment needs to be shortened, at least in science, because if you're doing a lab, you do have a lab write up afterwards. If they understand the lab in the first place that is just huge. And then to have them write up everything that is just not needed sometimes.

Out of the five instructional accommodations discussed in the interview on the IEP, flexible scheduling/timing-extra time for processing/responding (oral) were both observed in class and discussed in the interview. Only one other instructional accommodation from the IEP that of flexible setting- preferential seating, was observed in class, please refer to Table 7.

Table 7

*School 1 Science Ms. L
IEP- Document Review of Instructional Accommodations*

Supplementary Aid And Service By Student IEP	Discussed in Interview	Observed in Class
Flexible Presentation-Repeat, Clarify, Summarize Directions (Teacher)	N	N
Flexible Presentation-Repeat/Paraphrase Directions (Student)	N	N
Flexible Scheduling/Timing-Add'l Time For Task (Total Time = Twice The Allotted Time)	Y	N
Flexible Scheduling/Timing-Extra Time For Assignments	Y	N
Flexible Scheduling/Timing-Extra Time For Processing Information (Written)	Y	N
Flexible Scheduling/Timing-Extra Time For Processing/Responding (Oral)	Y	Y
Flexible Setting- Preferential Seating	N	Y

Y= Yes, N=No

Mr. B was observed or discussed implementing six out of the 12 accommodations listed in the IEP of his middle school student with autism. The instructional accommodations mentioned or observed included: (a) flexible presentation- verbal encouragement; (b) flexible scheduling/timing-extra time for processing/responding (oral); (c) flexible scheduling/timing-reduce assignments; (d) flexible setting-close proximity when giving directions or lessons; and (e) flexible setting-preferential seating. In the observation an interaction exhibiting all of the observed items, excluding allow movement as needed was noted, select student refers to middle school student with autism,

Teacher gives select student specific instructions on how many words are required in his essay, “50 words you have about 15 and probably 14 are misspelled. I will be collecting your journals 2-weeks from today to be graded.”

Teacher calls on a select student to list nouns in a sentence and says “good” after every correct noun identification. Select student states information about the word cruise and why it is a noun. Teacher affirms student response.

Select student repeats nouns in sentence, teacher states “perfect.” Teacher says “keep it in your folder.” Student goes up to teacher and shows him his journal. He states a number that is under 50 words. Teacher states, “it looks good, it is close enough.”

Teacher verbally gives student an example of item on work, and then teacher shows student concrete example of the word he is looking for. Teacher tells select student, “keep thinking you are doing good.”

Two of the instructional accommodations listed on the IEP were not applicable in the classroom observations, these fell under flexible setting including: (a) allow movement as needed, and (b) small group for testing. The middle school student with autism did not get out of his seat often, but if he did he was never re-directed back to his seat by his teacher, he went to his seat independently. As regards the instructional accommodation for testing, there were no tests given during any of my observations so it was not applicable to the classroom observations.

The six instructional accommodations from the IEP were neither discussed or observed in the classroom consisted of the following: (a) designated "safe" person; (b) flexible scheduling/timing-lessons broken into smaller segments; (c) flexible scheduling/timing- visual schedule; (d) flexible setting-allow movement as needed; (e) flexible setting-small group for testing; (f) supervision during campus transitions. For (d) flexible setting-allow movement as needed, the student did not get out of his chair so it was non-applicable. Also for the (e) flexible setting-small group for testing, there was no testing conducted so therefore it was also non-applicable. Please refer to Table 8.

Table 8

*School 2 English Mr. B
IEP- Document Review of Instructional Accommodations*

Supplementary Aid And Service By Student IEP	Discussed in Interview	Observed in Class
Designated "Safe" Person	N	N
Flexible Presentation- Verbal Encouragement	N	Y
Flexible Scheduling/Timing-Extra Time For Assignments	Y	N
Flexible Scheduling/Timing-Extra Time For Processing/Responding (Oral)	N	Y
Flexible Scheduling/Timing-Lessons Broken Into Smaller Segments	N	N
Flexible Scheduling/Timing-Reduce Assignments	Y	Y
Flexible Scheduling/Timing- Visual Schedule	N	N
Flexible Setting-Allow Movement As Needed	N	N/A
Flexible Setting-Close Proximity When Giving Directions Or Lessons	N	Y
Flexible Setting-Preferential Seating	N	Y
Flexible Setting-Small Group For Testing	N	N/A
Supervision During Campus Transitions.	N	N

Y= Yes, N=No, N/A= Not applicable

The IEP for Mr. O's middle school student with autism specified nine instructional accommodations on the IEP. During classroom observations six out of the nine instructional accommodations were observed which included (a) other-peer assistance; (b) flexible presentation-use means to direct attention to test/task items; (c) flexible presentation-verbal encouragement; (d) flexible scheduling/timing-additional time for tasks/assignments (more than 200% of allotted time); (e) flexible setting-close proximity when giving directions or lessons; and (f) flexible setting-preferential seating. The following is an example of an observation where it appears that the teacher is respecting the (a) peer support system of the middle school student with autism; (b) his preferential seating arrangement; (c) close proximity when giving directions; and (d) direct attention to test/task items

Teacher rearranges the classroom due to several new students coming to the class. Select student still sits close to the front of the class near a peer with whom he seems to have a positive relationship in class. Teacher was putting students in order by last name and select student and friendly peer did not fit the pattern for alphabetical order by last name down the chair rows. Teacher decides to leave these two students in the front near each other and continues to put the rest of the students in alphabetical order. Then teacher counts the students. One of the students says we are going to lose two students because there are 24 students. Teacher talks about ratios saying "yes they want us to have a teacher to student ratio of 22 to 1." Teacher asks students what this means. One of the students explains, teacher says "great, see how math is used in the real world?"

Teacher asks for a student's homework to project. Teacher asks why is this problem is not a function. Student tries to explain the problem. Teacher tries to walk student through the problem. Other students raise their hand to add to the question of the problem.

Teacher points to the projected image on the board and walks through the problem by asking questions. Teacher points to the specifics of the problems and illustrates by doing a think aloud of the problem.

Only one instructional accommodation from the IEP was discussed in the interview and that included flexible scheduling/timing-additional time for tasks/assignments (more than 200% of allotted time). Mr. O described this instructional accommodation like this, “So the type of modifications that I incorporate may be a little more time on tests. Um I’ll reduce for them the number the amount of assignments, or the amount of uh questions on a particular assignment.” Due to the fact that I was not present for any testing the instructional accommodation of flexible setting-small group for testing was not applicable in the observations, please refer to Table 9.

Table 9

School 2 Math Mr. O^a
IEP- Document Review of Instructional Accommodations

Supplementary Aid And Service By Student IEP	Discussed in Interview	Observed in Class
*Other-Peer Assistance	N	Y
Flexible Presentation-Repeat, Clarify, Summarize Directions (Teacher)	N	N
Flexible Presentation-Use Means To Direct Attention To Test/Task Items	N	Y
Flexible Presentation-Verbal Encouragement	N	Y
Flexible Scheduling/Timing-Add'l. Time For Tasks/Assignments (More Than 200% Of Allotted Time)	Y	Y
Flexible Scheduling/Timing-Lessons Broken Into Smaller Segments	N	N
Flexible Setting-Close Proximity When Giving Directions Or Lessons	N	Y
Flexible Setting-Preferential Seating	N	Y
Flexible Setting-Small Group For Testing	N	N/A

^a Mr. O and Ms. S shared the same student for different subjects
 Y= Yes, N=No, N/A= Not applicable

The IEP for Ms. S's middle school student with autism specified nine instructional accommodations on the IEP. During classroom observations seven out of the nine instructional accommodations were observed which included (a) other-peer assistance; (b) flexible presentation-repeat, clarify, summarize directions (teacher) (c) flexible presentation-use means to direct attention to test/task items; (d) flexible presentation-verbal encouragement; (e) flexible scheduling/timing-additional time for tasks/assignments (more than 200% of allotted time); (f) flexible setting-close proximity when giving directions or lessons; and (g) flexible setting-preferential seating.

Ms. S gave a group work that illustrates other peer assistance from the following observation

Teacher asks select student "What did you do with the poster?" Select student goes to another table and picks up a collage. Student Y said to select student that you were supposed to turn it in. What did you do with it? Select student misunderstood request apparently, teacher tries to rephrase and jog his memory. Teacher and student start looking through papers. Apparently the group does not find the poster. Teacher lets them get another poster to work on and to start over.

Ms. S describes the types of instructional accommodations that match this student's IEP in the interview saying that they do

group work, have extra time for tests and assignments, printed copies of notes so they do not have to copy the work, they copy too slowly to keep up, they get verbal encouragement and monitoring, and support with organization like planners, and communication home to parents daily.

Ms. W was interviewed and observed about instructional accommodations her students with autism. Out of 12 instructional accommodations she was noted to have implemented six out of the twelve. The six instructional accommodations provided by Ms W included (a) flexible presentation-provide copy of directions for tasks, when available; (b) flexible presentation-repeat, clarify, summarize directions (teacher); (c) flexible presentation-student uses means to maintain/enhance visual attention;

Table 10

School 2 Science Ms. S^a
IEP- Document Review of Instructional Accommodations

Supplementary Aid And Service By Student IEP ^C	Discussed in Interview	Observed in Class
*Other-Peer assistance	Y	Y
Flexible Presentation-Repeat, clarify, summarize directions (teacher)	N	Y
Flexible Presentation-Use means to direct attention to test/task items	N	Y
Flexible Presentation-Verbal encouragement	Y	Y
Flexible Scheduling/Timing-Add'l. time for tasks/assignments (more than 200% of allotted time)	Y	Y
Flexible Scheduling/Timing-Lessons broken into smaller segments	N	N
Flexible Setting-Close proximity when giving directions or lessons	N	Y
Flexible Setting-Preferential seating	N	Y
Flexible Setting-Small group for testing	N/A	N/A

^a Mr. O and Ms. S shared the same student for different subjects
 Y= Yes, N=No, N/A= Not applicable

(d)flexible presentation-use means to direct attention to test/task items; (e) flexible presentation-verbal encouragement (f) flexible scheduling/timing-additional time for tasks/assignments [more than 200% of allotted time].

The six instructional accommodations that were not observed or discussed in the interview included the following (a) other-daily/weekly reporting and collaboration with the parent (b) flexible presentation-oral presentation of test directions (if allowable) (c) flexible presentation-oral presentation of test prompts (if allowable) (d) flexible presentation-repeat/paraphrase directions (student); (e) flexible scheduling/timing-lessons broken into smaller segments; and (f) flexible setting-small group for testing up to 3. Two instructional accommodations were not applicable for the observation days because they involved testing and there were no tests given on any of those days, refer to Table 11.

Table 11

School 3 English Ms. W^b
IEP- Document Review of Instructional Accommodations

Supplementary Aid And Service By Student IEP	Discussed in Interview	Observed in Class
*Other-Daily/Weekly Reporting And Collaboration With The Parent	N	N/A
Flexible Presentation-Oral Presentation Of Test Directions (If Allowable)	N	N/A
Flexible Presentation-Oral Presentation Of Test Prompts (If Allowable)	N	N/A
Flexible Presentation-Provide Copy Of Directions For Tasks	Y	N
Flexible Presentation-Repeat, Clarify, Summarize Directions (Teacher)	N	Y
Flexible Presentation-Repeat/Paraphrase Directions (Student)	N	N
Flexible Presentation-Student Uses Means To Maintain Visual Attention	Y	Y
Flexible Presentation-Use Means To Direct Attention To Test/Task Items	Y	N
Flexible Presentation-Verbal Encouragement	N	Y
Flexible Scheduling/Timing-Add'l. Time For Tasks/Assignments (More Than 200% Of Allotted Time)	Y	N
Flexible Scheduling/Timing-Lessons Broken Into Smaller Segments	N	N
Flexible Setting-Close Proximity When Giving Directions Or Lessons	N	Y
Flexible Setting-Small Group For Testing Up To 3	N/A	N/A

^b Ms. W and Ms. C shared the same student for different subjects
 Y= Yes, N=No, N/A= Not applicable

Ms. C was interviewed and observed about instructional accommodations for her students with autism. Out of 12 instructional accommodations, she was noted to have implemented seven. The seven instructional accommodations provided by Ms C included (a) flexible presentation-provide copy of directions for tasks, when available; (b) flexible presentation-repeat, clarify, summarize directions (teacher); (c) flexible

presentation-student uses means to maintain/enhance visual attention; (d) flexible presentation-use means to direct attention to test/task items; (e) flexible presentation-verbal encouragement (f) flexible scheduling/timing-additional time for tasks/assignments (more than 200% of allotted time); and (g) flexible setting, close proximity when giving directions or lessons

The five instructional accommodations that were not observed or discussed in the interview included the following (a) other-daily/weekly reporting and collaboration with the parent (b) flexible presentation-oral presentation of test directions (if allowable) (c) flexible presentation-oral presentation of test prompts (if allowable) (d) flexible presentation-repeat/paraphrase directions (student); (e) flexible scheduling/timing-lessons broken into smaller segments: and (f) flexible setting-small group for testing up to 3. Two instructional accommodations were not applicable for the observation days because they involved testing and there were no tests given on any of those days, refer to Table 12.

Ms. F had seven instructional accommodations on the IEP for her middle school student with autism. Six of the seven instructional accommodations were either mentioned in the interview or observed in the classroom; these included: (a) flexible presentation- verbal encouragement (b) flexible scheduling/timing-extra time for assignments (c) flexible scheduling/timing-extra time for processing/responding (oral); (d) flexible scheduling/timing-reduce assignments (e) flexible setting-close proximity when giving directions or lesson; and (f) flexible setting-preferential seating. The last instructional accommodation of flexible setting-small group for testing was not applicable

in the classroom observations because it involved testing, and there was no testing done during the observations. This example from the classroom observation exemplifies several instructional accommodations enacted by the participant as required by the IEP. The participant stated,

“Take out your notebook and use it for the next 10 minutes and check your work. Finished or not, take out your notebook.” Select student has question for teacher. Teacher explains question, paraphrases question, and asks leading questions to assist student in locating the correct answer. Teacher bends over select student’s desk and helps him to eliminate certain possible answers through questioning.

Table 12

School 3 Math Ms. C.^b
IEP- Document Review of Instructional Accommodations

Supplementary Aid And Service By Student IEP	Discussed in Interview	Observed in Class
*Other-Daily/Weekly Reporting And Collaboration With The Parent	N/A	N/A
Flexible Presentation-Oral Presentation Of Test Directions (If Allowable)	N/A	N/A
Flexible Presentation-Oral Presentation Of Test Prompts (If Allowable)	N/A	N/A
Flexible Presentation-Provide Copy Of Directions For Tasks	Y	N
Flexible Presentation-Repeat, Clarify, Summarize Directions (Teacher)	N	Y
Flexible Presentation-Repeat/Paraphrase Directions (Student)	N	N
Flexible Presentation-Student Uses Means To Maintain Visual Attention	Y	Y
Flexible Presentation-Use Means To Direct Attention To Test/Task Items	N	Y
Flexible Presentation-Verbal Encouragement	Y	Y
Flexible Scheduling/Timing-Add'l. Time For Tasks/Assignments (More Than 200% Of Allotted Time)	Y	Y
Flexible Scheduling/Timing-Lessons Broken Into Smaller Segments	N	N
Flexible Setting-Close Proximity When Giving Directions Or Lessons	N	Y
Flexible Setting-Small Group For Testing Up To 3	N/A	N/A

^b Ms. F and Ms. W shared the same student for different subjects
 Y= Yes, N=No, N/A= Not applicable

Table 13

School 3 Science Ms.F
IEP- Document Review of Instructional Accommodations

Supplementary Aid And Service By Student IEP	Discussed in Interview	Observed in Class
Flexible Presentation- Verbal Encouragement	N	Y
Flexible Scheduling/Timing-Extra Time For Assignments	Y	N
Flexible Scheduling/Timing-Extra Time For Processing/Responding (Oral)	N	Y
Flexible Scheduling/Timing-Reduce Assignments	Y	N
Flexible Setting-Close Proximity When Giving Directions Or Lessons	N	Y
Flexible Setting-Preferential Seating	N	Y
Flexible Setting-Small Group For Testing	N/A	N/A

Y= Yes N=No N/A=Not applicable

Quantitative Analysis of the IEP, the Observations, and the Interviews

The nominal analysis of this study compared the total instructional accommodations listed on the middle students with autism’s IEPs to determine if the instructional accommodation was either observed in the classrooms or discussed in the interviews by counting the frequency of occurrence or mention. In total, out of twenty-four total instructional accommodations from the reviewed IEPs, six were not discussed or observed, these included (a) flexible presentation-repeat/paraphrase directions (student); (b) flexible scheduling/timing-extra time for processing information (written); (c) flexible scheduling/timing-lessons broken into smaller segments; (d) flexible scheduling/timing- visual schedule; (e) designated "safe" person; and (f) supervision during campus transitions. Another four instructional accommodations were deemed not

applicable to the observations and were not discussed in interviews, these included: (a) flexible presentation-oral presentation of test directions (if allowable); (b) flexible presentation-oral presentation of test prompts (if allowable); (c) flexible setting-allow movement as needed; (d) flexible setting-small group for testing.

Fourteen of the instructional accommodations were either mentioned during interviews or observed by all participants whose middle school students with autism had those instructional accommodations. These instructional accommodations included (a) flexible presentation-provide copy of directions for tasks, when available; (b) flexible presentation- verbal encouragement; (c) flexible presentation-use means to direct attention to test/task items; (d) flexible presentation-student uses means to maintain/enhance visual attention; (e) flexible scheduling/timing-additional time for tasks/assignments; (f) flexible scheduling/timing-extra time for assignments; (g) flexible scheduling/timing-extra time for processing/responding (oral); (h) flexible scheduling/timing-reduce assignments; (i) flexible setting-preferential seating; (j) flexible scheduling/timing-additional time for tasks/assignments; (k) flexible scheduling/timing-extra time for assignments; (l) flexible scheduling/timing-extra time for processing/responding (oral); (m) flexible scheduling/timing-reduce assignments; and (n) flexible setting-preferential seating, refer to Table 14.

Summary of Results

Participants for this study included a total of 9 general education teachers of middle school students with autism, with three teachers in each subject including English, math, and science. Based on the qualitative research techniques of observation, participant

interviews, and document reviews, the use of curriculum modifications and instructional accommodations for middle school students with autism was explored.

Table 14

IEP- Document Review of Instructional Accommodations Across All Subjects

Supplementary Aid And Service From IEP	Number of IEPs with Instructional Accommodation	Number of Times Observed or Discussed
Flexible Presentation-Oral Presentation Of Test Directions (If Allowable)	2	N/A
Flexible Presentation-Oral Presentation Of Test Prompts (If Allowable)	2	N/A
Flexible Presentation-Provide Copy Of Directions For Tasks	2	2
Flexible Presentation-Repeat/Paraphrase Directions (Student)	4	0
Flexible Presentation-Repeat, Clarify, Summarize Directions (Teacher)	7	3
Flexible Presentation- Verbal Encouragement	7	7
Flexible Presentation-Use Means To Direct Attention To Test/Task Items	4	4
Flexible Presentation-Student Uses Means To Maintain /Enhance Visual Attention	2	2
Flexible Scheduling/Timing-Add'l. Time For Tasks/Assignments	5	9
Flexible Scheduling/Timing-Extra Time For Assignments	4	4
Flexible Scheduling/Timing-Extra Time For Processing/Responding (Oral)	3	3
Flexible Scheduling/Timing-Extra Time For Processing Information (Written)	1	0
Flexible Scheduling/Timing-Lessons Broken Into Smaller Segments	4	0
Flexible Scheduling/Timing-Reduce Assignments	2	2
Flexible Scheduling/Timing- Visual Schedule	1	0
Flexible Setting-Preferential Seating	6	6
Flexible Setting-Close Proximity When Giving Directions Or Lessons	7	6
Flexible Setting-Allow Movement As Needed	1	N/A
Flexible Setting-Small Group For Testing	5	N/A
Designated "Safe" Person	2	0
Supervision During Campus Transitions.	1	0
*Other-Peer Assistance	2	2
*Other-Daily/Weekly Reporting And Collaboration With The Parent	2	N/A

N/A= Not applicable

The data were organized using the framework of the interview questions and then categorizing the information by what Bogdan and Biklen (2007) refer to as coding categories. Data collected via the classroom observations and the IEP document review were then subsumed into the framework of the interview questions where relevant.

Interview questions one and two asked the participants to describe their past and current middle school students with autism. The two coding categories chosen for these questions included: (a) participants' perspectives on the capabilities of middle school students with autism; and (b) participants' way of thinking about the academics and behaviors of middle school students with autism.

In the first category on participant perspectives on capabilities two themes emerged called: (a) "my autistic kid just blends in with kids;" and (b) "he was a perfectionist, his writing was impeccable." The first theme "my autistic kid just blends in with kids" in highlighted the participants' view that most of their middle school students with autism fit in well with their peers. In the second theme of "he was a perfectionist, his writing was impeccable," participants noted the their middle school students with autism tended to pay a lot of attention to detail that improved the quality of their academic work, but also caused them to take longer to complete tasks.

In the second category on participants ways of thinking about the academics and behaviors of middle school students with autism the two emerging themes were "he's very literal" and "they have their own mannerisms." In the first theme of "he's very literal" participants recognized the way that some middle school students with autism exhibited concrete thinking. While in the theme of "they have their own mannerisms"

participants shared the atypical behavior of middle school students with autism that have noticed in the past and present.

Responses to interview questions three and four were examined in light of the data from participant interviews and classroom observations. The coding category that emerged was participants' ways of thinking about curriculum modifications. The two themes that came out of this data were: (a) "they don't do it much in this school;" and (b) "reduced amount that was the only curriculum modification I had to make." The first theme of "they don't do it much in this school" reflected the fact that none of the participants actually used any type of curriculum modifications with their middle school students with autism. The second theme of "reduced amount that was the only curriculum modification I had to make " illustrated that the two terms, curriculum modifications and instructional accommodations, were often used interchangeably by participants.

Responses to interview questions five and six evoked only one coding category under participant activity codes, since this is the area that participants were implementing instructional accommodations. There were five themes that emerged under this coding category that included : (a) "you don't want them being singled out as the student who had extra time;" (b) "there are some strategies that work across the board with all students;" (c) "maybe a little more time on tests;" (d) "he could maybe do all the odds or all the evens;" and (e) "...printed copies of the notes so they don't have to copy the work.." All of these categories reflected the approaches to instructional accommodations that participants were taking with their middle school students with autism.

Oftentimes it was evident that participants felt they were providing instructional accommodations for all of their students, not just those with IEPs. Additional information

from classroom observations and student IEPs were added to this section. For example three most commonly observed instructional accommodations were: (a) using visual aids like whiteboard, overhead, or chart; (b) writing important ideas in different color markers; and (c) combining spoken directions with visuals. It was also determined that some of the commonly implemented instructional accommodations, like reduced workload, were mentioned by only two of the middle school students with autism's IEPs. Furthermore, the implementation of IEP instructional accommodations by participants, as evidenced by participant interviews and classroom observations were summarized and formulated into Tables 5-13.

Fourteen of the 24 instructional accommodations mentioned in middle school students with autism's IEPs were either noted in classroom observations or discussed in participant interviews. Another six instructional accommodations from the IEPs were neither mentioned nor observed, and four instructional accommodations from the IEPs were deemed not applicable to observations due to an unobservable component. Additional relevant information in answering interview question six, as obtained in the participant interviews, determined that 6 out of the 9 participants learned about curriculum modifications and instructional accommodations through county based workshops, and 7 out of 9 learned this information from ESE specialists and/or support specialists. Additionally, 5 out of 9 participants relied on their intuition about their middle school students with autism to provide instructional accommodations. Only one participant credited college based coursework for the knowledge related to curriculum modifications and instructional accommodations.

Interview question seven asked participants the role the IEP had on their choice of curriculum modifications or instructional accommodations for their middle school students with autism. The coding category that was determined for this question was participants' ways of thinking about the individual education plan. The two themes that emerged from this coding category included (a) "well I have to follow it, it is mandated by the state;" and (b) "it does not rule the way I teach or what I expect from them." In the first theme of "well I have to follow it, it is mandated by the state" many participants acknowledged the legal aspect of adhering to the IEP in the provision of instructional accommodations for middle school students with autism.

As for the second theme of "it does not rule the way I teach or what I expect from them" participants expressed that they believed they were going beyond what was required by the IEP by providing instructional accommodations to all students, not just middle school students with autism.

CHAPTER V

DISCUSSION AND CONCLUSIONS

This study was built on the research conducted by Wehmeyer et al. (2003) and Soukup et al. (2007) of elementary and middle school students with cognitive disabilities to reveal what curriculum modifications and instructional accommodations were being used to provide access to the general curriculum for middle school students with autism. The research model this study implemented uncovered the instructional accommodations that were being offered to provide access to the general curriculum for middle school students with autism, which up until this time had been unidentified.

To date, prior to this study there has been only one study located which reported on the use of curriculum modifications and instructional accommodations for students with autism (Newman, 2007). However this study utilized a survey methodology and did not include classroom observations or teacher interviews. No research prior to this study was located that had been conducted with general education teachers to determine where they learned about curriculum modifications and instructional accommodations for students with autism.

The purpose of this study was to investigate (a) the use of curriculum modifications for students with autism and where teachers learned about them; (b) the use of instructional accommodations for students with autism and where teachers learned about them; and (c) to determine if the teacher's choice of curriculum modifications or instructional accommodations stemmed from the IEP. Presented in this chapter is a discussion of the research questions and sub-questions. Additionally, the research

findings will be connected to the current research. The discussion of results will follow the sections delineated by the coding categories and related themes as derived from the interview questions. Last, there will be discourse on the limitations of this study and recommendations for future research.

Reported Characteristics of Middle School Students with Autism Participant's Perspectives and Ways of Thinking About Middle School Students with Autism

The coding categories that emerged from the first two interview questions on the characteristics of middle school students with autism participants have taught in the past and present included: (a) participant's perspectives on the capabilities of their middle school students with autism; and (b) participants ways of thinking about the academics and behaviors for their students with autism. From each coding category two themes emerged and they will each be discussed separately.

There were two themes that surfaced within the coding category of participant's perspectives on the capabilities of their middle school students with autism which included: (a) "...my autistic kid just kind of blends in with the kids..."; and (b) "he was a perfectionist, impeccable." The significance of the first theme, "my autistic kid just kind of blends in with the kids," speaks to the relative ease in which these middle school students with autism have been integrated into general education classrooms. For example, Mr. O, a math teacher, asserted that "if you are to sit in my class for a period for a day you wouldn't be able to tell that they were autistic, and because they participate and respond regularly in class."

The fact that many participants perceived that their middle school students with autism blended in with other students could be both a positive and a negative finding. In a

study of primary and secondary students with autism, a surprising finding was revealed in regard to their perceived acceptance as judged by their peers, parents, and teachers (Jones & Frederickson, 2010). In that multi-informant study, researchers used a multiple regression analysis to analyze responses from the *Social Inclusion Survey*, *Strengths and Difficulties Questionnaire*, and the 'Guess Who' *Social Behaviour and Bullying Measure*, on the perceptions of social acceptance. General education teachers' responses varied significantly from the responses of peers and parents in that they failed to predict either social acceptance or rejection of both primary and secondary students with autism in the general education classroom. For this reason, it may be that while the participants in this study assessed their middle school students with autism as "just blending in" that may not really have been the case.

Furthermore, the perception that middle school students with autism blend in with other students in general education classes may make life more challenging for them. This is supported by a significant interaction on the between group and pro-social behavior factors as indicated on parental ratings of pro-social behavior and peer ratings on social acceptance in the Jones and Fredrickson (2010) study. For example, the researchers suggested that the more a student appears to fit in, the less tolerant their peers will be of unique manifestations of their disability. This was explained as due to the fact that their peers may have higher expectations for them because they appear to fit in and do not understand the challenges they face within the context their disability in relation to social and communication interactions.

Participants of this study asserted that due to the ability of their middle school students with autism to function well in the general education classroom their disability

was not that noticeable. Not one of the participants spoke of difficulties with teaching middle school students with autism. The majority of high functioning students with autism participate in predominately general education classes (Myles, 2005; Myles & Simpson, 2002). It may be the case that most of the middle schools students with autism in this study were at the higher end of the autism spectrum, in what is considered the normal intelligence quotient (IQ) range. Therefore, it was easier for them to adapt to the behavioral expectations of a general education classroom environment. This finding is corroborated by the findings of Jones and Fredrickson (2010) who found that primary and secondary students with autism were perceived to have relatively low ratings of conduct problems and disruptive behaviors as rated by their peers, parents, and teachers.

While participants reported that middle school students with autism appeared to fit in well, there continued to be some behavioral differences participants noticed about them. Displaying difficulties with social behavior is common for middle school students with autism (Myles, 2005; Myles & Simpson, 2002). As for the second theme of “he was a perfectionist, impeccable,” a few of the participants described positive characteristics regarding their middle school students with autism. However, several participants realized that attention to detail led to a delay in completion of student work. Each stated that this was not an area of concern for the middle school student with autism or themselves as teachers.

Participants discussed their thoughts on how the students’ academic performance and how autistic types of behaviors in class impacted learning processes. The characteristic of concrete thinking was illustrated in the theme “he’s very literal.” It was surprising that only a small percentage of participants discussed concrete thinking, which

is common characteristic of middle school students with autism (Donaldson & Zager, 2010; Myles & Simpson, 2002; Myles, 2005). Since 2 out of 3 classes observed were in math and science, experiences with figures of speech, metaphors, and humor may have been limited. For this reason participants may not have been aware of the tendency of middle school students with autism to interpret meaning in a literal concrete manner. Also, it could be that instances of literal interpretation and concrete thinking happened infrequently; therefore participants did not feel that they were that significant.

The theme of “they have their own mannerisms,” encompassed the behaviors participants observed in middle school students with autism like organizational difficulties and stereotypic behavior. Behaviors like tapping or repetitive hand movements were mentioned by participants; these are common behaviors for middle school students with autism (Myles & Simpson, 2002; Myles, 2005). However, the behaviors discussed did not cause major class disruptions and most middle school students with autism were easily redirected. Participants described positive attributes of middle school students with autism and were aware of some behaviors that middle school students with autism may demonstrate in the classroom. None of the middle school students with autisms’ behaviors or characteristics were so severe as to negatively impact their ability to participate at or above the level of their peers according to participants.

Participants Ways of Thinking About Curriculum Modifications

The two themes that were included in the coding category of participants way of thinking about curriculum modifications included: (a) "reduced amount, that was the only curriculum modification I had to make...": and (b) "they don't do it much in this school." The first theme of "reduced amount, that was the only curriculum modification I had to

make...” illustrated that many of the general education teachers used the term curriculum modification interchangeably with instructional modifications. This is evident when Ms. L was asked about curriculum modifications she explained that “you had to take away some questions, so if you’re doing 1-20 with everyone else you might only do 1-10,” which actually describes instructional accommodations.

Not surprisingly, this same finding was reported in a study by Ysseldyke, Thurlow, Bienlinski, House, Moody, and Haigh (2001) on the relationship of instructional and assessment accommodations in an inclusive state accountability system. Their study examined the use of instructional and assessment accommodations based on IEP documentation from four local education agencies, before and after state assessments from grades 1 to 8. The participants in the Ysseldyke et al. study were students in grades 1-8 with specific learning disabilities (46%), speech and language disabilities (25%), multiple disabilities (12%), and other health impairments (11%). In their discussion, they stated that many teachers reported instructional changes were modifications, when in actuality based on the Maryland State Department of Education definitions, they were accommodations. This suggests that due to confusion between terms, more training needs to be done for teachers on the differences between curriculum modifications and instructional accommodations. Many teachers tend to use these terms interchangeably, even though in most instances teachers are just offering instructional accommodations, not both interventions.

The other theme of "they don't do it much in this school" shed light on the fact that none of the participants used curriculum modifications for their middle school students with autism. In general, only students with cognitive disability are eligible for

curriculum modifications due to the NCLB (2001) requirement that all students, regardless of disability, have access to the general curriculum. If a student is significantly below grade level, implying a cognitive disability, curriculum modifications could be considered for an IEP (Bureau of Instructional Support and Community Services & Florida Disabilities Council, Inc., 2003).

These findings mirror what Soukup et al. (2007) found with regard to students who spent a greater amount of time in the general education classroom. Students in general education classrooms for longer periods worked 98% of the time on grade level standards, which would preclude the use of curriculum modifications. This finding points to the possibility that students with intellectual disability [including students with autism spectrum disorders who also have intellectual disabilities], who may function at lower cognitive levels, are not being included in the general education classroom. The same was true in this study based on the IEP document review, which determined that none of the participants had any students with curriculum modifications on their IEPs.

This finding contrasted with Newman (2007) who found that 38% of students with autism in secondary settings had curriculum modifications and shorter or different assignments, 33% had modified tests, and 30% had modified grading. Of course it should be noted that the Newman (2007) study was part of a much larger national longitudinal study which did not differentiate between students with autism in contained classrooms as opposed to students with autism in general education classrooms. An additional consideration is that the sample size of this study was considerably smaller as compared to the Newman study and was limited to students with autism who were completely included in general education classes.

Finally, Ysseldyke et al. (2001) reported a relationship between the intensity of special education services and the provision of curriculum modifications. In other words, the students with the least adaptive skills and the lower IQs tended to receive the most curriculum modifications. However, it was clear from the IEP document review that none of the middle school students with autism in this study received curriculum modifications. This pointed to the possibility that these students were ineligible for such, since only students significantly below grade level implying cognitive disability, are generally eligible for curriculum modifications in the state of Florida (Bureau of Instructional Support and Community Services & Florida Disabilities Council, Inc., 2003).

Participant Activity Codes for Instructional Accommodations

There were six themes in the coding category of participants activity codes for instructional accommodations which included: (a) "you don't want them being singled out as the student who had extra time;" (b) "there are some strategies that work across the board with all students;" (c) "maybe a little more time on tests;" (d) "he could maybe do all the odds or all the evens;" (e) "printed copies of the notes so they don't have to copy the work;" and (f) "through workshops I have taken in the past." Based on the classroom observations, interviews, and IEP document reviews it was revealed that participants had a strong grasp of the concept of instructional accommodations. Additionally, the combination of technology and teaching methods used by most participants increased the number of instructional accommodations being provided for all their students, including their middle school students with autism.

The first two themes of (a) "you don't want them being singled out as the student who had extra time" and (b) "there are some strategies that work across the board with all students," illustrated the knowledge of participants that students in middle school encountered peer pressure and that some instructional accommodations work well for all students. Middle school environments pose challenges for students with autism due to their social/communication skills deficits that become more apparent as other students their age are developing increased social maturity (Andreon & Stella, 2001). Participants' understanding that middle school students do not like to be singled out and that offering instructional accommodations helps all students was illustrated by Ms. K. She stated that many of her students need instructional accommodations and that if:

I would give him (middle school student with autism), which is nice because they hate being different, it's so difficult at this age. You hand one of them something and everyone around them wants to know why they didn't get it. They want to know why they don't have it. It's good that he's in this class because he gets the same as everyone else.

There are some "how-to" articles, not research studies that do address how teachers can implement instructional accommodations for students with autism (e.g., Dahle & Gargiulo, 2004; Harrower & Dunlap, 2001; Mastergeorge, 2007; Safran, 2002). Other "how-to" articles emphasize the benefits of universal design for learning which include offering instructional material in a variety of formats to make them more accessible for all students, not just those with disabilities (Center for Applied Technology [CAST], n.d.; Hitchcock & Stahl, 2003; Jackson, Harper, & Jackson, 2002). Based on the interview responses and classroom observations the majority of participants in this study provided instructional accommodations for all students on a regular basis.

The research studies on instructional accommodations and access to the general

curriculum do not address the potential stigma that could be present in middle school settings for middle school students with autism receiving instructional accommodations. However, Carter, Sisco, Brown, Brickham, and Al-Khabbaz (2008) found in their study of peer interaction and academic engagement for 23 middle and high school students with cognitive disabilities, that the increased presence of a paraprofessional or special educator in a general education classroom; the less likely the student would have social interactions with peers. This could imply that the more different a student is perceived, the less likely their peers are to accept them. While the presence of a paraprofessional is not exactly the same as a teacher offering an instructional accommodation, it nonetheless reinforces the idea that there may be a stigma attached to the open provision of instructional accommodations in the middle school general education classroom. During the adolescent years, many students are striving to gain peer acceptance (Andreon & Stella, 2001). When a student is perceived as being different they are less likely to be accepted. Participants being aware of the developmental stages of their students while making instructional decisions speaks to how participants respect the dignity of their students.

The results of this study differed from the Wehmeyer et al. (2003) study which examined the degree of classroom participation and general curriculum access for students with cognitive disability. Wehmeyer et al. determined that the higher the rate of inclusion in general education for a student the less likely they were to receive instructional accommodations and that it was more likely they would be working in the general curriculum. Unlike the Wehmeyer et al. study, data from the classroom observations in this study revealed that participants often provided instructional

accommodations for the whole class on a daily basis that they did not acknowledge in the participant interviews. It is unclear why the participants did not acknowledge the use of these instructional accommodations.

It is possible that participants simply equated these methods to effective teaching strategies that benefit all students. For example, the most frequently observed instructional accommodation, noted in 30 out of 36 observations, was the use of visual aids like whiteboard, overhead, or chart. The second most frequently implemented instructional accommodation, used in 22 of the 36 classroom observations, was writing with different color markers to emphasize information on the whiteboard. Finally, the third most frequently observed instructional accommodation, recorded in 19 of the 36 observations, was combining spoken directions with visuals.

Instructional accommodations observed and discussed in this study differed significantly from what was observed in the Soukup et al. (2007) study. For instance, Soukup et al. noted that the most frequent instructional accommodations for students with cognitive disability included having a paraprofessional in the classroom 65.4%, having a note-taker 2.7%, and finally having peer support. None of the participants in this study taught a middle school student with autism who required a paraprofessional in the general education classroom as part of their IEPs. However, one student on their IEP required supervision when transitioning to classes on campus. However, every time this researcher saw this student transitioning between classes he was always alone in the hallway. The difference between the Soukup et al. study and this study could lie in the fact that the participants in this study taught middle school students with autism who did not have cognitive disability. As a result these students did not require the same types of

instructional accommodations as those with cognitive disability in the Soukup et al. study. Approximately 41% of children with autism concurrently have a cognitive disability (CDC, 2009) which could translate to almost half of students with autism and a concurrent cognitive disability are not being included in general education classrooms.

However despite this difference there was a similarity in instructional accommodations related to the provision of assistance with note taking. Several participants in this study acknowledged that they gave middle school students with autism in their classes copies of their notes, even though it was not required on the IEP. This particular instructional accommodation of providing copies of notes occurred more often in this study than the comparable instructional accommodation of providing a note-taker that was observed only 2.7% of the time in the Soukup et al. study. Providing copies of notes became the theme of “printed copies of the notes so they don’t have to copy the work” in this study as it was discussed by several participants. Many participants expressed that middle school students with autism appeared to take too long to copy down notes, so to make it easier for them they made copies of notes and power points for them.

The theme of "maybe a little more time on tests" was indicative of the instructional accommodation of giving additional time. This instructional accommodation was listed on 5 IEPs and mentioned or observed being implemented by every participant. These results matched what Newman (2006, 2007) indicated was the dominant type of instructional accommodation for both secondary students with LD and secondary students with autism. For this reason it was not surprising that 5 out of the 7 IEPs reviewed had additional time listed as an instructional accommodation and all

participants gave the middle school students with autism extra time whether or not it was mentioned on their IEPs.

Participants were aware of the instructional accommodation of extended time. They demonstrated flexibility when it came to accepting that middle school students with autism might take a little longer to complete tests or assignments. The instructional accommodation of reduced work was mentioned by one third of participants and fell under the theme "he could maybe do all the odds or all the evens." The McDonnell et al. (2001) researchers trained teachers to implement instructional accommodations. One that they used was reduced response demands, in other words reduced work. Although participants in this study had varied training on using instructional accommodations for students with disabilities, almost all mentioned the use of reduced work.

The theme of "through workshops I have taken in the past..." focused on where participants learned about either curriculum modifications or instructional accommodations that they implemented in the classroom. The results of this study regarding where participants learned curriculum modifications and instructional accommodations varied from the results of Merchlinsky et al. (2009) study. Those researchers reported that trainings on inclusive practice were poorly attended by general education teachers. However, the Merchlinsky et al. study only referred to trainings done in the summer time, which is a time that most teachers do not work. Additionally, they did not interview teachers regarding trainings on inclusive practices like implementing curriculum modifications or instructional accommodations that they may have taken in the past.

In a study on the level of preparation general educators had in including students with autism in Connecticut, Teffs and Whitbred (2009) surveyed 655 general educators from a sample frame of 33,315 general educators. The response rate was 18.7% with a total of 122 participants completing surveys. From the sample, only 31.1% of participants were middle school teachers (n=37). Within the total sample they found that 33% of the participants in their study had no formal training in methods to teach students with autism. Additionally, 35.7% had no training in the characteristics of students with autism and 35.7% had no training in how to implement the IEP mandates. Overall, 76.9% of their participants reported that they needed additional training and or support to teach students with autism. Only 24% of their participants felt prepared or well prepared to teach students with autism. As part of their discussion, they noted that general education teachers in their state may lack the support they need to include students with autism and that nearly 80% of students with autism spend at least half their school day in the general education classroom.

Unlike the Teffs and Whitbred (2009) study, none of the participants in this study indicated the need to have more training in the use of curriculum modifications or instructional accommodations for middle school students with autism to be successfully included. Likewise, unlike participants in the Teffs and Whitbred study, all participants in this study exhibited knowledge about the general characteristics of a middle school student with autism and seemed confident in the provision of instructional accommodations for this type of student. Participants in this study reported learning about curriculum modifications and instructional accommodations through a variety of sources including college courses, workshops and trainings, and support specialists.

The significance of the results from this study regarding where participants learned about the instructional accommodations that they were using illustrates the critical role of the school district in providing workshops. Many general education teachers come into teaching from backgrounds other than education. As a result they may not have formal training in how to teach students with disabilities, as with the majority of participants in this study. However, despite this finding many of the participants benefitted from workshops provided by the school district. This accentuates the need for school districts to provide training on how to provide access to the general curriculum for students with autism in the form of workshops, since many teachers do not have formal backgrounds in education.

Another factor that surfaced, appearing in 7 out of 9 participant responses, was the role of support specialists in providing ideas and feedback on how to offer instructional accommodations for middle school students with autism. The Teffs and Whitbred study (2009) found that roughly half of participants communicated with special education teachers daily and related service providers weekly. Likewise many participants in this study acknowledged support from outside of the classroom, but none mentioned working with special education teachers. Several participants credited support specialists with offering ideas and support for them on how to work with middle school students with autism. It is vital that school districts recognize the essential role that workshops, support specialists and special education teachers play in regard to provision of curriculum modifications and instructional accommodations for students with disabilities.

Participants' Ways of Thinking About the Individual Education Plan

The participants' ways of thinking about the IEP included two themes which were (a) "well I have to follow it, it is mandated by the state;" and (b) "it does not rule the way I teach or what I expect from them." There appears to be a gap in the literature when it comes to research on the mandates of curriculum modifications and instructional accommodations dictated in the IEPs of middle school students with autism and what their general education teachers are actually implementing. All of the studies reviewed focused on IEP goals (Dymond et al., 2007; Schwartz, 1998; Wehmeyer et al., 2003) rather than what the IEP required in regard to curriculum modifications and instructional accommodations for middle school students with autism.

Participants in this study acknowledged the legal role of the IEP. Lea-Tarver (2006) examined perceptions of general education teachers in relation to the utility of IEPs in the general education setting via a 19-question survey using a Likert scale. Respondents included 123 general educators in the states of Alabama and Georgia. In the Lea-Tarver study, respondents indicated an increased rate of participation in the IEP process. This is a positive finding since the participation of general education teachers in the IEP process was mandated in the reauthorization of IDEA (2004). However, at the same time, more general education teachers were participating in the formulation and assessment of the IEP, many teachers felt they required more training in implementation and development of the IEP. While this study did not specifically track participants' competence in IEP development, it did examine the participants' implementation of IEP curriculum modifications and instructional accommodations.

Interestingly, in this study while acknowledging the legal role of the IEP, many participants asserted that they would be willing to do more than what the IEP required for their middle school students with autism if they felt that it would benefit them academically. For example Ms. S believes that the IEP “does not rule the way I teach them or what I expect from them. I usually give more accommodations than what the IEP states they are entitled to have. It is a case-by-case basis though.”

In total out of 24 instructional accommodations from the reviewed IEPs, 18 had been either discussed in participant interviews or documented in participant observations. It is safe to say that the majority of participants are implementing instructional accommodations for their middle school students with fidelity and are even willing to offer them more than what is required by the IEP based on classroom observations. Findings from this study indicated that participants teaching middle school students with autism in the major subjects of English, math, and science are providing instructional accommodations for the most part in compliance with the IEP mandates. Additionally, many participants are providing more instructional accommodations than are required by the IEP. It may be that they use these instructional accommodations without an intentional awareness that they are using instructional accommodations because they were never mentioned in interviews, only noted during classroom observations.

Limitations

Findings in this study shed light on which instructional accommodations are being used in the general education classroom for middle school students with autism. The majority of participants implemented what the middle school student with autism’s IEP dictated. However, a limitation of the study was that while participants were asked about

where they had learned about the instructional accommodations they were using, many could not recollect exact trainings or workshops that they had attended.

Furthermore, while participants were observed for 4-hours each, totaling 36-observation hours, perhaps in future research an increase of observation hours may lead to more information. Participants were interviewed only once and additional interviews to further clarify points made may have enhanced the data. Additionally, only two feeder patterns for schools with autism clusters were observed. Perhaps studying a sample from each feeder pattern in a district could offer more in-depth information on what general education teachers are doing to provide instructional accommodations for middle school students with autism.

Moreover, another limitation of this study was that it was unknown if the participants were teaching middle school students with autism in the normal IQ range or not. The reason that this is a limitation is because it appears that there were no middle school students with autism who had a cognitive disability being included in the middle school general education classrooms observed, since none were receiving curriculum modifications. This is important because roughly 41% of children with autism concurrently have a cognitive disability (CDC, 2009). It would appear that the middle school students with autism and a concurrent cognitive disability were not being included in the middle school general education classroom observed for the participating schools if the absence of curriculum modifications in the IEP is any indication. However this is inconclusive since this data was not collected and therefore it is a limitation of this study.

Recommendations for Future Research

A recommendation for future research is to investigate the use of curriculum modifications and instructional accommodations and to examine the IEP objectives of middle school students with autism who were being included in general education classrooms to determine if their objectives matched the general curriculum for their respective grade levels. Additionally, since many participants mentioned how the use of instructional accommodations can be embarrassing for middle school students with autism, this could be a relevant topic to investigate. For example, how do middle school students with autism feel about getting instructional accommodations and do they perceive these accommodations as helping them succeed academically or as socially ostracizing them? This question might be answered in focus groups for both students and parents together. Engaging both the parents and the students in a discussion on the use and provision of instructional accommodations would allow us to obtain information on another dimension of this topic. Since communication difficulty is often a component of autism, and speaking to students with their parents about this topic might be helpful. Conducting focus groups might give educators some general guidelines on how to implement the use of instructional accommodations in a way that does not call the attention of peers to a particular middle school student with autism more than needed.

Another limitation is that many participants were unable to accurately identify specific workshops or trainings. A way to rectify this in future research would be to request an in-service record of the participants' workshops. Many states require evidence of professional training in order for teachers to maintain certification. As a result, having

the in-service record may augment participant reports and perhaps be more accurate than solely relying on a participants' recollection of attended workshops and trainings.

Finally, future research could focus on the degree of access to the general curriculum that middle school students with autism are exposed to in their inclusive classrooms, as opposed to the self-contained classroom. Furthermore, future studies of this nature should include an examination of curriculum modifications and instructional accommodations as part of a holistic examination of access to the general curriculum in relation to student IQ. An additional component of a future study could be to compare the frequency and use of curriculum modifications and instructional accommodations for each group of students in contained classrooms versus general education classrooms. A study such as this would reveal if there are differences in degree of access to the general curriculum and the types of curriculum modifications and instructional accommodations offered in relation to setting and IEP requirements. This would be more similar to the study performed by Soukup et al. (2007) for students with cognitive disabilities however the focus would be changed to students with autism and a possible concurrent diagnosis of cognitive disability.

Discussion Summary

The perceptions of participants had regarding their middle school students with autism were explored, in addition to their behavioral observations of these students. For the most part participants had a positive regard for their students with autism and appeared knowledgeable about the types of characteristics these types of students might exhibit in the classroom. The fact that most participants felt that middle school students with autism blended in with other students could be seen as both a positive and a

negative. From a positive point of view, these students were seen as fitting in with their classmates. However on the flipside, there could be unrealistic expectations regarding their social skills with peers as a result. Many participants felt that middle school students with autism did well academically, but some of their autistic types of behaviors impacted their learning on occasion, especially in regard to attention to detail and concrete thinking.

Overall, none of the participants had any middle school students with autism that required curriculum modifications on their IEPs. This might be an indication that none of the included middle school students with autism had a concurrent cognitive disability since in the state of Florida only students with cognitive disability receive curriculum modifications. This fit with the findings of Ysseldyke et al. (2001) who found that the more intensive special education interventions a student required, the less likely they were to be included in general education classrooms. Soukup et al. (2007) also found anecdotally, that the more a student was included in general education classroom the more time spent on the general curriculum, implying a preclusion of curriculum modifications. The implication in this study is that middle school students with autism and a concurrent cognitive disability are possibly not being included in general education classrooms at high rates.

Unlike the non-existence of curriculum modifications on the IEPs, all participants did have students with instructional accommodations on their IEPs. Generally participants provided instructional accommodations with fidelity and even added more instructional accommodations than were required on the IEPs. Despite the provision of extra instructional accommodations, most participants did not acknowledge these

strategies in the interviews, but they were observed in the classroom. It could have been that these participants just simply equated these extra instructional accommodations to effective teaching strategies.

Several participants also pointed out that they did not want to single out middle school students with autism as those getting instructional accommodations. Surprisingly, this was not a finding in the literature. However, Carter et al. (2008) brought to light that the more assistance a student received with para-professionals or special educators a concurrent decrease in peer interaction was documented. An inference can possibly be made to overt provision of instructional accommodations leading to negative social affects in the middle school general education classroom, as purported by participants in the above mentioned study.

The last component of the study was an investigation of where participants learned about curriculum modifications and instructional accommodations. Participants reported that they had numerous informational resources, but the primary supports for the participants in regards to teaching middle school students with autism included county workshops, Exceptional Student Education Specialists, and Support Specialists. Reviewed studies were in contrast to these findings in that they reported that many general education teachers either did not attend trainings (Merchlinsky, 2009) or asserted that they required more training to work with middle school students with autism (Teffs & Whitbred, 2010). In this study the majority of participants felt that they had adequate training to teach middle school students with autism. However, a few participants in this study expressed that they would like a designated resource person to speak with if a specific question came up regarding their middle school students with autism.

In conclusion, this chapter discussed the findings of this study and established a link to the limited body of research conducted on the use of curriculum modifications and instructional accommodations for students with disabilities. The similarities and differences to the limited research on this subject were discussed with emphasis on instructional accommodations, adherence to the IEP mandates, and instructional accommodations that participants were providing beyond the IEP mandates. Furthermore, limitations of this research were shared. Finally recommendations for future research on the use of curriculum modifications and instructional accommodations by general education teachers for middle school students with autism were discussed.

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APPENDIX A
INTERVIEW PROTOCOL

General Education Teacher Interview Protocol

1. Please describe the students you have taught with autism in the past.
2. Please describe the students you teach with autism now.
3. Please describe the curriculum modifications you use for your students with autism.
4. How did you learn about these curriculum modifications?
5. Please describe the types of instructional accommodations you use for your students with autism.
6. How did you learn about these instructional accommodations?
7. What role does the Individual Education Plan play in your choice of curriculum modifications or instructional accommodations for your students with autism?

APPENDIX B
PARTICIPANT LETTER OF INFORMED CONSENT



CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Title: THE USE OF CURRICULUM MODIFICATIONS AND INSTRUCTIONAL ACCOMMODATIONS TO PROVIDE ACCESS TO GENERAL CURRICULUM FOR MIDDLE SCHOOL STUDENTS WITH AUTISM

You are being considered as a candidate for a research study. The investigator of this study is Whitney Moores-Abdool and she is a doctoral candidate at FIU. The study will include nine general education teachers who have students with autism in their classes. The study will consist of 4 one hour classroom observations for a 4-week period, followed by a one hour teacher interview and an archival document review of student Individual Education Plans. The study investigates the use of curriculum modifications and instructional accommodations that provide access to the general curriculum for middle school students with autism.

If you agree to be a part of the study, you will be observed over a 4 week period and then interviewed one time for one hour only. The researcher will be collecting data on the use of curriculum modifications and instructional accommodations in the general education classroom for students with autism. Additional data will be collected regarding information on teacher preparation in regard to curriculum modifications and instructional accommodations for students with autism. Finally, the researcher will be collecting data on what teachers report needing in regard to school based supports and resources they require to provide access to the general curriculum for middle school students with autism. Upon analyses of the data, participants will be asked to validate both the interview transcript and the themes obtained from the data collection process.

The data collected will be identified by a pseudonym only and not your name. All of the information is private and will not be shared with anyone unless required by law. The data will be presented in both a written summary and a table format. The results will be presented as part of a dissertation and may appear in a paper as well.

You may ask questions regarding the study at any time. Participation in this study is strictly voluntary. You may withdraw from the study at any time if you feel in any way uncomfortable. There is no cost to you to participate in the study. This study will provide a view of how curriculum modifications and instructional accommodations are used in the general education classroom to provide access to the general curriculum for middle school students with autism.

If you would like to know more about this research after it is finished, you can contact Whitney Moores-Abdool at 954-513-7135. If you feel that you were mistreated or you have questions about your rights as a volunteer in this research study you may contact Dr. Patricia Price, the Chairperson of the FIU Institutional Review Board at 305-348-2618 or 305-348-2494.

Thank you for your time.
Whitney Moores-Abdool
Florida International University

This study has been explained to me. All of my questions have been answered to my liking. I am aware of my rights and I agree to participate in the study.

Signature of Participant

Date

I have explained the research procedure, subject rights and answered questions asked by the participant. I have offered him/her a copy of this informed consent form.

Signature of Witness

Date

APPENDIX C
CHECKLIST OF CURRICULUM MODIFICATIONS
AND INSTRUCTIONAL ACCOMMODATION

Curriculum Modifications And Instructional Accommodations Checklist

Circle subject area: English Science Math

Circle any item that is being used in the classroom.

School Name _____

Teacher Observed _____

Date _____

Instructional Accommodations-Writing	Instructional Accommodations-Reading
Allow to write directly in book	Highlight ideas in text
Use of word processor	Give a study guide to follow when reading
Student dictation to writer	Use a book on a lower grade level
Student uses adaptive device Like pencil grips, erasable pen, special paper	Tape recorded version of reading
Use of thesaurus to find words	Videotape or movie to present info
Use of special word processing software with word anticipation	Use assistive technology to transfer writing to speech
Use of spelling dictionary or electronic aid	Buddy reads to student aloud
Grade content and mechanics separately	Books on tape or large print available
Instructional Accommodations- Instructions	Books in Braille or embossed format
Student re-phrases directions	Optical enhancer or magnifier for reading
Student uses assignment book	Instructional Accommodations- Lectures/discussions
Give step-by-step instructions	Visual aids like whiteboard, overhead, or chart
Complete sample problems	Overview of content of lesson before starting
Combine spoken directions with visuals	Give summary of info from lecture with questions to be answered
Instructional Accommodations- Assignment	Encourage questions
Break up long assignments	Identify main steps of info
Mark assignment on calendar	Write important ideas on board, use diff colors
Reduce work	Give copies of lecture notes
Partial credit for late or incomplete work	Repeat summarize main points

	Offer help with note-taking
	Use pictures to represent what is given orally
	Provide a note-taker or sign language interpreter
Instructional Accommodations-Tests	Instructional Accommodations-Organization
Problem read aloud	Color coding to identify different tasks
Copy of test on audiotape, Braille or large print	Uncluttered tests or worksheets
Provide sign language interpreter for oral directions	Use special folder or binder to stay organized, use dividers or folders for each subject
Underline or highlight important items	Provide a checklist of needed materials for each class
Provide list of word for fill-in-the-blank items	Instructional Accommodations-Math
Allow oral answers	Students use concrete materials and objects to learn
Student uses word processor for test	Color-code key words in math word problems
Student writes on test booklet	Allow students to use chart to answer problems
Student uses diagrams for open ended or essay questions	Allow students to use calculator or chart of basic math facts for computation
Additional time for test	Curriculum Modifications
Break tests into small parts	Partial completion of course requirements (modified and fewer lesson objectives)
Require fewer questions	Below age or grade level curriculum expectations (different curriculum from rest of class)
Give partial credit	Alternate curriculum goal (goals are not related to general education curriculum)
Let students take breaks	
Give test alone or in small groups	
Use a study carol for test	

APPENDIX D
DEMOGRAPHIC INFORMATION FORM

DEMOGRAPHIC INFORMATION FORM

Name _____

Date _____

Name of Your School _____

1. Please indicate your race/ethnicity background with an X

___ Black ___ Hispanic ___ White ___ Asian

___ Pacific Islander ___ American Indian or Alaskan Native

___ Other- Please specify _____

2. Please share your age:

___ under 25 ___ 26-30 ___ 31-35 ___ 36-40 ___ 41-45

___ 45-50 ___ 51-55 ___ 56-60 ___ 61-65 ___ over 65

3. Please indicate how many years you have been teaching at this school?

___ 1-2 yrs ___ 3-4 yrs ___ 5-6 yrs ___ 7-10 yrs ___ over 10 yrs

4. Please indicate how many years have you been in the teaching profession.

___ 1-2 yrs ___ 3-4 yrs ___ 5-6 yrs ___ 7-10 yrs ___ over 10 yrs

___ over 15 yrs ___ over 20 yrs ___ over 30 yrs

5. Please indicate your current level of education:

___ 4-year Bachelors in Education ___ 4-year Bachelors-major _____

___ Masters-major _____ ___ Specialist Degree-major _____

___ Doctoral Degree-major _____

6. Please indicate your current Florida Department of Education certifications or endorsements:

<p><input type="checkbox"/> Middle Grades Eng (5-9)</p> <p><input type="checkbox"/> Middle Grades Gen Sci. (5-9)</p> <p><input type="checkbox"/> Middle Grades Integrated Curriculum (5-9)</p> <p><input type="checkbox"/> Middle Grades Math (5-9)</p> <p><input type="checkbox"/> Middle Grades Soc Sci (5-9)</p>	<p><input type="checkbox"/> Biology (6-12)</p> <p><input type="checkbox"/> Chemistry (6-12)</p> <p><input type="checkbox"/> Earth-Space Sci (6-12)</p> <p><input type="checkbox"/> Physics (6-12)</p>	<p><input type="checkbox"/> Art (K-12)</p> <p><input type="checkbox"/> Athletic Coaching (K-12)</p> <p><input type="checkbox"/> Computer Science (K-12)</p> <p><input type="checkbox"/> Dance (K-12)</p> <p><input type="checkbox"/> English to Speakers of Other Languages (ESOL K-12)</p> <p><input type="checkbox"/> Health (K-12)</p> <p><input type="checkbox"/> Humanities (K-12)</p> <p><input type="checkbox"/> Music (K-12)</p> <p><input type="checkbox"/> Physical Education (K-12)</p> <p><input type="checkbox"/> Reading (K-12)</p>
<p><input type="checkbox"/> Exceptional Student Education (K-12)</p> <p><input type="checkbox"/> Hearing Impaired (K-12)</p> <p><input type="checkbox"/> Speech-Language Impaired (K-12)</p> <p><input type="checkbox"/> Visually Impaired (K-12)</p>	<p><input type="checkbox"/> Drama (6-12)</p> <p><input type="checkbox"/> English (6-12)</p> <p><input type="checkbox"/> Journalism (6-12)</p> <p><input type="checkbox"/> Math (6-12)</p> <p><input type="checkbox"/> Speech (6-12)</p> <p><input type="checkbox"/> Social Sci (6-12)</p>	<p><input type="checkbox"/> American Sign Language</p> <p><input type="checkbox"/> Athletic Coaching</p> <p><input type="checkbox"/> Autism Spectrum Disorders</p> <p><input type="checkbox"/> Driver Education</p> <p><input type="checkbox"/> English to Speakers of Other Languages (ESOL)</p> <p><input type="checkbox"/> Gifted</p> <p><input type="checkbox"/> Orientation and Mobility</p> <p><input type="checkbox"/> Prekindergarten Disabilities</p> <p><input type="checkbox"/> Reading</p> <p><input type="checkbox"/> Severe or Profound Disabilities</p>

7. Please indicate how many years you have been teaching in your current subject area:

1-2 yrs 3-4 yrs 5-6 yrs 7-10 yrs over 10 yrs
 over 15 yrs over 20 yrs over 30 yrs

Vita

VITA

WHITNEY MOORES-ABDOOL

April 23, 1968	Born Cincinnati, Ohio, USA
1995	BSW, Bachelor of Social Work North Carolina State University Raleigh, NC
1995	Human Services Specialist II Wake County Mental Health Services
1998-1999	Case Manager Adopt-A-Family of the Palm Beaches West Palm Beach, Florida
2001	MSW, Masters of Social Work Florida International University
2001-2002	Counselor The Starting Place Hollywood, Florida
2002-2005	Autism Family Counselor School Board of Broward County Ft. Lauderdale, Florida
2005-2007	Graduate Assistant Florida International University Miami, Florida
2009-2010	Graduate Teaching Assistant Florida International University Miami, Florida

PUBLICATIONS AND PRESENTATIONS

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Moores-Abdool, W. (2009, May 26). *Quality of life for students with intellectual disability: What do their teachers say?* Paper presented at referred international conference, Athens Institute for Education and Research (ATINER), Athens, Greece.

Moores-Abdool, W., Yahya, N., & Unzueta, C. (2009, May 7). '*Hadha ma noridoh*': *Saudi university students' learning preferences*. Paper presented at referred international conference, Kingdom of Saudi Arabia Association of Language Teachers (KSAALT), Al-Khobar, Kingdom of Saudi Arabia.

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Moores-Abdool, W. (2008, January 5). *Conceptual frameworks for parental involvement*. Forum session for refereed international conference, Qatar University: The First Childhood Conference, Doha, Qatar.

Moores-Abdool, W. (2008, January 6). *What's in your backpack? Creating home/school connections through a take-home literacy program*. Paper presented for refereed international conference workshop session, Qatar University: The First Childhood Conference, Doha, Qatar.