2016

General Education Teachers' Perceptions About Teaching Students with Autism in Urban Schools

Sabrina Denise Evans
Walden University

Walden University

COLLEGE OF EDUCATION

This is to certify that the doctoral study by

Sabrina D. Evans

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Sandra Johnson, Committee Chairperson, Education Faculty
Dr. Barbara Jo Bennett, Committee Member, Education Faculty
Dr. Robert McClure, University Reviewer, Education Faculty

Chief Academic Officer

Eric Riedel, Ph.D.

Walden University
2016

Abstract

General Education Teachers' Perceptions About

Teaching Students with Autism in Urban Schools

by

Sabrina D. Evans

EdS, University of Detroit-Mercy, 2002

MA, University of Detroit-Mercy, 1998

BA, Western Michigan University, 1989

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

August 2016

Abstract

Many children with autism spectrum disorder (ASD) are included or mainstreamed in general education classrooms, yet general education teachers receive little, if any, formal training for working with children with ASD. The conceptual framework for this study was differentiated instruction, which is a best practice intended to improve educational experiences for children diagnosed with ASD. The purpose of this research study was to explore general education teachers' perceptions of providing differentiated instruction to these students. The research questions examined teachers' perceptions of barriers that can affect their ability to differentiate instruction in their classrooms and strategies teachers use to facilitate the process of providing differentiated instruction in their classrooms for their students diagnosed with ASD. Eight elementary and middle school teachers participated in this phenomenological study. Content analysis of interview data provided information regarding the barriers of outdated resources and the need for additional training of general education teachers to work with students diagnosed with ASD. In addition, the participants identified 2 models used as strategies to adapt instructional practices to promote students' social and academic outcomes. Professional development could assure that teachers and administrators are aware of the latest best practices needed to teach children with ASD in the general education classrooms. By providing teachers with effective strategies needed to work with students diagnosed with autism, social change can be realized, and students with ASD can receive educational services possibly leading to a better quality of life.

General Education Teachers' Perceptions About

Teaching Students with Autism in Urban Schools

by

Sabrina D. Evans

EdS, University of Detroit-Mercy, 2002

MA, University of Detroit-Mercy, 1998

BA, Western Michigan University, 1989

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

August 2016

Dedication

I am dedicating this dissertation to:

My stepsister, Mudiwa Jabulani, who has been diagnosed with autism and

Shomari and Patricia Jabulani, who have encouraged me to complete this project.

To my daughters, Tierra and Ashana, for understanding and providing support through

this endeavor. To my sister and her husband, Demetra and Gary Bean,

for helping me while I studied and attended class.

Table of Contents

List of Tables

List of Figures

Section 1: Introduction to the Study

Introduction

Autism spectrum disorder (ASD) has affected a large number of families and children worldwide. Researchers have found recent increases in cases of autism from 50% to over 2000% (Center for Disease Control and Prevention [CDC], 2011; Kopetz & Endowed, 2012). Rates of autism in the United States increased from fewer than 3 per 10,000 children in the 1970s to between 34 and 93 children per 10,000 in the 2000s (Manning et al., 2011; Rutter, 2005). In South Korea, Kim et al. (2011) reported that a ratio of 38:1 (260 of 10,000) children had been diagnosed with autism. The CDC (2013) found that 1 in 88 U.S. children from 6 to 17 years of age have been diagnosed with autism. More children with autism are in U.S. public schools; therefore, these children are often included in general education classrooms (Moores-Abdool, 2010; Obiakor, Harris, Mutua, Rotatori, & Algozzine, (2012). Autism is the fastest growing childhood disorder in the United States and the symptoms are often present in young children (CDC, 2013).

Autism spectrum disorder typically appears in the child's first three years of life. Many doctors and researchers are trying to discover a cure or intervention for autism. Autism spectrum disorder is a neurological disorder affecting the functions of the brain, in the areas of social interaction and communication (Dunn & Leitschuh, 2006; Kern, Geier, Sykes, & Geier, 2013). A child with ASD may present with one of these disorders: autism, Asperger's syndrome, childhood disintegrative disorder (CDD), Rett's syndrome, or pervasive developmental disorder-not otherwise specified (PDD-NOS; CDC, 2010).

The rate of ASD among school-aged children has increased in the United States. Many children are *mainstreamed* or included in general education classroom (Goodman & Williams, 2007; Gordon, 2013). The prevalence of children identified with ASD in public schools has created a need to design and use effective practices and behavioral support in the general education classroom (Chan, 2009; Gordon, 2013; Wilkinson, 2008). This rise in classrooms with children with ASD resulted in the need for general education teachers to educate autistic students who have been mainstreamed or included in their classrooms. Teachers are required to teach all children, including those with special needs, regardless of the certification the teacher holds (Individuals with Disabilities Act [IDEA], 1997; 2004; No Child Left Behind [NCLB], 2001). Teachers contribute to the success of inclusion, and their experiences, challenges, opinions, and conclusions are important sources of data for the development and progress of inclusive programming (Avramidis & Norwich, 2002; Martin, 2010; Varcoe & Boyle, 2014).

Individuals with Disabilities Act (1997) recommended the inclusion of special education children into general education classrooms, meaning children with disabilities are no longer isolated in center-based educational programs. Federal courts upheld the act with decisions and amendments to IDEA being educated in the least restrictive environment (LRE; Horne, 1996; United States Department of Education, OSEP, 2009). Rothstein (2000) who stated "One of the primary principles of the IDEA is the concept of educating children with disabilities along with children who are not disabled to the maximum extent appropriate, ideally in the regular classroom" (p. 107). According to Yell (1995), "LRE is a principle stating students with disabilities are to be educated in

settings as close to regular classes as appropriate for the child" (p. 193). Least restrictive environment principles are important for school districts to use when educating students who have a disability so they can provide instruction for each student in an environment suitable for the child. Children with autism have legislative support to receive education, resources, and interventions (IDEA, 1990, 1997, 2004).

Autism and Minority Students

The diagnosis of autism among school-aged children has flooded suburban and urban classrooms alike. One large Midwestern urban school district opened more than 100 autism impaired (AI) classrooms in the past five years to meet the academic and social needs of children with the disorder. Many minority children often go undiagnosed with ASD because the parents lack knowledge of the symptoms and often think their child is going through a phase and will outgrow their difficulties (Mandell & Novak, 2005; Tek & Landa, 2012). The diagnosis of ASD for African Americans on average was delayed to 7.5 years compared with European American children who are diagnosed at an average age of 5.5 years. Researchers (Mandell et al., 2009; Tek & Landa, 2012) concluded ethnic differences in how some African American parents describe symptoms may lead to an incomplete representation or misattribution of symptoms. Researchers have shown many possible factors to the disparity of diagnosis among African American and Hispanic families with autism across the country. Hispanic families who live in poor socioeconomic environments, may experience a decrease in the likelihood of receiving a timely diagnosis for ASD (Overton, Fielding, & Garcia de Alba, 2007; Pederson et al., 2012). Children in these ethnic groups receive screenings and treatments one or two years

later than Whites. Mandell et al. (2009) found African American children were diagnosed 1.4 years later than Caucasians and spent eight more months in mental health treatments before diagnoses.

Overton et al. (2007) suggested African American children with autism were more likely than other ethnicities to receive a diagnosis of the disorder. These findings indicated that African American parents are more likely to describe the children's symptoms in ways accentuating disruptive behaviors. Palmer, Blanchard, Jean, and Mandell (2005) found Hispanics were diagnosed 2.2 years later than Whites. The gaps in these ethnic groups are attributed to lack of resources, lack of knowledge, or misdiagnosis for children in low-income communities. The effects of growing up in poverty, particularly for children raised in socially isolated or economically depressed urban areas, warrants greater concerns for children of color with autism.

At a large urban school district in Michigan, educational services were provided to a diverse population. Most students attending the district schools were African Americans (88%). The district served 8% Hispanic Americans, 3% European Americans, and 0.10% Asian Americans (Schools Demographics, Office of Research and Evaluation and Assessment and Accountability, 2010). Roughly 9,500 (10.4%) of students enrolled in the school district in 2010 were receiving special education services. The demographics of the district do not include the special education population. During the 2012-13 academic year, the student enrollment declined by one third, with nearly 50% of the district's schools closed. The number of students enrolled in this urban school district for the 2011-12 school year is outlined in the Table 1 obtained from MiSchoolData.

Table 1

Enrollment 2011 - 2012 School Year

Ethnicity and Gender	Number of Students	% of All Students
Ethnicity		
African-Americans	57,098	86.34
American Indian	200	<5.00
Asian	678	<5.00
Hispanic	6,743	9.79
Native Hawaiian	<10	<5.00
Two or More Races	28	<5.00
European Americans	1,650	<5.00
All Students	66,132	100.0
Gender		
Male	33,515	50.68
Female	32,617	49.32
Total	66,132	100.00
Autism		
Students diagnosed with ASD		
Number of schools with classrooms for students diagnosed with ASD	70	

Note: MiSchoolData.org/DistrictSchoolProfiles/Information/Students

Statement of the Problem

Students with ASD present challenges to educators trying to plan effective instructional programs (Costley, Clark, & Bruck, 2014; Iovannone, Dunlap, Huber, & Kincaid, 2003). The problem is many teachers receive little, if any, formal instruction in evidence-based practices for children with autism (National Research Council, 2001).

Workshops, or in-services are limited to general discussions about the nature of autism rather than how to address instruction in a mainstreamed classroom (Morrier, Hess, & Heflin, 2011). Workshops on autism may not give general education teachers the in-depth training needed to teach autistic students.

As the number of students with special needs continue to increase, teachers will need to understand how to address the different levels of student abilities in their classrooms to serve the needs of students with autism (Busby, Ingram, Bowron, Oliver, & Lyons, 2012; Walpole, 2008). Given the diversity in classrooms (e.g., students with learning disabilities, gifted and talented students, students with ASD), teachers need to provide individualized and clear instruction to meet the needs of all students in general education classrooms (Busby et al., 2012; Walpole, 2008; Zigmond, 1997). Children with ASD have been found to make gains in language, social skills, cognition, engagement in routines, and reductions in ASD symptoms in inclusive settings (Strain & Bovey, 2011). Independent from the exact nature and severity of their disability, all children and youth with ASD need individualized planning to experience educational success (Simpson et al., 2003). Students identified for special education services receive an individual education plan (IEP) provided by an identified team to meet the needs of each child by providing services and meeting the student's academic and social needs. The team is a group of educators and mental health professionals, including the social worker, psychologist, speech therapist, counselor, teacher, administrator, and the parent.

The team works collaboratively to address the child's academic, physical, cognitive, and emotional needs. Teachers are instructed to observe and document student

progress before the child is referred to the team (Smith, 2012). According to Levine (2006), many general education teachers serving autistic children have limited experience in teaching students with autism, but must educate all children in their class, despite the disability or disorder to ensure a quality education for these children to meet the mandates outlined by the departments of education at the federal, state, and local levels. Many teachers receive little, if any, formal instruction in evidence-based practices for children with autism (Marder & Fraser, 2012).

Nature of the Study

In this qualitative study, I used a qualitative phenomenological study approach to examine the experiences of general education teachers and their perceptions about teaching autistic students in an inclusion or mainstreamed classroom. According to Creswell (2007), a qualitative researcher assumes the position of an imaginary lens. The researcher acts as the instrument in the data collection. The researcher acts as the lens in qualitative studies to examine research problems inquiring into the meaning of individuals or groups credited to a social or human problem. According to Creswell (2013), a phenomenological study provides insight into an issue or problem experienced by all members of the sample. In this study, I focused on the perceptions of general education teachers in an urban public school who teach autistic students in inclusive or mainstreamed classrooms. I analyzed data from general education teachers who taught an autistic student for at least one subject in preschool through eighth grades.

Data were collected from urban general education teachers using a face-to-face, semi structured interview guide (Appendix A). I coded all responses from teachers and

identified emerging themes. The study findings could be used by administrators at this school site and decision makers in the district office concerning in-services for the general education teachers. A more detailed explanation and the guiding research of the phenomenological study will be presented in Section 3.

Research Question

The overarching question was: What are general education teachers' perceptions of teaching autistic students included or mainstreamed in their classrooms?

1.   What barriers affect general educator teacher's ability to differentiate instruction in their classrooms?

2.   What strategies do general education teachers perceive would facilitate the process of providing differentiated instruction in their classrooms for their students diagnosed with ASD?

Purpose of the Study

The purpose of this study was to explore general education teachers' perceptions regarding teaching autistic students who have been mainstreamed or included in their classrooms. The district administrators could use the findings to determine what professional development programs are needed and plan the content of these programs. Teachers with mainstreamed children diagnosed with ASD could receive instructional materials needed to instruct those who have been mainstreamed into their classroom.

Teachers feel the pressure to teach mainstreamed students and now are being held accountable for subpopulations, including children diagnosed with ASD, English language learners, and gifted children. A paradigm shift in education needs all educators

focused on best practices that meet the needs of all children in their classrooms (Busby, Ingram, Bowron, Oliver, & Lyons, 2010). A need exists to improve general education teacher preparation to serve students with ASD through professional development (Alabado, 2010; Busby et al., 2012). Since the inception of the NCLB Act (2001), general educators reported feeling inadequately prepared to teach children with autism in inclusive and mainstreamed settings (Campbell, Ellis, Baxter, & Nicholls 2007; Thompson, 2013). General education teachers typically have not completed classes for teaching students with special needs, specifically autism, and lack personal and professional experience with this group.

Conceptual Framework

The conceptual framework for this study was the differentiation model (Tomlinson, 2004). The differentiation model is used to examine the full spectrum of learners, including students with various learning styles. Teachers use the differentiation model to set up a learning environment in which students are more likely to have their individual learning needs met (Tobin, 2008; Tomlinson, 1998; Zenko, 2014). Differentiated instruction includes an integration of what is known about learning theory, learning styles, and brain development (Cid 2011; Tomlinson & Allan, 2000). Differentiation allows students to show what they have learned in ways unique to their learning preferences, strengths, and interests (Algozzine & Anderson, 2007; Leach & Duffy, 2009; Simpson & Bogan, 2015). The general education teachers have primary, if not, sole educational responsibility for the full spectrum of learners in their classroom and must carry out teaching strategies to ensure all students are academically and socially

successful. Federal legislation requires states to provide every effort to ensure academic success for all children in public school (Pickard 2008). IDEA (1990, 1997, 2004) and NCLB (2001) mandated free and appropriate education for all children attending public schools regardless of their disabilities. Three instructional models, such as the treatment and education of autistic and communication-related handicapped children (TEACCH), and picture exchange communication systems (PECS) are available for general education teachers to use with the differentiation model. Figure 1 presents a model of differentiated instruction,
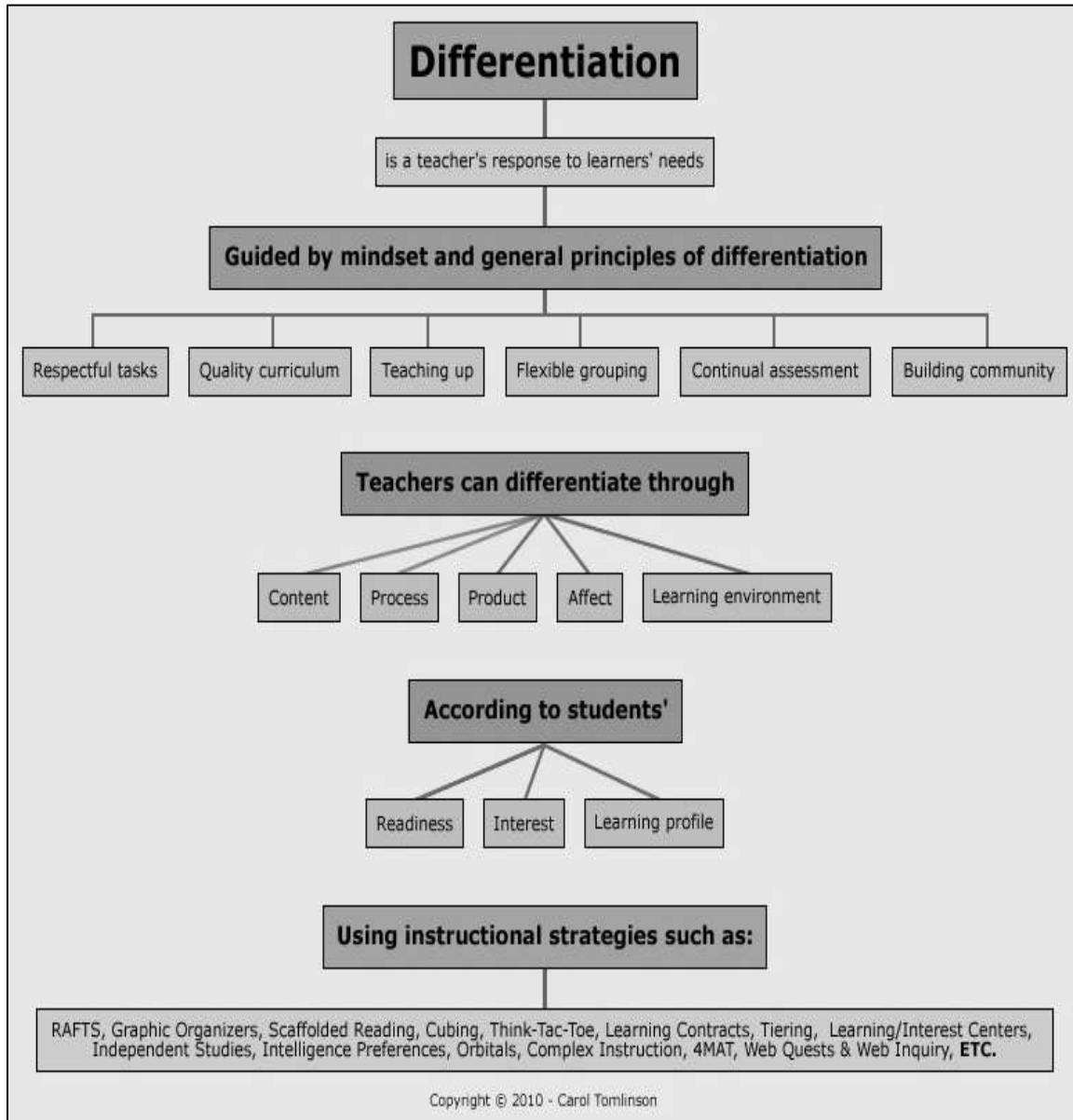
Figure 1: Model of Differentiated Instruction. (Tomlinson, 2014)

Operational Definition of Terms

Asperger's disorder: Asperger's syndrome or Asperger's is a condition marked

by impaired interactions and limited recurring patterns or behaviors (Bruey, 2004).

Aspergers is sometimes mistakenly referred to as high-functioning autism because

children with this diagnosis have average or above average intelligence and typical or advanced language skills (Bruey, 2004). This disorder is more common in boys than girls.

Autism spectrum disorder: Autism spectrum disorder, according to *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (DSM IV-TR), includes the five pervasive developmental disorders (American Psychiatric Association [APA], 2000) and is usually referred to as ASD. Autism spectrum disorder diagnoses range from low functionality to high functionality.

Autistic disorder or Autism: Autistic disorder is the most common spectrum disorder. Children with autism may display various deficiencies from moderate to severe communication skills, social skills, and behavior problems (Bruey, 2004; Volkmar, 2005). Most children with autism show symptoms before the age of three years (Bruey, 2004; Volkmar, 2005). The three most common early symptoms of autism are lack of eye contact, a lack of pointing, and a lack of responding (Bruey, 2004; Volkmar, 2005).

Childhood disintegrative disorder (CDD): Heller (1908) described the condition of CDD as a condition characterized when children show typical development for at least the first two years of life (Bruey, 2004). This disorder usually affects children in the following ways: social skills, bowel and bladder control, motor skills, communication, play skills, interpersonal interaction and use of nonverbal behaviors, physical aggression against others, or tantrums (Bruey, 2004). Some children may have difficulty awakening from sleep (Bruey, 2004).

Differentiation: Differentiation is a philosophy based on the premise teachers should adapt their instruction to student differences (Willis & Mann, 2000) and meet individual needs and readiness (Tomlinson & Allan, 2000).

General education teachers: Teachers who have met state certification requirement to teach students without a disability (MDE. 2012).

Inclusion: Inclusion in the process and practice of educating students with disabilities in the general education classroom (National Dissemination Center for Children with Disabilities [NICHY], 1995). Inclusion occurs when a student with special learning or behavioral needs receives instruction full-time in the general education program, enrolled in age appropriate classes 100% of the school day (Gherke & Cocchiarella, 2013; Gehrke, Cocchiarella, Harris, & Puckett, 2014; Idol, 1997; 2006).

Individual Education Plan (IEP): An IEP is a written document for a student with disabilities, periodically reviewed and changed based on the student's needs (author, year). Each IEP includes a statement on present levels of performance, and must state how the student's disability impacts involvement or progress in the general curriculum (IDEA, 2004).

Least restrictive environment (LRE) The LRE consists of educating children with or without disabilities together, unless the nature of the child's disability is so severe that education with nondisabled peers in general education classes would not benefit the child with the disability (IDEA, 2004). LRE ensures all children get an education in a general classroom to the full extent suitable for his or her needs.

Mainstream: Mainstream or inclusion is the process of integrating students with disabilities into general education classes to address LRE as mandated by IDEA (Scruggs & Mastropieri, 1996).

No Child Left Behind, 2005 (NCLB): NCLB is a federal law having 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 required.

Pervasive developmental disorder-not otherwise specified (PDD-NOS): PDD-NOS is referred to as atypical autism, which means children show some but not all the characteristics of autistic disorder, Asperger's disorder, Rett's disorder, or CDD because it does not meet the full DSM-IV (APA, 1994) criteria for either diagnosis.

Rett's disorder: Rett's is a rare genetic disorder occurring most often in females; 1 in 15,000 births (Bruey, 2004). Children with Rett's syndrome lack communication skills, loss of purposeful hand skills, difficulty walking and poor coordination, slower head and body growth, sleep disturbances, seizures, and breathing difficulties (Bruey, 2004). Most children with Rett's disorder are diagnosed before four years of age, but symptoms persist throughout their lifetime (Bruey, 2004).

Treatment and Education of Autistic and Communication Related Handicapped Children (*TEACCH):* TEACCH is an intervention program providing up to 25 hours per week of explicit instruction and visual supports in a structure environment, planned to meet the needs of the student (Ryan et al., 2011).

Assumptions and Limitations

I assumed many general education teachers had not been prepared to have students with ASD mainstreamed or included in their classroom. When I interviewed the participants, I assumed they would tell the truth about teaching children with autism. I assumed teachers would address their concerns in the interviews about having some form of in-service or strategies to use with students with ASD.

The study was limited to general education teachers in a large urban school district. The results may not be generalizable to school districts in suburban or rural settings within the United States or elsewhere. The study was limited to mainstream teachers of children diagnosed with ASD in urban elementary and middle schools included in the general learning population. The results may not be generalizable to teachers of children diagnosed with ASD who are mainstreamed in secondary school settings. The research did not include special education teachers. The purpose was to understand the perceptions of general education teachers about their preparation and ability to work with children diagnosed with ASD (Turnipseed & McGowan, 2013).

Since the study was qualitative, it was not exhaustive. The study applied to one area in an urban district in the Midwest. While the results were not generalizable, administrators in other school districts may find the findings useful in planning professional development for general education teachers who work with children diagnosed with ASD.

Scope and Delimitations

The study included general education teachers in prekindergarten to eighth grade providing instruction to students diagnosed with autism who had been mainstreamed or included in their classroom. The teachers were employed in a large urban school district located in the Midwestern area of the United States. Permission to conduct the study with general education teachers who had autistic students included or mainstreamed in their classrooms in the large urban school district was obtained from the district's Office of Research Evaluation, Assessment, and Accountability.

Significance of the Study

As the population of students with autism continues to grow, educators need to understand how best to educate children in the LRE and help increase academic success. The findings from this study were given to administrations to develop in-services, trainings, and workshops for general education teachers who had children diagnosed with ASD mainstreamed into their classroom. Because of this information, general education teachers in one school district in Detroit are expected to be better prepared to teach their children with ASD. This will lead to better-educated children with ASD and bring about social change in this school district. Children diagnosed with ASD deserve the best possible education and the chance to achieve academic and social success in the LRE. Teacher preparation programs, professional development programs, and other continuing education programs can help achieve this goal. Social change can come from teachers using better informed instruction helping their students with ASD receive a better education. These students are expected to be ready to take their place in society.

Summary and Transition Statement

In Section 1, I provided a general overview of the research study. I focused on the research study, the research problem, the purpose of the study, the conceptual framework, relevant definitions, assumptions, limitations, and scope and delimitations of the study. Section 2 included a review of current literature, purposeful and significant to this study. In the literature review, I focused on strategies general education teachers could carry out in their classrooms for students with ASD. The literature review provides information on modifications for students with ASD in their daily lessons, the inclusive classroom, and relevant training for the general education teacher to educate students with autism. Section 2 also includes the conceptual framework and strategies for general education teachers to use when students diagnosed with autism are included or mainstreamed in their classroom. In Section 3, the methodology used in qualitative phenomenological study research design is discussed, as well as plans to collect data through semi-structured interviews and the analyses of the data. Section 4 provides an in-depth analysis of the collected data. Section 5 presents a discussion of the conclusions and recommendations for further study.

Section 2: Review of the Literature

Introduction

In this section, I presented a comprehensive literature review. Autism is discussed including: definitions of ASD, classification of autism, history, educational screening, cultural aspects of autism, and educating children with autism in an urban city. I included literature on mainstreaming or including children diagnosed with ASD in general education classes as well as differentiated instruction. I researched professional development for general education teachers who mainstream students with disabilities.

The content of the review was drawn from acceptable peer-reviewed journals or sound academic journals. Various databases were used to collect research for the literature review, including Educational Resource Information Center (ERIC); Education Research Complete; Education: A SAGE Full-Text Database; ProQuest Central, Dissertations, and Theses; Dissertations & Theses at Walden University; eBooks on EBSCOhost; General Science Collection; Heath Sciences: A SAGE full-text collection; PsycArticles; PsycINFO; and the Teacher Reference Center. Local library resources in my community were used for this research study. The articles obtained for the research foundation started with searches using the key words or phrases *autism*, *autism spectrum disorder*, *perceptions*, *perceptions of teachers*, *red flags*, *public schools*, *mainstream*, *inclusion*, *history of autism*, *autism prevalence*, *urban*, *Hispanic*, *African American and autism*, *general education*, *special education*, *Individuals with Disabilities Education Act (IDEA), No Child Left Behind (NCLB), Treatment and Education of Autistic and*

Communication-Related Handicapped Children (TEACCH), Picture Exchange

Communication Systems (PECS), early intervention, differentiated instruction,

phenomenological study, and other methodologies.

Conceptual Framework

This study is supported by the differentiated learning framework and model

(Tomlinson, 2004). The differentiation model examined the full spectrum of learners,

including students with various learning styles. Differentiation sets up a learning

environment in which students are more likely to have their individual learning needs met

(Bender, 2012; Ledford & Whebey, 2015; Tobin, 2008; Tomlinson, 1998). Differentiated

instruction is the process of "ensuring that what students learn, how he or she learns it,

and how students demonstrate what they have learned is a match for students' readiness

levels, interests, and preferred modes of learning" (Ellis, Gable, Greg, & Rock, 2008, p.

32). Differentiated instruction is a framework or philosophy for effective teaching,

providing strategies for working with students with different abilities based on their

learning modalities. There are four strategies for teachers to differentiate instruction: (a)

content, (b) process, (c) product, and (d) learning environment (Algozzine & Anderson,

2007; Simpson & Bogan, 2015).

The *content* describes what a teacher differentiates or adjusts based on how the

students gains knowledge, understanding, and skills (Algozzine & Anderson, 2007;

Simpson & Bogan, 2015). The *process* is how the material in the lesson is learned based

on students learning styles. This strategy is based on the best method easiest for students

to get knowledge, assimilate facts, concepts, and skills (Algozzine & Anderson, 2007;

Simpson & Bogan, 2015). The *product* is what the student produces at the end of a lesson to show mastery of the content or what they have learned from the lesson or unit (Algozzine & Anderson, 2007; Simpson & Bogan, 2015). The *learning environment* can support or deter the student's contribution. The learning environment can include the physical layout of the classroom, the way teachers use space, and the overall atmosphere of the classroom supporting students' ability to interact with others in a safe and supportive learning environment (Tomlinson, 2014). Differentiated instruction is a method maximizing each student's growth and individual success by meeting each student at his or her level and helping the student in the learning process (Battalgia & Radley, 2014; NCAC, 2003).

General education teachers have primary, if not, sole educational responsibility for the full spectrum of learners in their classroom and must carry out teaching strategies to ensure all students are academically and socially successful. Federal legislation needs states to provide every effort to ensure academic success for all children in public school (Pickard, 2008). The Education for all Handicapped Children Act (1975) now known as the IDEA (1994, 2004) and the NCLB (2001) are federal mandates supporting free and suitable education for all children attending public schools despite their disabilities.
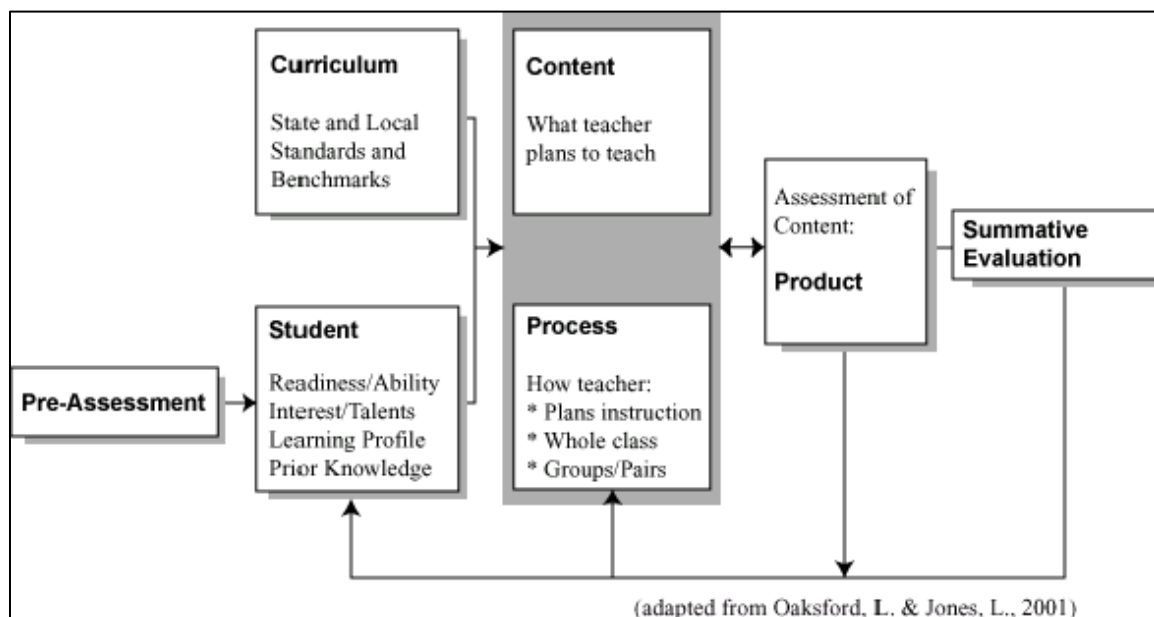
Figure 2. Differential Model (Oaksford & Jones, 2001).

Defining Autism Spectrum Disorder

Autism is a chronic neurodevelopmental disorder (APA, 2013). Austim spectrum disorder, a broad range of autistic behaviors, is a group of neurological and developmental disorders. Autism is identified by the medical community as a PDD (APA, 2013), falling under the *DSM-V* and The *International Statistical Classification of Diseases and Related Health Problems-10* (*ICD-10*), which was published by the World Health Organization (WHO; 1992). To develop diagnostic criteria for autism, Volkmar, Chawarska, and Klin (1994) conducted field trials becoming the basis for the *DSM-IV* entries for autism. Volkmar et al. recommended the *DSM-IV* mirror the PDD entry in the *ICD-10* for consistency purposes and because it was found to be a better diagnostic tool than the *DSM-1V* entry. The *DSM-1V* and the *ICD-10* have the same criteria for autism.

This recommendation was important, leading to consistent criteria worldwide to diagnose autism.

The *DSM-IV-TR* (2000) broadened the classes of disorders within PDD to include autistic disorder, Rett's disorder, childhood disintegrative disorder, Asperger syndrome, and PDD-NOS (APA, 2000, p. 65). Pervasive developmental disorders are characterized by pervasive impairment in several areas of development: reciprocal social interaction skills, behaviors, interests, and activities. Autism spectrum disorder ranges from low functionality to high functionality.

Determining the diagnostic category of a child with autistic characteristics can be difficult. According to the National Institute of Neurological Disorders and Stroke (NINDS), the diagnostic category of PDD refers to a group of disorders characterized by delays in developing socialization and communication skills (as cited in US Autism & Asperger Association [USAAA], 2012). Pervasive developmental disorder describes symptoms of severity, changes occurring with development, and the associated range of intellectual ability in both the *DSM-IV-TR* and *ICD-10* (Levy, Mandell, & Schultz, 2009). The APA has released a new version of the *DSM-V* (2013). In the *DSM-V* (2013), autism is categorized as a complex neurobiological disorder involving structural brain anomalies, deficits in neural connectivity, and a lack of integration and coherence in brain function. This new discussion of autism gives the reader an understanding of the neurobiology of autism.

Autism spectrum disorder is an increasingly popular term used to refer to a broad definition of autistic behaviors (Volkmar & McPartland, 2014). Autism as a spectrum

disorder covers a range of ability, behavior, and skill levels a child may show in any

degree of severity from mild to severe. The spectrum of autism can range from disorders

in the child's communication (speech), cognitive (how he or she processes information),

social interactions (how he or she responds to others), and motor development (how a

child uses their body, hands, or feet to convey what they want). Autism is a

neurodevelopmental disorder (Abrahams & Greschwind, 2008; DSMV, 2013; Verhoeff,

2013). Wing and Gould (1979) introduced ASD as a group of neurodevelopmental

conditions characterized by a triad of impairments in social interaction, communication,

and repetitive behaviors. The Autism Society of America (ASA; 2008) defined autism as

a complex developmental disability, typically appearing during the first three years of

life. Autism is the result of a neurological disorder affecting the normal functioning of the

brain, affective development in the areas of social interaction and communication skills.

The *DSM–V* (2013) listed new criteria for children with autism.

History of Autism

While the earliest mention of autistic behaviors dates back to the 18th century, the

term autism was derived from the Greek word *autos* meaning self, and was first used by

Bleuler (1911/1950). The terms autistic and autism also were used to describe some

characteristics of schizophrenia (Frith, 1991; Montgomery, Stoesz, & McCrimmon,

2013). Bleuler applied the term autism to adult patients with schizophrenia; later, Kanner

(1943) studied these behaviors in children and formed the foundation of autism history.

The *DSM-II* (1968) described schizophrenia childhood type as a condition manifested by

''autistic, atypical, and withdrawn behavior'' (p. 35). Autism first appeared as a disorder distinct from schizophrenia in the *DSM-III*, under the name infantile autism (APA, 1980) later changed to autism in the revised *DSM-III* (1987). Autism has been researched for decades to help parents, educators, and physicians get a better perspective on the disorder.

Beginnings of Describing Autistic Behaviors

Kanner was the first researcher to suggest autism was a disorder starting in childhood and lasting across the lifespan. Kanner (1943) described behaviors of 11 children who showed obsessive and repetitive behaviors (such as the need to flap hands), social deficits (problems with communication and intimacy, and echolalia (repeating what another would say). Kanner labeled autism as a disorder. Kanner used the term with children who had withdrawn from human contact as early as age 1.

Understanding Asperger's Syndrome

Asperger studied autistic-like symptoms in children with normal intelligence and language development. Asperger (1944) described similarities in the children he studied with the same deficits of social interaction and communication skills stereotyped behavior described by Kanner (1943). The children Asperger studied had deficits in social interaction and communication skills, but they had normal intelligence and language development (Tsai, 2014).. The diagnosis, Asperger syndrome, was developed in the early 1980s by Wing (1997). Wing helped differentiate classic autism from Asperger syndrome. The term Asperger syndrome distinguishes the milder form of autism (Asperger syndrome) from the classic form of autistic behaviors Kanner studied

(Samson, Huber, & Gross, 2012). Childhood disintegrative disorder (CDD) was introduced in 1908. Childhood disintegrative disorder is rare, occurs more often in boys than girls, and is 100 times less common than autism. Children with this disorder show typical development for at least the first two years of life. This condition is characterized by a lack of social skills, bowel and bladder control, motor skills, communication skills, play skills, interpersonal interactions, and using nonverbal behaviors.CDD includes physical aggression against others or tantrums. Some children with CDD may have difficulty awakening from sleep.

Rett's Disorder

Rett's disorder was named after an Austrian physician, Andreas Rett, in 1966. Retts is a rare (1 in 15,000 births) genetic disorder, occurring most often in females. Children with Rett's Syndrome lack communication skills, lose purposeful hand skills, have difficulty walking with poor coordination, have slower head and body growth, experience sleep disturbances, seizures, and breathing difficulties. Most children with Retts are diagnosed before the age of three or four, but these issues persist throughout their lifetime. Retts is the only ASD disorder having clear and consistent physical signs (i.e., decelerated head growth, specific genetic differences; Carter & Scherer, 2013).

Pervasive Developmental Disorder—Not otherwise Specified (PDD-NOS)

Pervasive developmental disorder – not otherwise specified can be one of the most confusing diagnoses of all of the ASDs. It is referred to as atypical autism, which means children show some, but not all characteristics of autistic disorder, Asperger's

disorder, Rett's disorder, or CDD because it does not meet the full *DSM-IV-TR* (2000) text revised criteria for either diagnoses.

The Prevalence of Autism

According to the United States Department of Education, Statistics on Autism (2010), the number of students diagnosed with autism between the ages of 6 to 21 years being educated in public schools has increased. In the state of Michigan, there has been a 1,098% increase of students with autism, with 288 students identified in the 1992-1993 academic year compared with 3,449 students identified with autism in the 1999-2000 academic year (IDEA, 2004). Based on the United States Department of Education (2009), the rates of autism are increasing at a rate of 10 to 17% yearly. The ASA (2008) estimated the prevalence of autism could reach 4 million people in the United States in the next decade. These statistics suggest incidences of children diagnosed with autism are increasing and schools need to be prepared to provide education for a higher number of autistic children.

The IDEA (1975) mandated children and youth ages 3 to 21 years with disabilities have to be provided a Free and Appropriate Public Education (FAPE). The percentage of students with autism rose from 0.3 to 0.7% (U.S. Department of Education, National Center for Education Statistics [NCES], 2011). The U.S. Department of Education (2011) suggested the number of children diagnosed with autism receiving educational services under IDEA was growing at a rate five times greater compared to children diagnosed in the 1990s. Autism is increasing in United States, with more students diagnosed with this disorder being placed in general education classrooms.

The average age for children diagnosed in the United States with autism was age 3 -4 (Filipek et al., 1999). Kogan et al. (2009) reported the U.S. prevalence of ASD among 3 to 17 year-olds to be 1 in 91, or 1.1% of the population. Researchers found reasons for the increase in autism in children (Davidovitch, Hemo, Manning-Courtney, & Fombonne, 2013; Hertz-Picciotto & Delwiche, 2009). Davidovitch et al. (2013), along with Hertz-Picciotto and Delwiche (2009), found earlier age diagnosis (between 2 and 3) accounted for 12% of the increase of autism and diagnosis of children with milder cases accounted for 56% increase. Davidovitch et al. (2013) along with Hertz-Picciotto and Delwiche (2009) concluded the two leading causes for the increase of autism were (a) more children were being diagnosed at a younger age and (b) more children with milder symptoms were being diagnosed.

Prevalence is a measure of the status or burden of a disorder among a defined population at a particular time (Kopetz & Endowed, 2012; Peacock & Yeargin-Allsopp, 2009; Wiggins et al., 2015). Prevalence provides a snapshot of a condition at a certain time and among a particular population. The prevalence of ASDs has increased over the past few decades. Researchers have shown that ASD is prevalent around the world. The CDC (2007a) has been tracking the prevalence of several developmental disabilities since the 1980s and autism since 1996. According to the CDC (2013), in the United States, the prevalence of ASD is 1/54 for boys and 1/252 for girls, yielding an overall rate of 1/88. U.S. families receive a diagnosis of autism at a higher rate than children diagnosed with diabetes, spinal bifida, childhood cancer, or Down syndrome. ASD is more common than

pediatric cancer, diabetes, and AIDS combined (Tchaconas, & Adesman, 2013; Whelan, 2009).

The rise in prevalence is apparent in the percentage of children with ASD receiving special educational services. The number of students identified under IDEA (2004) shows the criteria for autism in the United States grew more than 500% from 1995 to 2005 (U.S. Department of Education, 2006). The explanations for the incidence and prevalence of ASD vary. They include changes in diagnostic criteria, improved identification, growing awareness among parents and professionals, conception of autism as a spectrum disorder, and greater availability of services (Fombonne 2005; Hill, Zuckerman, & Fombonne, 2015; Wing & Potter 2002).

The Children's Health Act (2000) sanctioned the CDC to create the Autism and Developmental Disabilities Monitoring Network (ADDM; CDC, 2013). The ADDM Network is a group of programs funded by CDC to decide the number of people with ASDs, provide data about the prevalence of autism, and to understand the impact of autism and related conditions in the United States. The goal of this network is to determine the number of children with an ASD (Peacock & Yeargin-Allsopp, 2009; Wiggins et al., 2015). The ADDM Network (2009) used health and educational records in selected states to identify the prevalence of ASD in the United States. The prevalence of autism has increased in the past decade for school-aged children. The ADDM (2009) reported by gender, racial and ethnic groups, and cognitive functioning groups in ASD prevalence.

According to the ADDM Network (2004), the number of European American children diagnosed with ASD was 9.7 per 1,000; the number of African American children with ASD was 6.9 per 1,000; the number of Hispanic American children with ASD was 6.2 per 1,000. In 2006, the ADDM Network reported the ASD prevalence increased for European American children to 9.9 per 1,000 and for African Americans to 7.2 per 1,000, with a decrease for Hispanic American children to 5.9 per 1,000 (U.S. Department of Health and Human Services, 2009). Because of the increase, the CDC considers the prevalence of autistic children is at an epidemic level.

Autism and Developmental Disabilities Monitoring Network reported the ASD prevalence reported by school personnel ranged from 27% to 95%, with an average increase of 57% from 2002 to 2006. The prevalence of children with autism was five times higher in boys than girls (Centers for Disease Control and Prevention, 2013). The racial prevalence of children with ASD among European American, non-Latino children ranged from 3.4 per 1,000 to 14.8 per 1,000. The range for African Americans, non-Latino, was from 1.6 per 1,000 to 12.9 per1,000. Among Latino American children, the range was 0.6 per 1,000 to 8.3 per 1,000.

Prevalence of Autism in Urban Cities

The prevalence of autism in the United States differs across racial and ethnic groups. African American and Hispanic American children were less likely to be diagnosed with ASD in 2002 (Mandell et al., 2009; Rothe et al., 2016) and 2006 (ADDM, 2009). Mandell, Listerud, Levy, & Pinto-Martin (2002) studied 8-year-old children with ASD identified by population surveillance. The sample included children born in 1994,

who lived in one of the 14 targeted study areas across the United States and met the ASD

case definition for the study. The sample included 2,568 children born in 1994 who met

the ASD case definition as defined by the ADDM. Mandell et al. (2002) found 58% of

the children meeting the ASD case definition had documentation of this classification in

their clinical or education records. Many children are referred for some form of disability

by the teacher's recommendation or physician's exam.

Children of African American or Hispanic American ethnicities are less likely

than European Americans to have documentation of ASD in their records (Jo et al.,

2015). The prevalence of intellectual disability among children diagnosed with ASD

differed by ethnicity ($p < .001$). This disparity has persisted among African American

children, regardless of their known IQ. A disparity in intellectual disabilities also was

found between Hispanic American and Asian American children diagnosed with ASD,

(Mandell et al., 2002). African American children diagnosed with ASD were more likely

to have IQ scores lower than 70 documented in their records. This is because many

African American children are not diagnosed early and provided with interventions

(Mandell et al., 2002; Strain, Schwartz, & Barton, 2011). The academic gaps in these

ethnic groups are credited to lack of resources, lack of knowledge, or misdiagnosis for

children in low-income communities.

Maternal education also differed by ethnicity, with European American mothers

most likely and Hispanic American mothers least likely to have some college education

($p < .001$; Mandell et al., 2009). African American children with ASD are diagnosed at

older ages than European American children and Hispanic American children were less

likely than European American children to be diagnosed with ASD at all (CDC, 2004; Valicenti-McDermott, Hottinger, Seijo, & Shulman, (2012). For each population, family beliefs concerning doctors, knowledge of autism and behaviors of children with autism contribute to these disparities.

Parents of children with autism may not know if their child has autism. Once parents become concerned about child development, it could be months or several years before a diagnosis is made (Hutton & Caron, 2005: Overton, Fielding, Garcia de Alba, 2007). Mandell et al. (2009) suggested there are differences in how African American parents describe symptoms, which may lead to an incomplete representation or misattribution of symptoms because they are more than likely stressing the child's behavior.

The effects of growing up in poverty for children raised in socially isolated or economically depressed urban areas call for greater concerns for children of color with autism. Children of color are less likely to receive a timely diagnosis with autism. Overton et al. (2007) suggested African American children with autism were more likely than other ethnicities to receive a diagnosis of the disorder, suggesting African American parents are more likely to stress disruptive behaviors in children. Overton et al. stated Hispanic American families, who live in poor socioeconomic environments, are less likely to receive a timely diagnosis for ASD . The CDC (2006) suggested children with autism in Hispanic American families may be under-diagnosed. Guevara, Mandell, Rostain, Zhao and Hadley (2006) stated many health care and educational professionals are studying the common denominator resulting in the disparity in ASD diagnoses.

Many autistic children, depending on their specific diagnoses, may show behaviors such as agitation, screaming, nonverbal communication, or disruptive behaviors. These behaviors may be shown because they have difficulty connecting and communicating with others. There are many possible factors for the disparity among African American and Hispanic American families with autism across the United States than European Americans. More research in this area could help close the diagnosis or academics gap among African Americans and European Americans. Many African American and Hispanic American families affected by this disorder are more likely not to receive this diagnosis until the child is much older. Many children are diagnosed with this disorder, as early as 6-months-old, but most are diagnosed much later, which has resulted in a disparity in academic achievement for children of certain ethnic backgrounds, such as African Americans and Hispanic Americans. Children in these ethnic groups receive screenings and treatments one or two years later than European Americans. European American parents have higher education, attend suburban schools, and have better access to screenings than other ethnicities. Mandell, Listerud, Levy, and Pinto-Martin (2002) found African American children were diagnosed 1.4 years later than European Americans and spent eight more months in mental health treatments before diagnoses. Palmer et al. (2005) found Hispanic Americans were diagnosed 2.2 years later than European Americans.

Gaps in Urban Cities

A body of research has been published in the last 10 years about young children with autism. Few researchers have examined the disparity of children in urban

neighborhoods with ASD (Kalkbrenner et al., 2011). Many minority families do not receive the same services as other children with the same disorder because of the lack of parental knowledge of autism and community resources. The number of children with ASD over the last 10 years has become more prevalent in communities and schools. Each state receives funds from the federal government to provide services to infants and toddlers with disabilities as required by public law to help a network of professionals provide services to families of children diagnosed with ASD. These services can include screening and assessments, family training, counseling, home visits, and an array of therapy services. Only 2.59% of children under the age of 3-years received services through federally funded early intervention programs (U.S. Congress, 2002). Many intervention programs are funded to help children with autism with an early start to achieve academic and social success.

The prevalence of ASD is not disproportionally represented across ethnic, racial, or socioeconomic groups. Mandell (2009) suggested race and ethnicity, as well as socioeconomic factors, affect the age at which minorities are diagnosed. When children in urban cities are diagnosed with ASD, the diagnosis often comes when they are older and have had multiple interactions with professionals (Mandell et al., 2002). These diagnostic disparities place minorities with ASD, especially those who have less educated parents, or living in low-income communities is at a disadvantage. They have a disability needing early intervention (Dawson et al., 2010), and they are not gaining access to the specialized intervention they need because they cannot gain proper diagnosis in a timely manner (Schwartz & Sandall, 2010). Parents must seek an early intervention and

screening for children suspected of autism to close the disparity gap. Children from minority groups and lower income or rural households are often diagnosed at later ages (Boyd, Odom, Humphreys, & Sam, 2010; Wetherby et al., 2014). Multiple screening instruments are available to detect ASD in young children, possibly leading to earlier screening and diagnosis, improvements in the child's speech, social interaction, and academics.

Children with ASD are prevalent across all ethnicities. Levy et al. (2003) found recently diagnosed Hispanic American children with ASD were six times more likely than other ethnic groups to use nontraditional treatment strategies. The CDC (2006) stated Hispanic American parents reported lower rates of autism than other groups. The American Academy of Pediatrics (2008) found African American children with ASD were diagnosed at older ages than European American children. Hispanic American children were less likely than European American children to be diagnosed with ASD. All children need to receive the correct diagnosis to ensure optimum academic and social achievement, no matter his or her disability or disorder.

Diagnostic Criteria of Autism Spectrum Disorders

When making a diagnosis concerning ASD spectrum classification for a child, a parent is also interviewed. Diagnostic criteria from each category of the DSM-*IV-TR* for an ADS is taken into consideration (Le Couteur, Lord, & Rutter, 2003; Schopler et al., 1980). Each classification includes impairments in social relatedness (lack of social interest and the inability to develop friendships) communication problems (lack of language skills or lack of imaginary play) and repetitive and stereotypical patterns of

movement such as flapping of hands. There can also be limited interests in developmental age activities (Hartley & Sikora, 2009; Mandy et al., 2012). Many general education teachers are somewhat familiar with the above characteristics of autism. They need to be taught more about the classifications and diagnostic criteria to understand the symptoms of the Autism Spectrum Disorders adequately when considering how to teach an autistic child in their mainstreamed or inclusive classroom.

Screening, Interventions, and Early Detection

Many screening tools were developed over the past 20 years to detect autism in young children. In recent years, research and federal funding has stressed the identifying early warning signs of ASD in children with, or at risk for, the disorder (Boyd et al., 2010; Wetherby et al., 2014). Two levels of screening instruments exist for use in diagnosing ASD in children. Level 1 screening instruments are used to determine if children are at risk for autism in the general population. Level 2 instruments are used to help in the diagnosis of autism (Robins & Dumont-Mathieu, 2006). While many screening tools are available, only three instruments have been designed to screen specifically for autism: the Checklist for Autism in Toddlers (CHAT), the Modified Checklist for Autism in Toddlers (M-CHAT), and The Pervasive Developmental Disorders Screening Test (2nd Ed.; PDDST-II). All of these screening instruments are designed for children ages 3 and older (Nadell & Poss, 2007).

Screening Tools for Autism

Screening tools and diagnostic tests are used to assess and diagnose children with autism as young as nine months old. Researchers (Barton, Dumont-Mathieu, & Fein, 2012; Duby & Johnson, 2009) stated standardized screening tools are snapshots providing added systemized information about the child's behavior and development at a particular time. The CDC (2010) recommended screening and surveillance of all children during well-care visits at age 9, 18, 24, and 30 months. In the use of autism-specific screening instruments, it was found 82% of respondents were routinely screened for general developmental delays, but only 8% were screened for ASD. The purpose of screening is to identify children at risk for autism as early as possible using valid and reliable diagnostic assessments and needed interventions.

Baron-Cohen, Allen, and Gillberg (1992) used the CHAT to screen for ASD. The CHAT consists of nine items reported by parents and five items observed in the child by a health professional at age 18 months (Woods & Wetherby, 2003). Robins, Fein, Baron, and Green (2001) examined the M-CHAT, which consisted of 23 yes-no items reported by parents to screen a nonselected pediatric sample of 1,122 children and 122 children considered to be at high risk for ASD. After completing the screening, 39 children were diagnosed with ASD. The available diagnostic measures for ASD are able to discern patterns of early signs for children with autism that provides parents and clinicians with interventions that can result in optimum academic and social engagement.

Diagnostic Tools

Until recently, standard diagnostic tests were used to diagnose children with autism much earlier. Boyd et al. (2010), author of the Quantitative Checklist for Autism in Toddlers (QCHAT), a revision of the CHAT, published evidence of reliability and discriminate validity, which is the ability of the instrument to discriminate between children with ASD and children with other developmental disabilities. A new autism-specific parent report screening tool, field-tested recently, is the Early Screening for Autism and Communication Disorders (ESAC). Results from this test provide preliminary support for the validity of the ESAC as a screening tool for children from 12 to 36 months of age (Wetherby, Woods, & Lord, 2007). Various instruments have helped parents, clinicians, childcare providers, teachers, and children to find the best outcomes yielding success for children with autism.

There are multiple ways of screening children with autism to help improve their behaviors. Osterling and Dawson (1994, 1999) conducted a retrospective study based on home videos of first-year birthday parties. The Childhood Autism Rating Scale ([CARS]; Breidbord, & Croudace, 2013; Schopler, Reichler, & Renner, 1998) consisted of 15 subscales. The child was rated on each subscale based on the clinician's observation of the child's behavior throughout the testing and behavioral observation session. The CARS included 15 items on socialization, communication, emotional responses, and sensory sensitivities ranging from zero to four, with zero suggesting no impairment and four signaling severe impairment.

The Autism Diagnostic Observation Schedule-Generic ([ADOS-G]; Lord et al., 2000) is a semistructured assessment of a child's communication, socialization, and play skills designed for children with nonverbal or limited communication. The Autism Diagnostic Interview-Revised ([ADI-R]; Rutter, Lord, & LeCouteur, 1995) and the Autism Diagnostic Interview, Toddler Form ([ADI-Toddler Form]; Rutter, LeCouteur, & Lord, 1991) are semistructured, clinician-based parent report interviews that are used to evaluate communication, social development, play, and restricted, repetitive, and stereotyped behaviors. The ADI-R consists of 111 questions, and the ADI-Toddler Form consists of 123 questions. Early intervention is important because of the increased diagnosis of autism in young children. Early intervention can improve social interaction for children at risk of developmental delays, including ASD (Branson, Vigil, & Bingham, 2008: Chakrabarti et al., 2005: Nelson 2000). Despite many challenges of detecting ASDs at young ages, diagnosis is critical before age 3.

Early Intervention

Children with autism benefit from beginning intensive early intervention screening for children with ASD is important for infants and toddlers and their parents to help children successfully communicate and socially interact. The National Research Council (2001) suggested families should receive immediate intervention services if a child is perceived to having autism. Research by Boyd et al. (2010) and Wetherby et al. (2014) suggested early screening and identification tools should be part of standard training for teachers and related practitioners (speech and language pathologists or occupational therapists) who work in early childhood centers and early intervention

education programs. After an autism diagnosis, early intervention instruction should begin focusing on developing communication, social, and cognitive skills for children with autism. Early intervention in a suitable educational setting during the preschool years can result in improvements for many young children with ASDs.

Although there are multiple studies, support groups, organizations, and agencies to help children and adults with autism, there is no cure. There are intervention strategies to aid in the success of children before the age 4, which is important. An increase of ASD awareness has helped educational settings and communities across the United States to treat children at the earliest stage possible. Congress created a mandate for services provided to infants and toddlers with disabilities through early intervention centers designed to help all children with autism under Part C of the IDEA, 2007 law. A diagnosis of ASD is not needed for entry into the Part C system of services and supports. To gain access to Part C services, children must meet state-determined eligibility related to developmental delay (Schwartz & Sandall, 2010). Because of this law, multiple screening instruments have been developed over the past 20 years to help identify children with autism at the earliest age possible.

If children do not receive early intervention, their brain structure is altered, and their language and social skills development can be affected. Branson, Vigil, and Bingham (2008) stated the time frame of optimal brain development has led policy-makers to call for early intervention of children at risk for developmental delays, including ASD. Warning signs for early identification of children with autism has led to

more timely and effective interventions. Early intervention results in better outcomes

(Boyd et al., 2010; National Research Council, 2001).

Early Intervention Centers

The U.S. Congress (1986) created a mandate for providing services for infants

and toddlers with disabilities, referred to as early intervention centers. Early intervention

can result in better diagnoses, including improvements in the child's speech and social

interactions, increasing his or her chance for success. Exkorn (2006) asserted that parents

need to be aware of two key words when getting a child treatment: early intervention.

Early intervention means parents become proactive in seeking treatment for children.

Harris and Handleman (2000) suggested that early intervention provided before the age

of 3 has a greater impact than intervention provided after age 5. Children diagnosed

earlier have better academic, communication, and social outcomes. Rogers (1998) found

children with autism diagnosed at an earlier age achieved greater success than children

with autism who received the same service at an older age. Wiseman (2006) stated early

intervention for children with autism can be difficult, but is worth the effort because it

works. Children with autism who receive intensive, early intervention enter school with

higher IQs without the need for special education classes.

Identification and Detection

The proper identification of children with special needs, with the suitable

treatment and education, is important to the success of children with autism. The

prevalence of disabilities with school-aged children varies by gender, race, and disability.

About two-thirds of the children with disabilities are male (Hebbeler et al., 2003;

Markowitz et al., 2006; Williams et al., 2013) and African Americans are overrepresented by as much as 50% because most African American males are placed in learning disability classrooms or classrooms for cognitive impaired or emotionally impaired. These children were not screened for autism (Markowitz et al., 2006; Williams et al., 2013). Early identification allows children to receive aid, helping them succeed in school and in their future lives as productive members of society (Guarino, Roger, & Oalson., 2007; Ramey & Ramey, 1998). Early detection of autism is important for two reasons. Children who are correctly diagnosed with ASD will have immediate access to intervention services. Parents who are educated about autistic disorders make educated decisions on best care practices for their children, and get suitable therapeutic care (Goin & Myers, 2004).

Parents are usually the first to recognize a concern with their child's development and seek medical or professional services for his or her children. As many as 50% of parents of children with autism claimed they suspected developmental problems before the child was 12 months old and as many as 82% noted concerns before their child was age 2 (Stone, Coonrod, Turner, & Pozdol, 2004). In some children with autism, there are signs of future problems visible from birth. In most cases, the problems for children with autism are usually in their communication, social skills, and fine and gross motor skills; these problems become more noticeable as the child falls further behind other children the same age.

Teachers' Perceptions of Autism

According to the U.S. Department of Education (USDE, 2010), 2,434 students with autism from age 6 to 21 were receiving 79% of their instruction in general education classrooms. A larger number of students with autism are being educated in general education classrooms. The demand for inclusive educational settings has grown (Buell, Hallam, Gamel-McCormick, & Scheer, 1999; Jimenez & Kamel, 2015; Thurlow, 2000; Yell & Katsiyannis, 2004). General education teachers are becoming more involved in, and responsible, for educating children with diverse learning needs (Robertson, Chamberlain, & Kasari, 2010). Many general education teachers feel ill-equipped to address the educational needs of their students as they may be unable to understand special education jargon and terminology (Bruce, 2010; Lytle & Bordin, 2001).

General education teachers recognize they may teach autistic students with a wide range of Autistic Spectrum Disorders such as: AD, Rett's disorder, childhood disintegrative disorder, Asperger's disorder, and PDD-NOS (IDEA, 1997). NCLB, (2001) needs general education teachers to adapt their instructional strategies in the general education classroom to help students with disabilities such as autism. General education teachers need to know how to plan, prepare, and present lessons for students with ASD. As the number of children with autism continues to increase, public schools must answer the challenge to educate students with autism placed in general education classes. The growing number of autistic students demands a higher level of coordination and planning among general and special education teachers; few school systems allocate the time and resources to promote these exchanges.

Autism in the General Education Classroom

The prevalence of autistic children at the state, national, and international level are increasing, meaning general education teachers will teach at least one child with autism (Breeman et al., 2015; Goodman & Williams, 2007) per semester. Children with autism need specialized instructional methods, tailored to meet each autistic child's needs. Researchers have documented students with disabilities, including students with autism, who are included in general education classrooms (a) display higher levels of engagement and social interaction, (b) give and receive higher levels of social support, (c) have larger friendship networks, and (d) have developmentally more advanced individualized education plan goals than their counterparts in isolated placements (Camargo et al., 2014; Fryxell & Kennedy, 1995; Harrower & Dunlap, 2001; Hunt, Farron-Davis, Beckstead, Curtis, & Goetz, 1994).

General Educators' Knowledge

A teacher's knowledge and training for working with children diagnosed with ASDs must be sufficient to help identify strategies or programs to help autistic children in their classrooms to be academically and socially successful (Yang, & Rusli, 2012). General education teachers must become knowledgeable about students with autism to provide the best learning environment for these students placed in their classrooms and understand the laws outlined by state, district, and national education systems. General educators may need to receive more professional development training to ensure quality education for all children, but especially for those children with autism who have been placed in their classroom. Some general education teachers may lack the necessary

background to interact with students in an instructive manner (Levine, 2006). Many teachers are not able to tailor lessons and adapt classrooms to meet the personal needs of autistic students in inclusive classrooms to ensure a quality education. For inclusive placements to be successful, educators must have knowledge and access to empirically supported strategies to help them in this process (Camargo et al., 2014; Harrower & Dunlap, 2001). Because no consensus has been reached on suitable education practices for students with autism, school districts often face difficult decisions about programs they choose to use (Dunlap, Iovannone, & Kincaid, 2008).

Professional Development for Teachers

Professional development is important to the educational growth of teachers and administrators and is a way for educators to improve in best practices in education to increase student achievement for all students. Educators are inundated with demands to carry out new instructional interventions to improve student achievement (Guskey, 2010). Effective professional development needs time for teachers to be organized in their planning, structured in their instruction, and focused on both content and pedagogy (Birman, Desimone, Porter, & Garet, 2000; Guskey, 1999). Professional development is important to increase teachers' knowledge of instruction to increase academic achievement for students who are mainstreamed in their classrooms (Jenkins & Yoshimura, 2010).

The number of special education students included or mainstreamed in the general education classrooms is increasing (O'Shea, Stoddard, & O'Shea, 2000). According to the U.S. Department of Education (2004), 37.5% of special education students spend

most of their day in the general education classrooms. Many general education teachers think they are not prepared to meet the needs of students with disabilities who are mainstreamed or included in their classrooms (U.S. Department of Education, 2002). General educators need time to deepen their understanding, analyze students' work, and develop new instructional approaches (Guskey & Suk Yoon, 2009) to meet the needs of all students included in their classrooms. According to Ornelles, Cook, and Jenkins (2007), general education teachers felt less confident to meet the academic needs of students included in their classrooms. They also found general education teachers indicated the need for support with special education practices, the best instructional approaches, and the NCLB requirements to meet the needs of students mainstreamed or included in their classrooms. Many general educators agree a one-time in-service on special education is not beneficial, although the basic knowledge and skills on special education is important (Jenkins & Yoshimura, 2010). The professional development practices for general educators on inclusion need to be specific and tailored to meet students' educational outcomes (Cordoves, 2013; McLeskey & Waldron, 2002).

The three primary objectives of professional development programs are: (a) adapting teachers' classroom practices to meet district and state standards, (b) changing attitudes and beliefs of teachers regarding special education and working with students with special needs, and (c) influencing students' achievement (Guskey, 2002).

Figure 3. Professional development (Professional Development and Teacher Change, Guskey, 2002, p. 383)

The goal of professional development is to have teachers accept, commit, and become excited about the content and be willing to carry out the strategies in their classrooms. According to Guskey (2002), an alternative approach to professional development uses three objectives to change teachers' practices and attitudes for learning outcomes of their students.

Teachers attended the professional development and then applied what they learned with their students. They observed changes in student outcomes resulting from adapting their instructional delivery to incorporate what was learned during the professional development program. As a result of positive changes in their students' academic outcomes, teachers' attitudes and beliefs about professional development were strengthened. This influences their willingness to attend and apply new concepts presented during professional development programs in their classrooms.

Education Models of Instruction

Treatment and education of autistic and communication-related handicapped children (TEACCH). The treatment and education of autistic and communication-related handicapped children (TEACCH) is a model used to help children create their own knowledge of the world. TEACCH is a program providing intervention for students with ASD for three decades (Simpson, 2005). This model is an intervention program providing up to 25 hours of instruction and visual supports weekly in a structured environment planned to meet the needs of the student (Simpson, 2005). The TEACCH program uses environments suited to meet the needs of the students (Ryan et al., 2011). The TEACCH program has been found to be a promising intervention for students with ASD (Simpson, 2005). Children with autism are children first, and any program must be a safe and nurturing place for children (Schwartz, Sandall, McBride, & Boulware, 2004). The TEACCH approach "aims to improve both social interaction and communication with a specifically created environment in which the child with autism can work through a specifically adapted teaching approach" in their daily routines (Tutt, Powell, & Thornton, 2006, p. 74). The TEACCH model is one of many strategies for teachers to use in helping increase academic and social interactions of students with autism in their classrooms.

The TEACCH program has four instructional parts: (a) an organized workspace, (b) a detailed assignment schedule, (c) an expectation of students during tasks, and (d) a clear description of the learning tasks (Ryan et al., 2011). According to Schwartz et al. (2004), effective instructional programs for children with autism share six common

elements: (a) curriculum content, (b) supportive teaching environments, (c) predictable

and routine learning environments, (d) functional approach to behavior problems, (e)

planned transition, and (f) family involvement. The primary focus of the TEACCH

program is to use interventions in structured settings for learning based on the culture of

autism. The TEACCH approach, which is a visual approach, allows greater flexibility for

more learning, as well as structured teaching. Panerai, Ferrante, and Zingale (2002)

suggested the TEACCH program creates a clear understanding of the lesson with visual

aids and promotes children's independence on learning at their own pace based on their

disorder.

Picture exchange communication systems (PECS). Another approach designed

for children with autism is the PECS approach (Bondy & Frost, 2002; Frost & Bondy,

1994; Lorah et al., 2013). The PECS system is a system using small cards to represent

items the child wants, such as favorite toys or food items. Once the child understands the

PECS system, the skill is transferred to teach concepts or other abstract ideas (Tissot &

Evans, 2003). According to the ASA (2005), PECS helps children with autism to start

language. PECS provides a child with autism a way of communicating through pictures.

In PECS, once the child presents a picture, his or her request is understood immediately.

PECS is used in special education classrooms, including those with students diagnosed

with ASD, in Detroit Public Schools to help autistic students who are nonverbal or who

have limited communication skills. Many general education teachers have no knowledge

of this model or the other models used to improve student achievement and increase

social and verbal skills. A need exists for standardized models, such as a model for

autism inclusion to support students with ASD (Ashley, Hayes, & Salter, 2013; Crosland & Dunlap, 2012).

Federal legislation needs states to ensure academic success for all children in public schools (Pickard 2008). IDEA (2004), and NCLB (2001) are federal laws mandating a free and suitable education for all children attending public schools, regardless of their disability. All children have a civil right to a free and appropriate public education, regardless of their disability. Children today are inundated with a rigorous thrust to prepare them for college and career ready paths, and there are no exceptions for students with autism.

General strategies for children with ASD. Strategies for students with autism are necessary to help increase student achievement. Researchers (Carmargo et al., 2014; Harrower & Dunlap, 2001) reviewed research-based strategies designed to help individual students with ASD. Their strategies include measures to increase academic and social growth for all students with autism. Antecedent procedures are related to a child's environment. The procedures may include having desks arranged in a certain way, ensuring children are seated among peer helpers. The procedures involve manipulating part of the child's environment to induce a needed response or prevent and minimize challenging behaviors. The opportunity to prepare or instruct autistic students about the assignment before the general education students have a chance to engage in the lesson is called priming. This procedure allows students to preview information or activities before engaging in the activity (Wilde, Koegel, & Koegel, 1992). Prompting is a strategy used to improve the general instructional routine and encourage students with autism to respond

to academic or behavioral activities. Prompting encourages autistic students to take part in daily lessons. Visual schedules are pictures cues to help autistic students or teachers help with communicating their feelings or behaviors needing to be displayed. If a teacher, for example, wants a child to be quiet, a sign is displayed and the student knows to be quiet. Visual scheduling is used to increase predictability for students with autism to visually communicate events, help transition activities, and increase independence.

Response to Interventions (RtI) is an educational framework and protocol used across the United States to assist autistic students, as well as general education students. RtI is a problem-solving and decision-making model based on a multi-tier prevention framework common to public health, adopted by education and early intervention (Crosland & Dunlap 2012; Simeonnson, 1991). RtI is a redesign to the teaching and learning environment to improve effectiveness and efficiency for all students and educators (Sugal, 2007). RtI takes a multi-tier approach to the early identification and provision of support to students who are not achieving in their general education classroom. This approach can help autistic students who are high functioning on the spectrum by using strategies that address problems in reading and math achievement, as well as improve positive behavior skills.

Many researchers support inclusion of students with autism in the general education classroom (Carmargo et al., 2014; Ferraioli, & Harris, 2011; Harrower & Dunlap, 2001). Even students with severe autism can be included in the classroom, using identified strategies if enough supports are provided (Carmargo et al., 2014; Harrower & Dunlap, 2001). Safran (2002) provided general education teachers with ideas on setting

up a classroom, helping students transition and develop social skills, and making recommendations for instructional accommodations and accessing resource. One such strategy involved teachers creating personalized short stories about topics such as classroom routines or social interactions addressing the needs of a particular child. Social stories were created to support the social and emotional development of children with autism (Gray, 1994).

offered Five recommendations have been made to supporting and better preparing general education teachers and special education teachers to work with students with disabilities: (a) renew the teacher education curriculum to show a shared language supporting collaboration among general and special education teachers; (b) set up collaborative clinical experiences for general and special educators; (c) ensure competence of new teachers to work effectively with students with disabilities; (d) support continuing development of new teachers during their first three years of teaching; and (e) set up a process for shared governance of teacher education reflecting the collective responsibilities of teacher educators, content specialists, and practicing teachers (Kozleski, Pugach, & Yinger, 2002; Talib & Paulson, 2015) All general education teachers should have some form of professional development or in-service focusing on mainstreaming and inclusion of students with autism to help differentiate lessons and strategies to ensure academic success.

A Review of Differing Methodologies

I reviewed both quantitative and qualitative literature related to using methodologies for the results of this qualitative phenomenological study. There is an

abundance of literature on both types of studies about general education teachers' opinions about mainstreaming and including autistic students in general education classrooms. Horrocks, White, and Roberts (2008) stated in their quantitative approach, principals' attitudes on inclusion and placement of autistic students in public schools. Horrocks et al. conducted a research design in the Pennsylvania Public Schools in 2005 and surveyed 1,500 principals, with 571 (38%) completing the questionnaire. The participants stated children diagnosed with autism can be included in general education classrooms with accommodation and enough support. Some children with autism need specialized services to improve their verbal and non-verbal relationships with others.

Low Hui Min and Lee Lay Wah (2011) conducted a qualitative case study to explain the processes in teaching speech, language, and communication skills to a child with severe ASD better. Many research strategies are available to help children with autism. Hepburn et al. (2008) conducted a quantitative study of 60 elementary teachers in Denver, Colorado to pilot test teacher strategies to identify children at risk for ASD. The teachers taking part in the study selected students who showed characteristics of ASD, and completed the Autism Syndrome Screening Questionnaire (ASSQ) for every child. It is my hope, as a result of my study, school districts would have accurate data from teachers to provide in-services and professional development strategies for general education teachers to identify children at risk of having autism. The findings could provide support to teachers who have students diagnosed with ASD who are mainstreamed or included in general education classrooms (Jenkins & Yoshimura, 2010)

Many research articles have been published about the professional development for general education teachers who teach students with disabilities. Jenkins and Yoshimura (2010) interviewed a teacher about her support of elementary general education teachers through professional development to meet the needs of special education students who were mainstreamed or included in general education classrooms. The teacher thought there was a need to create five steps to planning and delivering professional development at Sunshine Elementary School to reach all students in the general education classrooms. Common themes in research show general educators' beliefs that inclusion should be carry out. Two studies surveying general educators have found they do not have a strong belief in academic benefits of inclusion (Leach, & Duffy, 2009). When general education teachers were asked to identify types of professional development they and their colleagues need most, they identified teaching and collaboration strategies as two of their top three needs (Pindiprolu, Peterson, & Bergloff, 2007).

Summary

In this literature review, I addressed (a) the conceptual framework (b) the importance of general educators' opinions about autistic students included in their classrooms, (c) the interventions resources and strategies available for general educators to use in urban classrooms for autism spectrum disorder students, and (d) the screening and interventions provided to help increase awareness of autism in urban neighborhoods. I provided a review of literature on autism, special education laws for children with disabilities, general education teachers' knowledge regarding ASD, preparation,

prevalence of autism, screening, interventions, lesson planning and strategies for working with these students. I showed the various screening instruments effective for students with autism from birth to age 21, teacher knowledge about the disorder, and the screening practices for children with autism in urban communities. Early intervention and screening are important in developing the child's communication and social skills. Early intervention has proven to help decrease disabilities in developing young children, especially those with ASDs. The methodology of the study is introduced in Section 3.

Section 3: Research Methods

Introduction

The purpose of this study was to explore general education teachers' perceptions of teaching autistic students who had been mainstreamed or included in their classrooms. The rate of autism at the state, national, and international levels is increasing, and many general education teachers are expected to teach children with autism and should be ready to include them in their mainstreamed classrooms (Goodman & Williams, 2007). Teaching children with autism is no longer solely the responsibility of the special education teachers; general educators also must meet the needs of students identified with ASD (Lewis & Doorlay, 2011). The increasing rate of autism combined with a shortage of special education teachers caused a paradigm shift in education prompted by all educators focusing on best practices meeting the needs of all children in their classrooms (Busby, Ingram, Bowron, Oliver, & Lyons, 2012).

In this section, the research design and the method of this study used to collect and analyze the data need to address the research question is described. I discuss my role and criteria for selecting participants, methods for collecting data, and a description of how the data obtained for this study would be analyzed. In a qualitative phenomenological study of an urban school district, I explored general education teachers' perceptions of inclusion and mainstreaming students with autism based on their knowledge of ASDs and preparation to teach students with ASD, however limited it may be. I addressed the literature gap on general education teachers' perceptions about teaching students with autism and the social change to provide support for general

education teachers who have students with autism included or mainstreamed in their classrooms. This study was designed to address the literature gap on general education teachers' perceptions regarding teaching students with autism. I used a qualitative phenomenological study to describe and analyze the data from participant interviews. The types of training or professional development for planning lessons, instructional strategies, and classroom environment to accommodate students with autism in which teachers participate also were investigated.

Research Design

This study used a qualitative phenomenological study research design. According to Creswell (2013), a phenomenological study is used when all participants have experienced a phenomenon having the same meaning for all participants. The lived experiences of the participants regarding the phenomenon are explored in the study. The purpose of this qualitative study is to "reduce individual experiences with a phenomenon to a description of the universal essence (p. 76). The researcher gets data usually through face-to-face semi-structured interviews from people who have been exposed to the phenomenon and then creates a composite report of the experiences for all of the participants. The report the *what* of their experiences and then explain *how* they experienced the phenomenon. Creswell (2013) described the features of a phenomenological research design include:

- The phenomenon, the focus of the study is stressed as a single concept (i.e., general education teachers having an autistic student in their class)

- All of the participants in the study have experienced the phenomenon. The sample size could range from three to 15 teachers.

- Phenomenology is based on both objective and subjective experiences of the participants related to the phenomenon.

- The researcher *brackets* him or herself out of the study by disclosing his or her personal experiences with the phenomenon. This process helps to identify the researcher's experiences with the phenomenon being studied to remove him or her from the study.

- The data collection generally is limited to interviews with people who have experienced the phenomenon.

- The data analysis uses systematic procedures moving from individual units of analysis (e.g., significant statements) to broader units (categories), resulting in a detailed report on the two elements (*what* and *how*) experienced by the participants.

- The study culminates in a description of the essence of the experiences, integrating both the *what* and the *how* into the report.

Creswell (2013) indicated two types of phenomenological studies have been discussed in the literature: hermeneutic (vanManen) and empirical, trancensendental (Moustakas). Hermeneutic phenomenology is described as a dynamic interaction among research activities: (a) determine a phenomenon that interests the researcher; (b) reflect on the essential themes incorporating the lived experience; (c) write a description of the phenomenon; (d) interpret the responses to create meaning of the lived experiences.

Moustakas' approach to psychological phenomenology is concerned more with the lived experiences of the participants and less on the interpretations of the researcher. Moustakas is concerned with bracketing removing the experiences of the researcher with the phenomenon from the study. For the purpose of this study, Moustakas' psychological phenomenology was used to study the phenomenon of having an autistic student in a general education classroom.

The origin of qualitative research dates back to the 1920s in sociology and anthropology. Merriam (1988) proposed these studies are a good means of collecting data in educational settings, since similarities in these three fields exist. A qualitative study can used to explore a person, group of people, an event, a program, a time period, a critical incident, a community, or in this case, a school district (Merriam, 1988). A qualitative case study is one approach to study teachers in their natural classroom settings with autistic students. Researchers using qualitative studies create descriptions of phenomena in different contexts and produce complex interrelationships of causes and sequences affecting human behavior toward their beliefs about the phenomena under study (LeCompte & Preissle, 1993, p. 3).

Rationale

A phenomenological qualitative research design was used as the study design. Data from interviews from eight teachers who teach children diagnosed with autism who have been mainstreamed in their general (K-8) education classes were used to address their perceptions, experiences and knowledge about teaching autistic students in their classrooms effectively (Stake, 1995). This research design was suitable since all of the

teachers included in the study had at least one child diagnosed with autism in their classes.

I used multiple sites for this study and use information from various general education teachers to address their experiences and opinions about teaching autistic students in their classrooms effectively (Stake, 1995). Phenomenological studies are suitable in situations where the researcher focuses on describing how a process works in a particular instance (Yin, 1989) and on understanding a shared phenomenon. I explored the opinions of general education teachers in multiple schools having autistic students mainstreamed or included in their daily instruction to understand this phenomenon from multiple perspectives. By using multiple sites in the district I answered the *what* and *how* of this experience for teachers.

Qualitative research is used to provide themes or categories (Merriam, 2002) as a lens to address the issues vital for the research (Creswell, 2003). This research involved using semistructured, open-ended interviews questions to explore the attitudes (Al-Ahmadi, 2009), behaviors, and experiences to view a social phenomenon (Creswell, 2003). I interviewed all participants using the same semi-structured questions to get their perceptions of teaching students with autism. Exploring their opinions and experiences on teaching autistic students who are mainstreamed or included in their classrooms and how they differentiate their lessons for those students was the focus of this study. Quantitative researchers provide numeric descriptions of trends, attitudes, or opinions of a population. Quantitative research is based on obtaining data from experiments, surveys,

questionnaires, and other instruments to provide a basis for using statistical procedures (Creswell, 2003).

Qualitative researchers collect data through semi-structured interviews, lesson plans and teaching schedules. I interviewed participants about their experiences and perceptions on teaching students with autism and reviewed all documents submitted the participants would like to share to validate the research. Quantitative research is a random sampling using larger numbers of participants to make claims about the population where the data usually are evaluative, using semistructured interviews, surveys, numbers, and statistics (Creswell, 2014). Qualitative research is important for the broader public to influence and bring about social change to solve problems and make a problem clear (Rubin & Rubin, 2005). The qualitative researcher can give a voice to people who may be ignored by society or who may not always be given a means for presenting their case (Rubin & Rubin, 2005).

Qualitative research was the best approach for this study allowing the researcher an opportunity to gather data about general education teachers in their natural setting (Creswell, 2003). I helped influence social change and inform school districts about how to address the needs for general education teachers who are mandated to teach students with ASD who are mainstreamed or included in their classrooms with limited training or ongoing supports. I used the phenomenological study approach because of the gap in the literature about information from general education teachers who work with mainstreamed autistic students in urban elementary and middle schools. This phenomenological study allowed me to share the teachers' experiences, opinions,

concerns, and beliefs to the literature so training that is developed could address their actual needs and not the needs others think could benefit or help them in their daily practice.

Qualitative Phenomenological Methodology

Many general educators know about autism, but lack specific information about how students with autism affect the classroom, along with best practices to teach autistic children. The qualitative phenomenological approach was selected because of the limited literature on urban general education teachers' opinions in a prekindergarten through eighth grade setting teaching who work with students diagnosed with ASD but who do not have formal training to do so. According to Yin (2009), qualitative researchers do not seek to measure but rather to understand, represent, or explain a social phenomenon. In the educational setting, the researcher could examine teachers in one or more schools to understand the phenomena or situation. According to Creswell (1998), a phenomenological study is used to explore an issue experienced by all participants. Semistructured interviews are utilized to collect data on the phenomenon of interest (i.e., teacher's opinions about teaching students with autism mainstreamed or included in their classrooms).

The goal of this study was to explore general education teachers' perceptions of teaching students with autism mainstreamed or included in their classrooms. A phenomenological study was the best approach for this study to identify phenomena about the needs of these teachers and help plan trainings, in-services, and ongoing supports for general education teachers who teach autistic students daily.

Research Questions

The overarching research question of this research study was: What are general

education teachers' perceptions of teaching autistic students included or mainstreamed in

their classrooms?

1. What barriers do general education teachers perceive affect their ability to use

of differentiated instruction in their classrooms with their students diagnosed with ASD?

2. What strategies do general education teachers perceive would facilitate the

process of providing differentiated instruction in their classrooms for their students

diagnosed with ASD?

Context of the Study

The research context for this phenomenological study involves the setting,

selection of participants, sample size, and criteria.

Setting

This qualitative phenomenological study took place in multiple schools to

interview general education teachers in grades prekindergarten to eighth grade. In the

interviews, I focused on teachers in grades prekindergarten to eighth grade with five

years or more of teaching experiences to ensure teachers had sufficient time with working

in an elementary or middle school setting. The interviews took place at their current

working location or at a mutually agreed off-site location for about 90 minutes to allow

for deeper exploration of responses of interview participants. The targeted school sites

were located in the largest urban school district in Michigan, which was accessible to the

researcher and conducive to the researcher's geographic location. These sites were

purposefully selected from the number of self-contained autism classrooms in the school district where the autistic students are mainstreamed or included in general education classrooms to allow for a broad representation and rich sampling of the phenomenon. The schools were located in a community in Southeastern Michigan. The community is comprised of predominately low-to-middle income students with various ethnicities (African American, Arabic, European American, and Hispanic American).

There are three grade categories of autism-impaired (AI) self-contained classrooms in K-8 schools: prekindergarten, elementary, and middle school. The average student ratio in general education classrooms for prekindergarten is 18:3, elementary is 25:1, and middle school is 35:1. In autism classrooms, the ratio for prekindergarten is 5:3, elementary is 7:3, and middle school is 7:3. The participants were interviewed either in their classroom during a preparation period or at a mutually agreeable off-site location to maintain confidentiality.

Selection of Participants

The criteria for each participant are certification in general education, highly qualified in their subject area, and teaching at least one autistic student in a mainstream or inclusion setting. All participants must be employed by the urban school district and had at least five years of teaching experience. I used a semistructured interview to allow teachers to complete the study in 90 minutes or two 45-minute sessions. According to Creswell (2014), fewer individuals in qualitative research help to obtain rich details. Each participant was selected to collect reliable data (Creswell, 2014) for this study. The selected participants must have had teaching experience in grades kindergarten through

eighth grade. I attempted to create gender equity among participants; however, gender was not a prerequisite for participation in this study. I asked department supervisors and principals to recommend ASD teachers who had transitioned students to general education classrooms. I secured a list of general education teachers who have ASD students in a mainstreamed or included classroom setting to help me with the selection of participants.

I met with each prospective participant separately, after IRB approval, to explain the purpose of the study, procedures, and the benefits for future teachers in general education that were teaching students diagnosed with ASD. Each participant received a letter of consent (Appendix B) outlining the purpose and guidelines of this study, delineating how I would maintain confidentiality and anonymity. The letter explained taking part in the study was voluntary and a participant could withdraw at any time. The letter explained how I planned to safeguard the data over time. Once the teacher agreed to be a participant, I followed up with a date and time to schedule an informal and formal meeting to conduct an interview. At the informal meeting, I reviewed the informed consent form with each participant. After discussing the form and the teacher agreed to take part, I asked for the teacher to sign the letter expressing his or her willingness to take part in the study.

Sample Size

A sample size of six to eight teachers was chosen for this study to explore the phenomenon on mainstreaming and inclusion of autistic students in general education classrooms. Mays and Pope (1995) suggested using small sample sizes because

information-gathering methods are comprehensive and allows participants to give more detailed answers. All participants were highly qualified according to NCLB (2001) and had at least five years of teaching experience. Selected participants were those who held a general education certification in any subject in elementary or middle school and taught at least one student diagnosed with ASD for a minimum of one class period daily. I focused on a small sample size in this phenomenological study to allow me to get data on teachers' opinions on mainstreaming and inclusion in depth and remain focused on the purpose. The interviews were either one session for 90 minutes or two 45-minute sessions to see the participants over a period of time. Hatch (2002) suggested a small sample size allows the researcher to get rich information from participants in the study. The two sessions gave the participants time to interview, reflect between sessions, and to review notes or responses.

Ethical Protection of Participants

Each participant's confidentiality and anonymity was protected using a pseudonym to protect their identity. Protection of participants is important for this study. Each participant was informed about the security and protection in both the formal and informal interviews. I also informed each participant of their right to terminate taking part in the study at any time without consequences. None of the participants withdrew from the study.

The formal meeting allowed each participant to answer interview questions (Appendix A). I completed a field test of at least four general education teachers. The same interview questions were asked to help with category themes. I had multiple

questions in five categories including: (a) Experience; (b) Expertise; (c) Teaching and Learning (differentiation); (d) Training and Mentoring; and (e) Documentation (lesson plans, seating charts, and teaching schedules). Each category was color-coded. All participants' information remained in the locked file cabinet for five year at the researcher's home located in Southfield, Michigan.

Role of the Researcher and Bracketing

I did self-examination and wrote my preconceptions about teaching students with autism in inclusive or mainstreamed classrooms in a journal before I conducted the interviews to remove or reflect on my biases. I placed my notes aside to be more objective about the research. I made an interview guide available for each participant for data collection. The data were transcribed, collected, and stored according to the requirements of the Walden University Institutional Review Board. According to Merriam et al. (2002), the researcher serves as the instrument for data collection and analyzes. I attempted to remove biases and show fairness to this research study (Creswell, 2014). As a former general education teacher who had students with ASD mainstreamed in my classroom, I have had first-hand experiences of the subject, which helped provided a context for the study, but may gave me preconceived notions about the data before I collect it. Prior knowledge of the situation and experience (Hatch, 2002) gave me credibility with the participants and increased the possibility of a more honest dialogue during each interview. I supported my opinions to remain neutral in the data collection process and ensure the validity and reliability of the research.

Data Collection

All participants were interviewed individually to gather data. The interviews were semistructured (see Appendix A). I developed the interview questions. After having the interview questions and the Evaluating Various Autistic Non-interaction Signs (EVANS) Checklist for Educators (see Appendix C) approved by my dissertation committee and the Walden Institutional Review Board (IRB) approval, I field-tested the EVANS checklist and interview questions. I asked a teacher with at least one student diagnosed with ASD included in his/her general education class to take part in an interview. The purpose of the field test was to determine if the interview questions produced the type of response for which they were developed. Changes to the interview questions were made as needed, with my committee and the IRB informed of the changes.

All participants received a letter to confirm their participation by email or in person. The semistructured interviews were audiotaped to allow participants to speak freely about their experiences and opinions about mainstreaming and inclusion of autistic students in general education classrooms so I could work to understand the phenomenon. The purpose of semistructured interviews was to guide topics, themes, or areas covered during the interview, rather than a sequenced script of standardized questions. Expected themes included content, process, product, and learning environment with other themes emerging from the interview data. The interview questions were divided into themes or kinds of questions, as certain themes can be expected. As I worked through the semistructured interviews, the interviewee could shape their own understandings, as well as my interest as a researcher with prior experience, where unexpected themes can

emerge (Mason, 2002). The themes, once repeated, helped form a broader understanding of the phenomenon.

Reliability

Semistructured interviewing appeared to be more ethical than standardized and structured methods. The data produced could be personal and sensitive, especially when emerged in a relationship of trust and close rapport between interviewer and interviewee (Mason, 2002). When conducting interviews for data in qualitative research, it is important to check for reliability of the interviewees' responses. Reliability refers to research findings yielding similar results from other participants (Merriam et al., 2002), and the answers are dependable and consistent (Lincoln & Guba, 1985) for data collection, rather than being answers from a teacher who sees the situation differently or whose perceptions appear to be a fluke. When findings were repeated or similar answers were obtained from many of the participants, I developed a sense the phenomenon being described had some reliability.

Triangulation

The interviews were conducted at multiple-site locations before work, or after work to avoid interference on their jobs. I audiotaped and transcribed all interviews. Each complete session with the interviewees took about 90 minutes or two 45-minute sessions to not take up the teacher's time. Interviews could be split into 45-minute intervals to meet the teacher's schedules if there was a conflict. I used multiple sources to triangulate the data. I gathered data from interviews, documents (lesson plans and schedules) and field notes (Merriam et al., 2002) to ensure greater reliability and data validity. By having

the multiple sources, I was able to create a greater understanding of the unit of analysis to describe the phenomenon. Documents are important components in qualitative research because they provide evidence the researcher is not able to observe directly (Stake, 1995). The documents included, but were not limited to teacher's lesson plans and teachers' schedules of classes. The journal notes addressed my opinions about mainstreaming or inclusion of students with autism. I also bracketed any biases to minimize my influence on the teachers' responses. I obtained valuable information from these documents that helped me understand the effectiveness of ensuring quality education to students with autism mainstreamed or included in the general education classrooms.

Data Analysis

All interviews (Appendix A) were audiotaped with permission of each participant and transcribed for this study. To gain a rich text for data analysis, open-ended questions guided participant interviews (Creswell, 2014). Turner (2010) suggested standardized open-ended inquiry presents identical questions to all participants, but the questions allow open-ended feedback as well. The participants were able to provide added detail, allowing the investigator to follow up with probing questions. According to Turner, participants could communicate their opinions and experiences through open-ended interviews. Semistructured, open-ended interviews allowed participants to communicate detailed feedback as needed related to such broad categories as teachers' perceptions on mainstreaming, on inclusion, on preparedness, and on strategies to teach students with autism.

I divided the frames of analysis in this study into four categories: teachers' perceptions on mainstreaming, on inclusion, on preparedness, and on strategies to teach students with autism. Transcripts of all interviews were organized based on the themes (content, process, product, and learning environment) of the questions and from themes that emerge. These were viewed from all participants' responses to find similarities or differences to understand the experience or phenomenon. Marshall and Rossman (1999) and Merriam (1988) suggested, in qualitative research, data collection and analysis must be a simultaneous process. Data consisted of interviews and documents. The data were analyzed immediately after the first interview and continued with each interview until all interviews were finished (DeNardo & Levers, 2002). I used Hatch's (2002) inductive analysis model, which was the best fit for data analysis beginning with four themes from differentiated instruction (content, process, product, and environment) . This technique allowed me to conduct interviews and get an understanding of the participants and their experiences. This method has steps including creation of categories, identification of relationships in the data among participants, themes generated to create the categories, and selection of data supporting the research (Hatch, 2002). I developed themes to make connections about teachers' perceptions. Hatch (2002) described it as "looking for relationships among the relationships" (p. 173), which addressed how the data fit together and what data means. I identified themes developed over the collection of the data based on the categories or themes of the questions and from the emerging themes. I also analyzed any similarities, differences, and exceptions, to set up a common theme or framework for the experiences across the phenomenological study.

The common themes were identified from the theory and from those emerged from the responses and the experiences of the participants; however, some unexpected themes could emerge. According to Hatch (2002), "categories organized around relationships can be expressed semantically" (p. 165). I developed a coding system of categories to help organize the data. Hatch suggested assigning a number or letter to each code when categorizing and putting in a list format (p. 169). Qualitative researchers use qualitative investigation tools to handle information more competently during the duration of an investigative study (DeNardo & Levers, 2002). I selected emotional statements, responses, or those mainly characteristic of the investigation findings related to the selected themes or categories. Through qualitative investigation, the views and opinions of teaching autistic students in a general education classroom were explored.

All data were analyzed and coded to identify themes in participant responses around the unit of analysis, which were the experiences of the general education teachers in a classroom with an inclusion autistic student. A pattern of the participants' responses were analyzed to seek themes related to answers from the research questions and to understand the lived experiences of the teachers in the multiple-site settings and to able to define the phenomenon in a rich and detailed way (Merriam, 2009). The data were transcribed. I coded data to describe a theme occurring from results from the general education teachers' opinions of mainstreaming and inclusion of autistic students.

Methods to Address Validity

Triangulation was used to provide accuracy of the data sources used and to ensure a broad representation of the data. Member checking was examined to decide the

accuracy and trustworthiness of the findings from the participants and to tease out a clearer understanding of the data. The transcribed interviews were emailed to each teacher. They were asked to review the transcripts for completeness and accuracy and make any changes that are needed. This process allowed teachers to reflect on their responses and flesh out more details that may have been missed. I met with the participants once for the interviews. According to Creswell (2003), researchers must check for accuracy and validity of their findings. I collected and analyzed the data throughout this study. The strategies were carried out in this study for accuracy and validity of the findings from the viewpoint of the researcher, the participants, or the readers (Creswell & Miller, 2000). I also provided participants with themes generated from the interview, to see if they agree, have further clarification, or disagree. Accurate records and logs in a journal were kept to assure accuracy in participants' responses and trustworthiness or fidelity from the researcher based on participants' responses (Lincoln & Guba, 1985).

Summary

This section explains the methods used in qualitative case studies and explored general education teachers' opinions on mainstreaming and inclusion of autistic students in one school in the largest urban public school located in Michigan. I also focused on methods used to build themes from the data collected. In Section 4, the results of the analysis of the collected data are presented.

Section 4: Results and Findings

Introduction

The purpose of this study was to explore general-education teachers' perceptions regarding teaching students with autism who have been mainstreamed, or included in their classrooms. In Section 4, the findings from data collected using demographic surveys and face-to-face interviews are discussed. A pilot study was used to determine if changes were needed on the interview questions before beginning the interview process. A trained transcriptionist transcribed the face-to-face qualitative interviews. I sent the transcripts to participants for member checking. I analyzed data from the demographic surveys using descriptive statistics.

Process of Recording, Gathering, and Analyzing Data

The initial process before collecting data was to receive Walden University Institutional Review Board (IRB) approval. The University granted approval on September 2, 2014 (approval number 2014.09.2 4 17:14:53-05'00'). I was granted permission by Detroit Public Schools district to conduct the study through an "approval to conduct research" acceptance letter received on February 17, 2015 by email (Appendix D). I received emails from principals from participating schools indicating the names of teachers who were willing to interview for the case study. I contacted all participants by e-mail or phone to confirm willingness to take part in the study. Eight participants were selected from 12 referrals by their principals. Participants received a letter of introduction, a consent form to take part, an Evaluating Various Autistic Non-interaction

Signs (EVANS) Checklist and demographic survey (Appendix C) by email or in person.

The purpose of EVANS checklist was to determine which signs of autism general

education teachers had observed in their classrooms. All participants confirmed taking

part in the study by email or by signing the *Consent to Participate* form before starting

the face-to-face interviews. The criteria for being included were having five years or

more experience as a teacher and having taught at least one child diagnosed with ASD. I

selected the teachers to provide perspectives from different subject areas (e.g.,

mathematics, science, music, and art). I informed all participants that taking part in the

study was voluntary and all information on the survey and interviews would be

confidential.

I conducted each participant interview, based on availability, after school hours,

onsite, in a private room. All participants had the opportunity to review the forms—

candidate introduction letter, participant consent form, and EVANS Checklist and

demographic survey for an overview of the study and clarification of any possible

questions concerning the interview procedure before beginning the interviews. After

reviewing the documents, the participants and I signed and dated the *Consent to*

Participate signature page on the day of the face-to-face interviews. The teacher then

completed the EVANS checklist and demographic survey before starting the interview.

The interview questions were open ended and I asked probing questions during the

interviews to elaborate and clarify participants' responses. As the researcher, I was

careful not to show bias or use leading questions during the interviews. Interviews did not

exceed 60 minutes. I recorded the interviews using a high-density Olympus digital recorder and had the tapes transcribed verbatim.

I sent the face-to-face interviews to a transcriptionist from the Olympus digital recorder by email. After each interview was transcribed, the transcriptionist emailed the documents to me to check for accuracy. After reading the transcriptions and making corrections for typographical errors, I began member checking. I emailed the transcribed interview to each participant for member checking. They were asked to read the transcribed interview and make any additions or corrections to improve the accuracy of the transcription. The teachers were asked to return the corrected transcripts within seven days. Any transcriptions not returned were considered correct.

Participants in the Study

Responses from eight teachers in a large urban school district were included in the statistical analyses of the EVANS Checklist and survey that was approved by the IRB. These teachers provided information on their demographic characteristics. I assigned each teacher a pseudonym to maintain his/her anonymity in the study. Their responses to teacher-characteristic questions are presented in Table 2.

Table 2

Teacher Characteristics

Teacher's name	Gender	Age over 30	Marital status	Certification	Grade level taught
Ms. Smith	F	Y	M	Mathematics	3–8
Ms. Jones	F	Y	M	Science	6–8
Ms. Brown	F	Y	M	Elementary—All subjects	3–5
Ms. Green	F	Y	M	Music	PreK–5
Mr. Lyons	M	Y	S	Physical Education/Cognitive Impairment	3–8
Mr. Argon	M	Y	M	Art	All grades
Ms. Long	F	Y	M	English Language Arts	3–5
Ms. Miller	F	Y	M	Elementary—All subjects	PreK–2

Note. From qualitative face-to-face interviews of participants.

Participants included six female and two male teachers. Seven teachers were married. All teachers (100%) were over 30 years old. I asked teachers to indicate the number of children diagnosed with ASD in their classrooms and if the children were in an inclusion classroom or were mainstreamed. See Section 1 for detailed definitions of mainstream and inclusion.

Prevalence of Autism in the Classrooms

Teachers also provided the gender, grade, and ethnicity of each student diagnosed with ASD in their classroom. Results of these analyses appear in Table 3.

Table 3

Frequency Distributions: Demographic Characteristics of Students with Autism (N = 8)

Demographic Characteristics Of Students With Autism	Frequency
Number of children with autism in teachers' classrooms	
1	1
3	4
4	1
7	1
11	1
Number of boys with autism	
1	2
2	2
3	3
10	1
Number of Girls with Autism	
0	4
1	1
3	1
4	1
5	1
Number of children with autism by ethnicity	
African American	
1	3
3	1
4	1
6	1
Caucasian	1
Latino	1

Demographic characteristics of students with autism	Frequency
Number of children with autism from other ethnic groups	1
Number of children with autism by grade level	
PreK–2	3
3–5	3
6–8	2
Number of children with autism by educational setting	
Mainstreamed	
1	1
3	1
4	1
5	1
Included	
3	3
6	1
7	1

The number of children with autism in each teachers' classrooms ranged from 1 to 11, with 4 the highest number reported. Teachers reported they had previously or currently, 1 to 10 students with autism, with 3 boys reported by one teacher. Four had no girls diagnosed with autism in their classrooms, with the other teachers reporting from 1 to 4 students with autism. When analyzed by ethnicity of the eight participants, the number of African American children with autism ranged from 1 to 6, with one Caucasian, one Latino, and 1 child from another ethnic group assigned to the classrooms. Three quarters of the students were in third through fifth grade. The number of children who were mainstreamed ranged from 1 to 4, with the number of children who were included ranging from 3 to 7. I asked teachers to indicate their preparedness to teach

children with autism. Their responses were summarized using frequency distributions (see Table 4).

Three of the eight teachers had formal training in special education, with the number of hours of formal training ranging from 3 to 40. Three of the eight teachers had a bachelor's degree in special education. When asked about their area of certification, their training varied markedly. Teachers indicated that the school district does not require formal training for teaching students with autism. Table 5 presents results of the analysis of teachers' expertise for teaching students with disabilities, and specifically, students with autism, using frequency distributions.

Table 4

Frequency Distributions: Teacher Preparedness to Teach Children with Autism

Teacher preparedness to teach children with autism	Frequency
Teacher has formal training in special education	
Yes	3
No	5
Number of hours of formal special education training	
3	1
6	1
10	1
40	1
Missing responses: 4	
Bachelor's degree in special education	
Yes	3
No	4
Missing responses: 1	
Area of certification	
Art	1
English-language arts	1
Music	1
Physical education/cognitive impairment	1
Social studies	1
Missing responses: 3	
District requires formal training for teaching students with autism	
No	8

Table 5

Frequency Distributions: Teacher Expertise to Teach Children with Autism

Teacher expertise to teach children with autism	Frequency
Familiar with IDEA act	
Yes	7
No	1
Attend professional development workshops on special education laws on autism	
Yes	2
No	6
Certificates, license, or formal training to teach students with autism	
No	8
Familiar with diagnostic instrument measure for ASD	
Yes	5
No	3
Use measurements to assist with instruction for students with autism	
Yes	1
No	7
Parents address concerns about their child with autism to teachers	
Yes	4
No	4
School equipped to handle students with autism	
Yes	8
Believe in inclusion or mainstreaming for students with autism	
Yes	7
No	1

Note. ASD = autism spectrum disorder; IDEA = Individuals With Disabilities Education Act.

Seven teachers indicated they were familiar with the IDEA. Two teachers

indicated they had attended professional development workshops on special education

laws for autism. No teachers had certification, licensure, or formal training to teach students with autism. Of the eight teachers in the study, five reported they were familiar with diagnostic instrument measures for ASD and I1 indicated they used measurements to help with instruction for students with autism. Half the teachers indicated they addressed parents' concerns about their child with autism. All of the teachers thought the school was equipped to handle students with autism and seven reported they believed in inclusion or mainstreaming for students with autism.

Teachers answered other questions about autism, along with questions about their interactions with parents. During the interviews, I asked questions for clarification and to get a better understanding of the relationships between students and parents (see Table 6).

Table 6

Frequency Distributions: Other Questions about Autism (N = 8)

Other questions about autism	Frequency
One out of 110 children have been diagnosed with autism	
Yes	5
No	3
Keep a record/log/portfolio on each child in classroom	
Yes	5
No	3
Parents notified about child's interactions	
Yes	8
School offers assistance for students diagnosed with autism	
Yes	8
School district has policies and procedures in place for children with autism	
Yes	6
No	2

Five teachers were aware one in 110 children nationally has been diagnosed with autism. Of the eight teachers in the study, five teachers reported they kept a record/log/portfolio on each child in their classrooms. All teachers indicated they notified parents about their child's interactions, using progress notes sent home six weeks before the end of report card marking periods. If necessary, the teacher either emailed or phoned the parent if a situation occurred that needed immediate attention. All teachers thought the school offered assistance for students with autism. Six teachers reported the school district has policies and procedures in place for children with autism.

I asked teachers to report the types of indicators students with autism displayed in their classrooms. I gave them a checklist (discussed in previous sections) of possible indicators and asked them to include all applying to any or all students. Table 7 presents results of this analysis.

Table 7

Number of Teachers Reporting Observations of Indicators of Children with Autism

Indicators of children with autism	Number
Child is distant	6
Child repeats same behavior	6
Child doesn't want to be touched	6
Child gazes or stares	5
Child rocks/sways	4
Child doesn't participate with others	4
Child is aggressive/fussy	3
Child has limited or no verbal cues	3
Child plays with same toy	2
Child cries more than 4 hours	2
Child overachieves in a subject	2
Child is absent a lot	1
Child appears clumsy	0
Child wets on self	0
Child does not eat	0
Child bangs head constantly	0

Six teachers reported children with autism in their classrooms were distant, repeated the same behavior (unique to each student), and did not want to be touched. Five teachers indicated the children with autism gazed or stared and four teachers reported the children with autism in their classrooms rocked or swayed and did not take part with others. Other behaviors included aggressiveness or fussiness ($n = 3$), limited or no verbal cues ($n = 3$), playing with same toy repeatedly ($n = 2$), cries for more than 4 hours ($n = 2$), overachieves in a subject ($n = 2$), and is absent frequently ($n = 1$). None of the

teachers indicated children with autism in their classrooms appeared clumsy, wet on themselves, did not eat, or banged their head continuously. Because the teachers reported on their observations for the children with ASD in their classrooms in general, it cannot be determined if the children showed more than one of the indicators.

Qualitative Findings

The guiding research question for this study was, "What are general-education teachers' perceptions of teaching students with autism included or mainstreamed in their classrooms?" Eight teachers took part in face-to-face, semi-structured interviews, which included 11 sub-questions used to prompt general-education teachers' responses about their perceptions of teaching students with autism. The summaries of the participants' responses to each of the interview questions is presented first, with the themes that emerged from the interviews presented in the second section of the qualitative findings. The emerging themes that were identified include:

1. Lack of uniformity in teaching students who are autistic;

2 Lack of training for teachers who teach autistic children in mainstreamed in their classrooms; and

3 Lack of books/new books and differentiated lesson sheets.

Summaries of Interview Questions

Facilitating differentiated instruction. The first interview question asked teachers, "What strategies do general-education teachers perceive would facilitate the process of providing differentiated instruction in their classrooms?"

Teachers generally thought differentiating instruction for children with autism was difficult because the children were operating on different levels. Mrs. Smith indicated she used groups and worked with "small chunks" of instruction. She gave the example if she had 20 questions and one child with autism said it was too much, she would have them do fewer questions. They would eventually completed all the questions. Working in groups, Ms. Smith was able to differentiate her lesson plans more effectively.

Mrs. Brown indicated having so many students who have a "wide spectrum of needs" was a barrier to differentiating instruction. She had difficulty meeting the needs of all students. Another teacher, Mrs. Green, indicated time and resources were barriers to meeting the needs of students with autism. According to Mr. Lyons, as a physical education teacher, he typically worked with all the students. Some children with autism wanted to work individually with him. He believed trying to get children with autism to work at the same pace as the rest of the students is a barrier to differentiating instruction.

The art teacher, Mr. Argon, indicated he used many hands-on techniques to teach art. He had difficulty involving children diagnosed with autism in the art projects. Some children with autism did not want to take part with other children. Ms. Long indicated she experienced no barriers when differentiating instruction for children with autism in her classroom. Ms. Miller indicated class size was a problem. She had 27 children in the class and three of these children were diagnosed with autism. She indicated the three children with autism were on different levels of the spectrum, making it difficult to differentiate instruction for each one of them individually.

Adjusting lesson plans. The second interview question asked teachers, "How do you adjust your lesson plans or instruction to meet the needs of students with autism?

Teachers' responses to adjusting lessons and instruction varied to help meet the needs of their students. Mrs. Smith partitions lessons to help students understand. She does this for many individual students to help relieve stress. Mrs. Jones does not adjust her plans, but gives students more time to complete the task or project. She uses a "Follow The Kid" (FTK) paraprofessional to help students with lessons. Mrs. Brown evaluates lessons to see if they need to be adjusted. She does this on a case-by-case basis to accommodate student needs. Mrs. Green, the music teacher, uses the student's learning style to accommodate those who are nonverbal. Mr. Lyons, the gym teacher, highlights lesson plans to pinpoint if needs were met according to the requirements. Mr. Lyons continued that if students did not meet the intended goal, he would reteach and work with students individually. Mr. Argon, the art teacher, monitored the classroom to ensure students are on task. If not, he would adjust his lessons in various ways for clarity. He believed not everyone did learn the same way, so he adjusted lessons for individual leaning styles. Ms. Long modified lessons based on the concept she was teaching to reflect the student's ability. She did not give overwhelming lessons. Mrs. Miller presented the same subject matter, but created various lessons to help students with understanding lesson concepts.

School district providing lesson plans. Each participant responded to the third question, "Does the district provide differentiated lessons to meet the needs of students with ASD included or mainstreamed in your classroom?" Can you explain your answer?"

The district purchases books steering the curriculum for each subject to accommodate students with an IEP. If the books are older, no differentiated plans exist to accommodate students with autism. Because of the lack of books for a particular subject area, such as art, music, physical education, or health, differentiating lesson plans can be difficult. Mrs. Smith said the district provided worksheets to help differentiate lessons in the mathematics curriculum. Mrs. Jones, the science teacher noted some lessons in science books helped differentiate instruction, while other units in the same books were not differentiated to accommodate learners at different levels. Mrs. Brown, who taught all subjects in an elementary education classroom, indicated the curriculum provided alternative assignments to help with differentiating lessons. Mrs. Green, the music teacher, indicated a lack of books to help differentiate music lessons as the children all have to sing or play the same songs. Mr. Lyons, the physical education and cognitive impairment teacher, also indicated there were no differentiated lessons provided by the district for physical education. Mr. Argon, the art teacher, stated there were no differentiated lessons from the district for art classes. Ms. Long, the English-language arts teacher for Grades 3–5, stated the district gave differentiated lessons in her teacher's book edition. Mrs. Miller, teaching in a self-contained elementary classroom, stated the district provided assignments to help differentiate for students with autism. She, like many teachers, also bought her own resources to help accommodate students in her classroom.

Students' learning styles. Each participant responded to the fifth interview question, "How do you address the students' learning styles when you plan the activities

for the lessons?" Mrs. Smith stated she advocated for the use of technology and

integrated technology because it allowed students to work on their own level, which

reduced stress on the student. Mrs. Jones taught many hands-on lessons in science and

chunks lessons into smaller groups to address the students' learning styles. Mrs. Brown

observed students to help her plan lesson activities based on students' learning styles. She

asked students to show their understanding of the lesson by using their own learning style

to help them discuss the learning activity. Mrs. Green taught students in kindergarten–

eighth grades. A couple of her students with autism cannot endure the sounds in music so

they cannot participate in certain music lessons.

Mr. Lyons indicated many students are kinesthetic learners, which is important in

physical education. He showed kinesthetic skills for learners diagnosed with autism, such

as running around the track. Mr. Argon, the art teacher, changes his method of teaching

to address the learning styles for all students. He believes mastery is not the outcome for

children with autism. Having students with autism engage in art is key to learning art

skills. Ms. Long worked with students in small groups to help address their learning

styles. She described a student with autism in her classroom that was an excellent writer.

However, if the student were asked to read aloud, she refused to speak. Mrs. Miller used

the "treatment and education of autistic and communication-related handicapped

children" (TEACCH) and Picture Exchange Communication Systems **(**PEC) system,

which used visual learning styles for students with autism. Her FTK paraprofessional

had trained her with these alternative styles to learning for students with autism.

Paraprofessionals. Each participant responded to question six, "Do you assist or have an assistant for students with ASD to help understand the lesson taught? If yes, what tasks did the assistant perform with the students?" Mrs. Smith puts students in small groups on the same intervention levels to assist them in understanding the lesson. Mrs. Jones had an FTK to assist with understanding the lesson. The FTK did the same assignment as the students, especially in science projects. Mrs. Brown too had an FTK to assist with lessons to help students. Her FTK reworked problems to ensure students were successful. Mrs. Green said some students had aides and some did not, depending on which class came to her and which students had an FTK or paraprofessional. She stated that it depended on the student's IEP: if they were mainstreamed, they did not have an aide. Mr. Lyons indicated a paraprofessional came with students during physical education classroom to help drive the point of the lessons. Mr. Argon said because he taught different levels of students with autism, and he tried to keep them on task in art. Ms. Long had an aide for every class who helped all students understand the lessons. Mrs. Miller had a full-time FTK who helped all students. The aide helped her understand the PECs and TEAACH methods for students with autism.

Assessing student's knowledge. Participants responded to the seventh question, "How do you assess students' knowledge or understanding of lessons? Mrs. Smith, the mathematics teacher, relied heavily on the Accelerated Math computer program because students were at various grade levels and it gave accurate data on students' understanding of the mathematics concepts. She also assessed knowledge by modeling and giving students time to work independently. She extended learning time on Fridays. Mrs. Jones

assessed students' knowledge through class scientific experiments. If students could answer the hypotheses, evidence, reasoning, and scientific explanations to their experiments, she knew they understood the concepts behind their lessons. Mrs. Brown stated, when she asked a question and the students could answer the question correctly, they understood. If the student answered incorrectly, she realized they did not understand and she might have to reteach the lesson. Mrs. Green said many students did not read or write at the grade levels she teaches. She could tell if students understood the lesson through verbal cues, pictures, or body movements. Mr. Lyons stated if students could model the skill, they had mastered the assessment. Mr. Argon showed students the finished project and revisited the lessons before the students started their art project. He met with students individually to have them demonstrate how they started the project and what they were trying to accomplish. Ms. Long assessed students' understanding by their writing and group assignments. Mrs. Miller put students on a timer to keep them on task; then she asked questions to get feedback from students on the extent to which they understood the lessons.

Systems in place. The eighth question presented to participants was, "What system (routine) do you have in place to demonstrate students with ASD have an understanding of a lesson?" Participants varied in their responses. Mrs. Smith had each student complete a "Write Up" assignment about the lesson. Each student in mathematics class had to write a story problem or three mini-paragraphs for her to gauge their understanding. Mrs. Jones had a system in place for students to collaborate in groups for science projects. She gave students more time to complete the assignments the next day if

they did not complete the assignment by the end of the class period. Mrs. Brown had no particular systems in place, but displayed students' work and organized a show to display what they had learned. Mrs. Green did not have any system in place, but was looking into developing a system, especially for students with autism. Mr. Lyons had procedures in place to have students model, demonstrate, and give verbal cues of their knowledge about the skills taught in the physical education class. Mr. Argon, the art teacher, did not have any procedures in place. He did not put students in groups or pair them. Ms. Long had a system in place to never put the letter grades A or F on students' papers, but allowed students to put what they thought was an outstanding piece of work in their portfolios. Mrs. Miller had a system in place where every student had their own schedule, which allowed them to redirect themselves and work independently.

Grouping students. How students with autism are grouped in the general-education classrooms is discussed in this section. Each participant responded to question nine, "How are students grouped?"

Mrs. Smith said the classroom was grouped based on students with an IEP in her seventh and eighth-grade split. Mrs. Jones allowed her student with autism to pick his or her own group. If a child with autism did not want to work with any of his peers, he worked with the teacher or the FTK. Mrs. Brown sometime placed students by counting off numbers, based on their ability, or allowed them to pick their own groups. Mrs. Green conducted whole-group instruction, allowing students with ASD to sit where they wanted to sit. Mr. Lyons said gym class begins as a whole group, but breaks into smaller groups to complete a skill or task. Mr. Argon said groups vary depending on which class comes

in and classes could range from 15 to 30 students. Ms. Long did not group students by ability. She gave each student a job as a recorder, timekeeper, speaker, or facilitator so every student could learn from the others. Mrs. Miller grouped the second-grade class by levels, according to STAR Reading and Mathematics skills and ability.

Pairing students. The 10th question asked, "How do you pair up general-education students with ASD students who are mainstreamed or included?" Mrs. Smith did not pair students, but they partnered with other classmates when they were working on computers. Mrs. Jones paired students based on how general-education students interacted with students with autism. Mrs. Brown considered the general-education student's ability to interact with a child diagnosed with autism to ensure safety and collaboration of students in the classroom. Mrs. Green did not discriminate, but tried to find ways to mix the students. She arranged students in random seats to work together in groups or pairs. Mr. Lyons might put students in pairs, depending on the lesson or skill. He gave students free choice of partners. In Mr. Argon's class, students with autism generally sat next to people with whom they got along. Ms. Long paired general education students with a student with autism for the student to interact.

Room arrangements. Each participant responded to question 11, "How is the room arranged to accommodate students with ASD?" These last two questions related to how teachers grouped and paired students with autism with general-education students. Mrs. Smith had no specific arrangements because all her groups were small and each group sat at a different table. Mrs. Jones had tables in science class that sat four to six students. She had a learning center in the back of the classroom for students. Mrs. Green

used the auditorium for music class and each student chose his/her seat. Mr. Lyons

conducted team sports and had students grouped as a whole, but after taking attendance,

assigned students to a red team or blue team. Mr. Argon did not try to single out students.

He allowed them to sit with their friends, as long as the group of people got along

together. The room was not arranged in any particular way because students with autism

were mainstreamed. Ms. Long's classroom was divided into groups of three to six

students with no particular arrangement. Mrs. Miller indicated students with autism sit

around the FTK in a horseshoe shape. One student with autism also had a physical

disability and had to sit at the end of the table.

Positive behavior support. Each participant responded to the 12th question in the

study exploring how general-education teachers carried out a reward or positive

behavior-support (PBS) initiative in their classrooms to comply with the district's drive to

implement PBS in all schools.

The question asked, "What positive behavior supports have been implemented in

your classroom?" Mrs. Smith stressed praise and has a student of the month. Mrs. Jones

purchased items students particularly liked to reward them when they showed positive

behavior. Mrs. Brown reinforced students' self-pride and self-gratification to help them

feel good about themselves and their accomplishments. Mrs. Green was in a school

where PBS was launched last year. The staff and students used positive words and

phrases to demonstrate positive behaviors. Mr. Lyons wanted students to use good

sportsmanship by saying something positive to each other (e.g., "good job," or

"wonderful job"). He also shook students' hands and gave them "high-fives." Mr. Argon

usually hung up students' artwork to make them feel important and good about their work. Ms. Long played a game to involve all students. She distributed treats and made pancakes for students who had positive behaviors at a time when only those students were in her classroom. Mrs. Miller always tried to find the positive in every situation. She also rewarded students with high-fives and classroom celebrations.

Themes

Three themes emerged from the data. After reading each of the responses to the questions, the responses were categorized by type and theme. Each of these themes are discussed in detail.

Lack of uniformity in teaching students with ASD. The first theme focused on a lack of uniformity in teaching students who were autistic and mainstreamed in general classrooms. Throughout the discussion of the 12 questions, many teachers shared strategies they used when working with children with ASD in their mainstreamed classroom, however; these strategies differed from teacher to teacher and by the type of classroom (general education, physical education or music). This phenomenon of teachers using different techniques included: group instruction, with each teacher having their own process for grouping children in their classrooms. The gym teacher started with the whole class and then divided the children into smaller groups to complete different skills or tasks. The music teacher and art teacher did not group the children. Classroom teachers used different methods, depending on what subject area that they were teaching. When assessing student knowledge each teacher had unique ways to help students understanding the lessons. For example, teachers adjusted lesson plans by the number of

items on an assignment or test. In addition, the time allowed for completing assignments was adjusted to accommodate fine-motor deficits. The general-education teacher increased the level of support the student with ASD received during a lesson by using peer or paraprofessional support on a one-on-one basis. The teachers had systems in place to allow students with ASD to demonstrate the extent that they understood a lesson. For example, teachers used a variety of techniques such as small group observations, anecdotal notes, computer assessments, journal writing, and one-on-one support from the FTK paraprofessional.

Teachers did not seem to use a guiding model of techniques for children with ASD who had been mainstreamed or included across the curriculum. Also, teachers developed classroom routines and procedures, motivated students' interests as a way to improve engagement, used visual organizers and strategy tools to differentiate instruction, incorporated structured assignments, and assessed performance using task analysis to optimize learning opportunities for each student (Denning & Moody, 2013). However, Safran (2002) provided general-education teachers with ideas on how to set up a classroom, thoughts on how to help students transition and develop social skills, and concluded with recommendations for instructional accommodations and accessing resources.

Differentiating instruction. The second theme consisted of differentiating instruction. Many strategies are available to help teachers differentiate lessons for students with ASD to ensure they are receiving the optimum type of instruction needed to become successful. General education teachers had a limited understanding of students

with autism, but believed it was helpful to use best practices in differentiated teaching

strategies for students with ASD (Glandin, 2006). Although teachers who taught core

subjects indicated the district provided books that included suggestions for differentiating

instruction, many of the textbooks were old and did not include these types of lesson

plans. Books are provided, but social studies and science books are old and did not

include differentiated lesson plans in the teacher's edition to assist teachers working with

students diagnosed with ASD. The lack of instructional materials and professional

development programs for general education teachers were considered barriers to

incorporating differentiated instruction for students with ASD in their classrooms. When

teachers differentiate instruction, the classroom environment may be modified and made

more conducive to learning, especially for students with ASD (Flynn, 2010).

As some books were outdated, especially for extracurricular elective classes such

as art, music, physical education, and health; teachers were challenged when attempting

to differentiate instruction. According to the teacher participants, the lack of books and

differentiated lesson plans for art, physical education, music, and health were not

available in the same manner as books for the core subject areas, such as reading, math,

science, and social studies.

The general education teachers' needed to develop classroom routines and

procedures, motivate students' interests, use visual organizers and strategy tools to

differentiate instruction, incorporate structured assignments, and assess performance

using task analysis to optimize learning opportunities for each student (Denning &

Moody, 2013). Most students with ASD require some form of academic modification

when in general-education classes, regardless of intellectual ability (Wagner, 2001).

Dahle and Gargiulo (2004) promoted the use of structured teaching approaches,

integrating academic and learning accommodations tailored for students with autism.

Academic modifications could include using differentiation techniques to assist children

with autism with fine-motor deficits, such as grasping a pencil to write. The teachers'

also used paraprofessionals or a Follow That Kid (FTK) assistant help differentiate

lessons for students with ASD. The paraprofessional is vital for some students to be

successful in the general-education classroom, especially when the teacher is using

differentiated instruction. The general-education teacher can increase the level of support

ASD students' receive during a lesson, by using a peer or paraprofessional to support

them during or after instruction.

Teachers' lack of training for students with ASD. The third theme is the lack

of specific training for general education teachers who work with children with ASD. The

school district does not provide formal training to general education teachers who work

with students who have been included or mainstreamed on a annual basis. Although three

teachers who participated in the study had some formal training (ranging from 1-40

hours), the school district did not provide updated information on a regular basis on using

differentiated instruction. According to some of the teachers, the school district did not

recognizing the need for general education teachers to participate in ongoing professional

development programs focused on helping teachers develop strategies for working with

students with disabilities in general and for students with ASD specifically. Teachers

indicated they needed to have up-to-date knowledge and skills necessary to differentiate

instruction in mainstreamed classrooms. Perhaps this lack of professional development could account for the lack of uniformity in teaching students with ASD who are placed in mainstreamed or inclusionary classrooms. However, the students with ASD could benefit by having the school district administrators recognize the need for teachers to receive appropriate professional development and giving them the needed tools (e.g., current books and lesson planning ideas) to motivate them to apply best practices in differentiating instruction in their classrooms for students with ASD.

Evidence of Data Quality

During this research, I was constrained by ethical guidelines to protect the participants in the study and ensure quality of the study. To adhere to these ethical guidelines in the face-to-face interviews and data collection from the EVANS Checklist, I waited until I received full approval from University Research Reviewer, committee chairs, and the IRB, to assure protection against human-rights violations. I gave a consent to participate form, letter of introduction, and EVANS Checklist to each participant to review. I asked them to sign the informed consent form and complete the EVANS Checklist before starting the interviews. I audio recorded interviews after each participant signed the consent form. The interviews and surveys took 60 minutes to complete. All participation was voluntary and participants understood they would receive a complete copy of their interview by email to check for accuracy. I sent all interviews to a transcriptionist to transcribe and return to me by email. I then forwarded transcribed interviews to participants for member checking. Member checking is a technique used to ensure validity and data quality (Creswell, 2003, 2014; Hatch 2002; Lincoln & Guba,

1985; Rudestam & Newton, 2001). All eight participants received the interview by email and returned them by email, confirming accuracy of their interviews.

Another means of increasing quality in the research was bracketing. Bracketing involved placing my personal feelings and beliefs aside and removing any biases to be free of judgment. I created an interview protocol and used the same set of questions for each participant. The data were collected, transcribed, and stored in a locked file cabinet. They will be stored for five years in the locked file cabinet. According to Merriam et al. (2002), researchers serve as the instrument for data collection and analysis. I attempted to remove biases and show fairness to research participants (Creswell, 2014). As a former general-education teacher who had students mainstreamed in my classroom, I have had first-hand experiences with mainstreaming and inclusion of students with autism, which helped give me a context for the study. Prior knowledge of the situation and experience (Hatch, 2002) gave me credibility with participants and increased the possibility of a more informed dialogue with each interview.

Summary and Transition

Eight teachers, working in schools with grade configurations that included prekindergarten through eighth grade, participated in the study. These teachers included classroom teachers, a music teacher, art teacher, and physical education teacher. Each of these teachers had at least one child diagnosed with ASD in their classrooms either at the time of the study or in prior school years. The teachers generally had little or no training for working with students with disabilities or specifically, students diagnosed with ASD. Most of the teachers were familiar with IDEA, but had not attended professional

development workshops on special education laws regarding autism. Seven of the eight

teachers were in favor of including or mainstreaming students with ASD. Most of the

teachers had observed their students with ASD exhibiting common indicators of autism

(e.g., child is distant, repeats same behaviors, does not want to be touched, gazes or stares

and rocks or sways). The teachers responded to 12 interview questions to get information

on differentiating instruction, adjusting lesson plans and instruction to meet the needs of

students with ASD, school district support for differentiated instruction, learning styles of

students with ASD, having an assistant for students with ASD, assessing students'

knowledge, grouping students, pairing children with ASD and general education students,

classroom arrangement, positive behavior support and systems for determining if students

with ASD understand the lesson. Three major themes emerged from the face-to face

interviews. These themes included lacking uniformity in teaching students who are

autistic and included or mainstreamed in general education classes, developing and using

differentiated lesson plans, and lack of training for the teachers who were working with

students with ASD who have been mainstreamed. These themes were determined

identifying major pattern and themes from transcribed text Section 5 will provide a brief

summary of recommendations and implications for social change. I will address the gap

in the literature and provide recommendations for action and further research.

Section 5: Summary, Conclusions, Implications, and Recommendations

Why and How the Study Was Done

This study was conducted to address the academic needs of students with ASD who were placed in general-education classrooms in one urban school district. The IDEA requires students with disabilities to be placed in the least restrictive environment. Students with ASD may be placed in center-based programs with other students with ASD or may be mainstreamed or included in general-education classrooms. Students with autism who are included in general-education classrooms typically (a) display higher levels of engagement and social interaction, (b) give and receive higher levels of social support, (c) have larger friendship networks, and (d) have developmentally more advanced IEP goals than their counterparts in center-based programs (Carmargo et al., 2014; Fryxell & Kennedy, 1995; Harrower & Dunlap, 2001; Hunt, Farron-Davis, Beckstead, Curtis, & Goetz, 1994).

Study results may help fill the gap in the literature on urban elementary teachers' perceptions of mainstreaming—including students with autism in their classrooms—and barriers teachers face in teaching children with ASD on a daily basis. Data from this study could inform administrators of the needs of these teachers and provide workshops for teachers concerning autism, giving the teachers needed instruction on differentiated instructional techniques for children with autism who are mainstreamed or included in their classrooms. Also, data from this study may inform administrators on the needs of teachers for current differentiated instructional materials such as differentiation lessons and current books across the curriculum. The purpose of this study was to explore

general-education teachers' perceptions about teaching students with autism who have been included in urban classrooms. With current differentiated materials and workshops focused on differentiated techniques for teachers working with children with autism who have been included or mainstreamed in general-education classrooms, teachers will be able to teach children more effectively, impacting children and their parents in the largest urban school district in southeast Michigan, thereby providing social change.

The setting of the study was a variety of K–8 urban schools. Data were gathered from face-to-face interviews and the EVANS Checklist survey. The subquestions pertain to differentiated instruction applicable to children with autism who were mainstreamed. Member checking and bracketing provided crosschecking, attesting to the credibility of the study (Creswell, 2014). The overarching question for this research study was, "What are general-education teachers' perceptions of teaching students with autism who are included or mainstreamed in their classrooms?"

The conceptual framework for this study was supported by Tomlinson's (2004) differentiated learning framework and model. The differentiation model focuses on the full spectrum of learners, including students with various learning needs. Differentiated instruction establishes a learning environment in which students are more likely to have their individual learning needs met (Tobin, 2008; Tomlinson, 1998). Differentiated instruction is a framework or philosophy for effective teaching providing strategies based on different students' abilities and learning modalities. Children with autism can be mainstreamed or included in a general-education classroom because of differentiated-instruction strategies.

Teachers use four strategies to differentiate instruction: (a) content, (b) process, (c) product, and (d) learning environment (Algozzine & Anderson, 2007; Simpson & Bogan, 2015). *Content* describes what a teacher differentiates or adjusts based on how students gain knowledge, understanding, and skills (Algozzine & Anderson, 2007; Simpson & Bogan, 2015). *Process* is how students learn the material in the lesson based on students' learning styles. Process strategy is based on the method easiest for students to get knowledge and assimilate facts, concepts, and skills (Algozzine & Anderson, 2007; Simpson & Bogan, 2015). *Product* is what the student produces at the end of a lesson to show mastery of the content or what they have learned from the lesson or unit (Algozzine &Anderson, 2007). The *learning environment* can support or deter a student's contribution. The learning environment can include the physical layout of the classroom, the way teachers use space, and the overall atmosphere of the classroom supporting students' ability to interact with others in a safe and supportive learning environment (Tomlinson, 2014). Differentiated instruction is a method maximizes each student's growth and individual success by meeting students at their level and assisting students in the learning process (NCAC, 2003).

A program used in the differentiated general education classroom to better instruct children with autism is the treatment and education of autistic and communication-related handicapped children (TEACCH) program. The TEACCH program uses interventions in structured settings for learning based on the culture of autism. The TEACCH approach, which provides materials using a visual approach, allows greater flexibility for more learning, as well as structured teaching. The TEACCH

program creates a clear understanding of lessons with visual aids and promotes

independence for children with ASD to learn at their own pace, aligned with their

disorder (Panerai, Ferrante, & Zingale, 2002).

Interpretation of Findings

The face-to-face interviews and the EVANS checklist disclosed general-education

teachers' perceptions of mainstreaming and inclusion of students placed in their

classrooms. In addition, the data identified how teachers use differentiated instruction on

a daily basis in their classrooms. Also disclosed were barriers to differentiated instruction

such as old or nonexistent textbooks, lack of current differentiated lesson plans, and a

lack of training on how to work with children with autism in classrooms using

differentiated instruction. Interpretations of the findings provide conclusions addressing

the overarching question. According to Creswell (2014), researchers when interpreting

the responses to the interview questions need to consider the in-depth meanings that were

related to the purpose of the study. In the present study, I reflected on the teachers'

responses to questions concerning their perceptions of providing academic and social

experiences to children diagnosed with autism.

After reviewing the responses to the 12 interview questions, three themes

emerged from the data. The first theme focused on the lack of uniformity in teaching

students with ASD who were mainstreamed or included in general-education classrooms.

However, teachers were from different disciplines (classroom teachers, art teacher, music

teacher, along with a physical education and health teacher) and used different strategies

with students. Some of the lack of consistency in teaching strategies may reflect these different disciplines

Classroom teachers in different schools have challenges in providing instruction. Some of the teachers are using old textbooks that do not include strategies to differentiate instruction. Other teachers differentiate instruction, but cannot meet all of the instructional needs of their students with and without an ASD diagnosis because of the number of children in their classes. In addition to instructional problems, the teachers have to deal with behaviors associated with ASD. According to the interview comments, the teachers were trying to meet the needs of all of the children, although some were lacking the needed resources. For example, some of the children had an aide (FTK) who helped with the child with ASD in the classroom, while others did not have an FTK available.

Rohrer and Sampson (2014) offered 10 components for setting up a classroom for children with ASD. These components include the physical arrangement of the classroom; the organization of materials; schedules and behavioral strategies; visual strategies; goals, objectives, and lesson plans; instructional strategies; communication systems and strategies; communication with parents; and related services and other school staff. According to Rohrer and Sampson (2014), a well-designed classroom provides structure and informs children what learning is taking place. Although this type of classroom is ideal, many classrooms in older schools, such as the ones included in this study, are not large enough for various types of arrangements. Teachers in the present study do what they can with the materials and furniture they have.

The second theme aligned with acquiring differentiated lesson plans for all core subject areas. Some teachers had outdated textbooks not providing any suggestions for differentiating instruction, whereas the school district provided some teachers with specific differentiated lesson plans (e.g., in mathematics). New textbooks for all core subject areas with differentiated lesson plans would help improve consistency in teaching students with ASD in general-education classrooms.

Teachers attempt to differentiate instruction to develop a learning environment that meets the learning needs of each of their students (Tobin, 2008; Tomlinson, 1998). Differentiated instruction is defined as the integration of learning theory, learning styles, and brain development (Cid 2011; Tomlinson & Allan, 2000) and encourages students to demonstrate what they have learned specific to their learning preferences, strengths, and interests (Algozzine & Anderson, 2007; Leach, & Duffy, 2009; Simpson & Bogan, 2015). General education teachers are responsible for providing instruction to the full spectrum of learners in their classroom and are expected to use teaching strategies that promote academic and social success for all students regardless of their disabilities (Pickard 2008).

While differentiating instruction is a goal for all teachers, some teachers cannot differentiate instruction. For example, the music teacher have to have all children singing or playing the same song. The art teacher can have children working on different projects that reflect their interest and ability level, but with the number of students in his class, this differentiation can be difficult, especially when children with ASD are exhibiting negative behaviors. Classroom teachers may differentiate instruction in the core areas,

but are challenged by the number of students in their classrooms, the availability of a FTK aide to assist, and the textbooks that are available.

The third theme is the lack of specific training for general education teachers to work with children with ASD. The school district does provide ongoing professional development to meet the needs of all teachers. However, according to the teachers interviewed and surveyed, the district does not provide specific formal training for general-education teachers who teach students with ASD who have been mainstreamed or included in their classrooms. The school district would benefit students with ASD by recognizing the need for teachers to receive appropriate professional development helping them to apply best practices to better differentiate instruction in their classrooms for students with ASD. Three teachers had special-education training (between 1 and 40 hours). The school district provided no training, even though the number of children with autism in each general-education classroom varied between one and 11.

Few colleges and universities with teacher preparation programs offer courses in teaching children with ASD (Baker, 2012). Most university programs do not offer a specialization in Autism in their special education teacher preparation programs. Given this information, special education teachers lack a background in working with these children. General education teachers receiving little or no information on working with children with ASD. When students with ASD are mainstreamed or included in general education classrooms, teachers are ill-prepared to meet their needs. School districts should be responsible for providing professional development to teachers who are working with students with ASD to help them understand the condition, learn to

recognize behaviors associated with ASD, determine appropriate instructional strategies, and work effectively with parents. The school district that was used in this study does not provide these types of professional development to help their general education teachers become better prepared to teach all students regardless of disability.

Discussion of Findings

General education teachers in the present study are under pressure to work with students with varying abilities and social problems. Class sizes, especially in lower elementary grades, are increasing, as is the inclusion of children with ASD into their classes. Classroom teachers are expected to provide differentiated lessons to students in an attempt to help them be academically and socially successful. Barriers to teaching differentiated lessons in the classroom where children with ASD are mainstreamed or included in the classroom include large class size, inclusion of children with ASD in their classroom who are at various levels on the autistic spectrum, and lack of resources needed to differentiate instruction. Some teachers were using old textbooks that did not provide suggestions for differentiating instruction, while other teachers had access to some district materials that provided ways to offer different ways to present a lesson.

Four strategies to differentiate instruction have been discussed for teachers: (a) content, (b) process, (c) product, and (d) learning environment (Algozzine & Anderson, 2007; Simpson & Bogan, 2015). The *content* and describes how teacher adjust a lesson to ensure that all students regardless of disability status gain knowledge, understanding, and skills (Algozzine & Anderson, 2007; Simpson & Bogan, 2015). The *process* is concerned with the material in the lesson that is presented in a variety of ways to meet students'

learning styles. This strategy is based on the method that makes learning easiest for students to get knowledge, assimilate facts, concepts, and skills (Algozzine & Anderson, 2007; Simpson & Bogan, 2015).The *product* is the teachers' assessment of what the student has learned at the end of a lesson that indicates mastery of the lesson or unit content (Algozzine & Anderson, 2007; Simpson & Bogan, 2015). The *learning environment* is a description of the physical layout of the classroom, the way teachers use space, and the overall atmosphere of the classroom that provides opportunities for students' to interact with others in a safe and supportive learning environment (Tomlinson, 2014).

The teachers in the present study did not have access to the same books for the same core subjects. Some books were old, while others were newer. Some had suggestions for differentiating instruction with the others not providing these strategies. According to some teachers, the process for differentiating instruction for students with ASD has not been the subject of professional development for general education teachers by the school district. Without training to work with students with ASD, the teachers were trying to differentiate instruction, but lacked the theory and research needed to provide best practices in working with students with ASD. Teachers need to have authentic ways to assess student learning and mastery of the content of a lesson. Differentiated instruction is a method maximizing each student's growth and individual success by meeting each student at his or her level and helping the student in the learning process (NCAC, 2003).

Each teacher uses their own techniques in teaching autistic children. Uniform instructions or techniques do not exist. Art, music, health, and physical education teachers have no new or old books or lack differentiated lesson plans from the district. A teacher who teaches all core lessons, the language arts teacher and the science teacher, may have FTK paraprofessionals to help teach children with ASD in their classrooms. The art, music, physical education, and health teachers, in contrast, do not have FTK paraprofessionals to help with the students. If a child with ASD has an IEP designating an FTK paraprofessional, then the paraprofessional would go with the child to all classes. This model is beneficial for all students because it allows students with ASD to access the general curriculum, and provides instructional support for students without disabilities who may need added support (Obiakor, 2012).

Implications for Social Change

Results from this research study have implications for social change. This study can inform administrators of school districts of the need to use current resources and trainings to inform teachers of best practices in differentiating instruction in educational classrooms with children diagnosed with ASD. Students with ASD, as well as general-education students, can reap benefits from teachers using best practices in the classroom. Parents will be assured of an exemplary curriculum and lesson plans helping their children learn. This research study can help fill the gap in the literature of K–8 teachers' perceptions of mainstreaming and inclusion of students with ASD in their classrooms. The benefits of this study can be added to the literature on urban school districts and perceptions of general educators on mainstreaming and inclusion of students with autism.

Another benefit of this study is the study may help improve how teacher preparation programs across the country train teachers to use differentiated instruction with a focus on mainstreaming and including autistic children in a general education classroom.

Teaching children with ASD is no longer solely the responsibility of special-education teachers; general educators must meet the needs of students identified with ASD (Lewis & Doorlay, 2011). The increasing rate of autism combined with a shortage of special-education teachers has resulted in a paradigm shift in education prompted by all educators focusing on best practices to meet the needs of all children in their classrooms (Busby, Ingram, Bowron, Oliver, & Lyons, 2012).

Recommendations for Action

This research study used a phenomenological case-study approach to examine the phenomenon of urban general-education teachers' perspectives on teaching students with autism who have been mainstreamed or included in a general-education classroom. Recommendations for action were gleaned from findings through qualitative interviews and the EVANS checklist, providing data indicating the need for teacher training using best practices.

Teachers need professional development in best practices for teaching children with ASD who have been mainstreamed or included in a general education classrooms. This professional development should include best practices in the following in providing differentiated instruction for autistic children who have been mainstreamed or included in general-education classrooms. In addition to professional development, the school district

should provide teachers with lesson plans for differentiating instruction for children with ASD who have been mainstreamed or included in general education classrooms.

Teachers also need to be aware of the learning styles of all of their students and the need to differentiate instruction. However, in a real world with 30 students in a classroom, this may be difficult. Differentiating instruction is a goal that may be difficult to attain. While teachers can change assessments to accommodate the students with learning disabilities, including ASD, general education students need to be able to progress through the curriculum using the scope and sequence for their grade levels.

A last recommendation for action is the need for new textbooks, especially in science and social studies. The newer versions of these textbooks include suggestions for differentiating instruction for students with disabilities and for different learning styles. One teacher indicated that her science textbooks were old and did not include many of the discoveries of the last 20 years. New textbooks would make instruction more relevant for all students regardless of disability status.

Classroom management strategies should be a focus of professional development as children with ASD often exhibit behaviors that are different from children who have not been diagnosed with ASD. Children with ASD often act out when they are frustrated or upset. They can be disruptive and combative for no apparent reasons. Understanding these behaviors and recognizing triggers for them can improve the classroom environment.

The classroom design needs to be examined in determining the most beneficial layout for all students. While accommodations for children with ASD must be made,

concerns for the well-being of all children in the classroom must be considered. Several teachers in the study have made accommodations for their students with ASD, such as having them sit by her desk, allowing them to work alone when other students are working in groups, or removing them from the classroom when they are exhibiting inappropriate behaviors. The school principal should be apprised of how the teachers are planning their classrooms and help them with logistics associated with furniture and student activity centers.

As group activities are a major part of learning in an elementary classroom, teachers should plan the groups carefully. Students with ASD should be grouped with general education students to improve social skills of all students. Teachers need to be aware of the ability of the student with ASD to work with others, as some students with ASD have difficulties relating to other children. Some students with ASD may disrupt and impede the learning of the other children. One teacher in the study recommended allowing these students to work on their projects alone.

Limitations of the Study

Qualitative research typically uses small sample sizes limiting the generalizability of findings beyond the participants being studied. This research had a sample of eight teachers. The study used only teachers working in a single urban school district. The findings may not be generalizable beyond K–8 teachers in urban areas. Teachers included in this study had to have at least one student diagnosed with ASD now or in the past. Teachers who had a child with ASD in the past may have different attitudes from those of a teacher who is teaching at least one child with ASD in the current academic year. I

made great attempt to put aside prejudices and biases related to this study. I asked the interview questions and interpreted the responses as objectively as I could; however, it is possible some researcher biases affected interpretation of the findings.

Recommendations for Further Study

The present study was an exploration of how teachers in general education classrooms work with students with ASD who have been mainstreamed or included in their classes. Although the study provided valuable information on how teachers work with these students, added research is needed, since the number of children diagnosed with ASD continues to increase. School systems nationwide are under pressure to educate more children with autism.

The study should be replicated with a different sample of teachers, possibly at the high school level, to determine how they work with students diagnosed with ASD. High school teachers can provide a different perspective of how children with ASD are included in their classrooms. Teachers may use different techniques for older students to differentiate lessons and support student progress.

Action research on the strategies used by general-education teachers with students with ASD who are mainstreamed or included in their classrooms could be used to develop best-practice teaching strategies to improve educational outcomes for all students. Action research could include a greater number of teachers who meet the criteria for inclusion in the study. Using evidence of best-practice strategies could provide a basis for developing professional development programs to help teachers become more effective with their students with ASD.

The use of PBIS in classrooms with students with ASD should be the focus of further research. The initial research should focus on teachers' knowledge and awareness of PBIS to determine if additional professional development is needed to improve using PBIS in the classroom. Follow-up research could then be used to explore how using PBIS affects academic achievement and behavioral issues.

Reflections of the Researcher

As a former teacher in Grades K–8 I have taught students with special needs who were mainstreamed or included in the classroom based on their IEP. I am currently an administrator principal in a large urban school district in Michigan. My school has three classrooms for children diagnosed with autism from prekindergarten through eighth grade. I have experience working with and supervising general and special education teachers and paraprofessionals who have students with special needs mainstreamed or included in their classrooms. I also have personal connections to this study because I have a stepsister who was diagnosed with autism as a teenager. Before she received this diagnosis, she was given the antiquated term of mentally retarded.

Because of my prior experiences with children with special needs, I recognize I needed to control my biases when I conducted the interviews. I bracketed my personal biases as a sister, teacher, and administrator from this study because of my prior knowledge of the phenomenon, relations, and current position as principal for students with autism. As an educator who was assigned to general education classrooms, I taught students with special needs who were mainstreamed or included in my class without prior knowledge of their disabilities, presenting challenges. I recognize the need for

professional development of all teachers in general-education classrooms to increase their awareness and ability to work with children who have disabilities and are included with students without disabilities.

I conducted my interviews with teachers from other schools to remove any appearance of coercing teachers in my building to take part in this study. I was careful to explain the purpose of my study and the importance of providing honest, open answers to my questions. Teachers were allowed to skip any questions with which they were uncomfortable and encouraged to add any comments they thought would add to my study. Teachers were aware their information would remain confidential to ensure they could answer my questions thoughtfully and completely. In analyzing the data from teacher interviews, I was careful to look at their comments without bias. The conclusions drawn from the interviews and supported by the review of literature provide a picture of how teachers in the urban school district manage their classrooms when they have at least one child diagnosed with ASD.

Conclusions

The phenomenological case study allowed me to receive more in-depth knowledge of changes needed for students with autism. I explored the perceptions of K–8 urban general educators who teach students with autism to help add to the literature on this topic. According to CDC (2015), the prevalence of autism in general education classrooms is increasing, with the increase in the number of students with ASD in general education classrooms is becoming more prevalent in school districts nationally. Data from this case study can help local colleges and universities, intermediate school districts

including multiple school districts in a consortium for each county in the state, individual school districts, special-education departments, general education teachers, and administrators, to develop workshops and trainings on best practices and strategies for including and mainstreaming students with disabilities, specifically those diagnosed with ASD.

Findings from this study suggested a need for school districts to provide professional development for teachers on differentiating instruction to meet the instructional needs of all students. The school district should provide state of the art resources and books with differentiated lessons to help teachers work effectively with students who are mainstreamed or included in the general education classroom

Future studies on the inclusion and mainstreaming of students with disabilities is needed to ensure schools set up quality instructional practices for teachers in general-education classrooms. Teachers want students to be successful academically and socially. This research was important because provides strategies on how to improve instruction for students with ASD who have been included or mainstreamed into general-education classrooms. Understanding differentiation of instruction for students with ASD could increase students' mastery of the lessons being taught. All students with ASD who are mainstreamed or included in general-education classrooms should receive the most effective instruction to ensure a quality education. School districts should provide professional development and workshops on best practices for all general education teachers who have students with ASD placed in their classrooms.

References

Al-Ahmadi, N. (2009). Teachers' perspectives and attitudes towards integrating students

    with learning disabilities in regular Saudi public schools. (3371476, Ohio

    University). ProQuest Dissertations and Theses, 367-n/a. Retrieved from

    http://search.proquest.com/docview/304975397?accountid=14872. (304975397).

Alabado, R. R. (2010). Determining difference in equitable teacher treatment of

    elementary school inclusion students: A comparison of elementary school

    inclusion students with and students without IDEA services through an analysis of

    praise and desisting. (Order No. 3407509, Saint Joseph's University). Retrieved

    from http://search.proquest.com/docview/305250200?accountid=14872.

Algozzine, B., & Anderson, K. M. (2007). Tips for teaching: Differentiating instruction

    to include all students. *Preventing School Failure: Alternative Education for

    Children and Youth, 51*(3), 49-54. doi: 0.3200/PSFL.51.3.49-54

American Academy of Pediatrics. (2008). Identifying infants and young children with

    developmental disorders in the medical home: An algorithm for developmental

    surveillance and screening. *Pediatrics*, *118*(1), 405-456. doi: 10.1542/peds.2006-

    1231

American Psychiatric Association. (1980). *Diagnostic and Statistical Manual of Mental

    Disorders* (3rd ed.). Washington, DC: American Psychiatric Association.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental

    disorders* (4th ed.) Text Revision (DSM-IV-TR). Washington, DC: Author.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

Ashley, M., Hayes, B., & Salter, D. (2013). *Inclusion in middle Tennessee* (Order No. 3602477). Available from ProQuest Dissertations & Theses A&I. (1468695118). Retrieved from http://search.proquest.com./docview/1468695118?accountid=14925

Avramidis, E., & Norwich, B. (2002). Teachers' attitudes towards integration/inclusion: a review of the literature. *European Journal of Special Needs Education, 17*(2), 129-147. doi: 10.1080/08856250210129056

Autism and Developmental Disabilities Monitoring Network Surveillance (2007). Year 2000 Principal Investigators; Centers for Disease Control and Prevention. Prevalence of autism spectrum disorders—*Autism and Developmental Disabilities Monitoring Network*, six sites, United States 2000. MMWR Surveillance 56(1):1–11.

Autism Society of America. (2008). What is Autism? *Autism Advocate: The newsletter of the Autism Society of America*, 33, 39. Retrieved from http://www.autism-society.org/about-us/publications/autism-advocate.html

Autism Society of America. (2008). *Learning approaches*. Retrieved from http://support.autism-society.org/site/Search?query=learning+approaches&sa=Go&inc=10

Autism Society of America (2010). *Complementary approaches*. Retrieved from

    http://www.autism-society.org/Learning approaches of complementary.

Baker, C. (2012). *Preparing teachers for students with autism*. New Horizons for

    Learning. Retrieved from http://education.jhu.edu/PD/newhorizons/

    Journals/specialedjournal/BakerC

Baron-Cohen, S. Allen J., & Gillberg, C. (1992). Can autism be detected at 18 months?

    The needle, the haystack and the CHAT. *British Journal of Psychiatry*, *138,* 839-

    843. doi:10.1192/bjp.161.6.839

Barton, M. L., Dumont-Mathieu, T., & Fein, D. (2012). Screening young children for

    autism spectrum disorders in primary practice. *Journal of Autism and*

    Developmental Disorders, *42*(6), 1165-1174. doi: 10.1007/s10803-011-1343-5

Battaglia, A. A., & Radley, K. C. (2014). Peer-mediated social skills training for children

    with autism spectrum disorder. *Beyond Behavior*, *23*(2), 4-13. Retrieved from

    http://eric.ed.gov/?q=source%3a%22Beyond+Behavior%22&id=EJ1064167

Bender, W. N. (2012). *Differentiating instruction for students with learning disabilities:*

    New best practices for general and special educators (3rd Ed.). Thousand Oaks,

    CA: Corwin.

Bondy, A., & Frost, L. (1994). The Picture Exchange Communication System. *Focus on*

    Autistic Behavior, 9(3), 1-19. doi:10.1177/108835769400900301

Boyd, B. A., Odom, S. L., Humphreys, B. P., & Sam, A. M. (2010). Infants and toddlers

    with autism spectrum disorders. Early identification and early intervention.

    Journal of Early Intervention, 32(2), 75-98. doi:10.1177/1053815110362690

Branson, D. V., Vigil, D.C., Bingham, A. (2008). Community childcare providers' role in the early detection of autism spectrum disorders. Early Childhood Education Journal, 35, 523-530. doi: 10.1007/s10643-008-0243-6.

Breeman, L. D., Wubbels, T., van Lier, P. A. C., Verhulst, F. C., Van der Ende, J., Maras, A., ... & Tick, N. T. (2015). Teacher characteristics, social classroom relationships, and children's social, emotional, and behavioral classroom adjustment in special education. *Journal of School Psychology, 53*(1), 87-103. doi:10.1016/j.jsp.2014.11.005

Breidbord, J., & Croudace, T. J. (2013). Reliability generalization for childhood autism rating scale. *Journal of Autism and Developmental Disorders, 43*(12), 2855-2865. Doi: 10.1007/s10803-013-1832-9

Bruce, J. R. (2010). Teachers' perceptions of the inclusion of students with disabilities in the general education classroom. Tennessee State University). Retrieved from http://search.proquest.com/docview/839307309?accountid=14872. (839307309).

Bruey, C.T. (2004). *Demystifying Autism Spectrum Disorders: A Guide to Diagnosis for Parents and Professionals.* Bethesda, MD: Woodbine House.

Bruner, J. (1996). *The Culture of Education*. Cambridge, MA: University Press.

Buell, M. J., Hallam, R., Gamel-McCormick, & Scheer, S. (1999). A survey of general and special education teachers' perceptions and inservice needs concerning inclusion. *International Journal of Disability, Development and Education, 46,* 143-156. doi**:** 10.1080/103491299100597

Busby, R., Ingram, R., Bowron, R., Oliver, J., & Lyons, B. (2012). Teaching elementary

children with autism: Addressing teacher challenges and preparation needs. *The

Rural Educator, 33*(2). Retrieved from

<http://epubs.library.msstate.edu/index.php/ruraleducator/ article/view/146>

Camargo, S. P. H., Rispoli, M., Ganz, J., Hong, E. R., Davis, H., & Mason, R. (2014). A

review of the quality of behaviorally-based intervention research to improve

social interaction skills of children with ASD in inclusive settings. *Journal of

Autism and Developmental Disorders*, *44*(9), 2096-2116. Doi: 10.1007/s10803-

014-2060-7

Carter, M. T., & Scherer, S. W. (2013). Autism spectrum disorder in the genetics clinic:

A review. *Clinical Genetics*, *83*(5), 399-407. doi: 10.1111/cge.12101

Centers for Disease Control and Prevention (2005). *Autism classification estimates*.

Retrieved from http://www.cdc.gov/ncbddd/autism/asd_common.htm.

Centers for Disease Control and Prevention. (2007). Prevalence of Autism Spectrum

Disorders — Autism and Developmental Disabilities Monitoring Network, 14

Sites, United States, 2002. *MMWR Surveillance Summaries 56*(SS1);12-28.

Retrieved from http://www.cdc.gov/mmwr/PDF/ss/ss5601.pdf

Centers for Disease Control and Prevention. (2010). *Autism information center*. Retrieved

from http://www.cdc.gov/ncbddd/autism/

Centers for Disease Control and Prevention. (2011). *How common are autism spectrum

disorders [ASD).* Retrieved from http://www.cdc.gov/ncbddd/autism/

asd_common.htm

Centers for Disease Control and Prevention (2013). *Data & Statistics*. Retrieved from

http://www.cdc.gov/ncbddd/autism/data.html

Chakrabarti, S., Haubus, C., Dugmore, S., Orgill, G., Devine, F. (2005). A model of early

detection and diagnosis of autism spectrum disorder in young children. *Infants &*

Young Children, 18(3), 200-211. Retrieved from

http://faculty.buffalostate.edu/schuetp/417/ Assessment)%20Article%203.pdf

Chan, J. M. (2009). Pre-service teacher-implemented social stories' intervention for

students with autism spectrum disorders in general education settings. (Order No.

3372500, The University of Texas at Austin). Retrieved from

http://search.proquest.com/docview/305005536?accountid=14872.

Cid, M. R. (2011). *Assessing motor skills as a differentiating feature between high*

functioning autism and Asperger's disorder (Order No. 3397662). Available from

ProQuest Dissertations & Theses A&I. (194133131). Retrieved from

http://search.proquest.com. /docview/194133131?accountid=14925

Cordoves, J. L. (2013). A concurrent mixed method study of preservice teachers' attitudes

toward the inclusion of students with autism in general education classrooms.

Retrieved from

http://search.proquest.com/docview/1462885125?accountid=14872.

Costley, D., Clark, T., & Bruck, S. (2014). The Autism Spectrum Disorder Evaluative

Education Model. *SAGE Open*, *4*(4), 2158244014556640. doi:

10.1177/2158244014556640

Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions.* Thousand Oaks, CA. Sage Publications, Inc.

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods. approaches* (2nd ed.) Thousand Oaks, CA: Sage Publications.

Creswell, J. W. (2013). *Qualitative inquiry and research design*. *Choosing among five approaches*. Thousand Oaks, CA: Sage.

Crosland, K., & Dunlap, G. (2012). Effective strategies for the inclusion of children with autism in general education classrooms. *Behavior Modification. 36*(3), 251-269. doi: 10.1177/0145445512442682

Davidovitch, M., Hemo, B., Manning-Courtney, P., & Fombonne, E. (2013). Prevalence and incidence of autism spectrum disorder in an Israeli population. *Journal of autism and developmental disorders*, *43*(4), 785-793.

Dawson, G., Rogers, S., Munson, J., Smith, M., Winter, J., Greenson, J., Varley, J. (2010). Randomized, controlled trial of an early intervention for toddlers with autism: The Early Start Denver Model. *Pediatrics, 125*(1), e17-23. doi: 10.1542/peds.2009-0958. Epub 2009 Nov 30

Denardo, A., & Levers, L. L. (2002). *Using Nvivo to analyze qualitative data*. Paper presented at the 2002 14th Annual Conference on Ethnographic and Qualitative Research in Education. Retrieved from http://www.education.duq.edu/institutes/PDF/papers2002/ DeNardo&Levers.pdf

Douglas, M. M. (2009). *Social interactions of students with autism in general physical education* (Order No. 3381117). Available from ProQuest Dissertations & Theses A&I. (304943628). Retrieved from

http://search.proquest.com./docview/304943628? accountid=14925

Dunlap, G., Iovannone, R., & Kincaid, D. (2008). Essential components for effective educational practices. In J. Luiselli, D. C. Russo, W. P. Christian, & S. M. Wilczynski (Eds.), *Effective practices for children with autism: Educational and behavior support interventions that work* (pp. 111-136). New York, NY: Oxford University Press.

Dunn, J. M. & Leitschuh, C. A. (2006). *Special physical education*. Dubuque, IA: Kendall/Hunt.

Duby, J. C. & Johnson, C. P. (2009). Universal screening for autism spectrum disorders : A snapshot within the big picture. *Pediatric Annals, 38*(1), 36-41. doi:10.3928/00904481-20090101-03

Ferraioli, S. J., & Harris, S. L. (2011). Effective educational inclusion of students on the autism spectrum. *Journal of Contemporary Psychotherapy, 41*(1), 19-28. doi: 10.1007/s10879-010-9156-y

Filipek, P. A., Accardo, P. J., Baranek, G. T., Cook, E. H. Jr., Dawson, G., Gordon, B. . . Volkmar, F. R. (1999). The screening and diagnosis of autistic spectrum disorders. *Journal of Autism and Developmental Disorder*. 29(6) 439-484. doi: 10.1023/A:1021943802493

Fombonne, E. (2005). The changing epidemiology of autism. *Journal of Applied Research in Intellectual Disabilities, 18*(4), 281-294. doi: 10.1111/j.1468-3148.2005.00266.x

Frith, U. (Eds.) (1991). *Autism and Asperger syndrome*. Cambridge, UK: Cambridge University Press.

Frost, L., & Bondy, A. (2002). *The Picture Exchange Communication System training manual* (2nd ed.). Newark, DE: Pyramid Educational Consultants, Inc.

Fryxell, D., & Kennedy, C. H. (1995). Placement along the continuum of services and its impact on students' social relationships. *Journal of the Association for Persons with Severe Handicaps*, *20*(4), 259-269. Retrieved from http://tash.org/about/publications/

Gehrke, R. S., & Cocchiarella, M. (2013). Preservice special and general educators' knowledge of inclusion. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children*, *36*(3), 204-216. doi: 10.1177/0888406413495421

Gehrke, R. S., Cocchiarella, M., Harris, P., & Puckett, K. (2014). Field Experiences and Perceptions of Inclusion: Varying Contexts, Structures, and Interpretations. *Topical Issue: Inclusion from Around the World, 15*(2), 85-93. Retrieved from http://iase-biz1.webs.com/Publications/2014%20JIASE%20TOPICAL%20 EDITION%20FINAL.pdf#page=87

Goin, R. P., & Myers, B. J. (2004). Characteristics of infantile autism: Moving toward

earlier detection. *Focus on Autism and Other Developmental Disabilities*, *19*(1),

5-12. doi:10.1177/10883576040190010201.

Gordon, T. R. (2013). *Attitudes regarding inclusion among general education teachers at

the elementary level* (Order No. 3560670). Available from ProQuest Dissertations

& Theses A&I. (1357147890). Retrieved from http://search.proquest.com.

docview/1357147890?accountid=14925

Guarino, L., Roger, D., & Olason, D.T. (2007). Restructuring : A new approach to

measuring emotional sensitivity. *Curriculum Psychology, 26*, 37-45. doi:

10.1007/s12144-007-9004-8

Guskey, T. R. (1999). New Perspectives on Evaluating Professional Development.

Retrieved from http://eric.ed.gov/?id=ED430024

Guskey, T. R. (2002). Professional development and teacher change. *Teachers and

Teaching: Theory and Practice, 8*(3), 381-391. doi:

10.1080/135406002100000512

Guskey, T. R. (2010). Lessons of Mastery Learning. *Educational Leadership, 68*(2), 52-

57. Retrieved from http://eric.ed.gov/?id=EJ913779

Guskey, T. R., & Yoon, K. S. (2009). What works in professional development. *Phi

Delta Kappan, 90*(7), 495-500. Retrieved from http://outlier.uchicago.edu/

computerscience/ OS4CS/landscapestudy/resources/Guskey-and-Yoon-2009.pdf

Harris , K. R., & Alexander, P. A. (1998). Integrated constructivist education: Challenge and reality. *Psychology Review, 10*(2), 115-127. doi: 1040-726x/98/0600-0115s15.00/0

Harrower, J. K., & Dunlap, G. (2001). Including children with autism in general education classrooms: A review of effective strategies. *Behavior Modification*, *25*(5), 762–784. doi: 10.1177/0145445501255006

Hartley, S.L., & Sikora, D.M. (2009). Sex differences in autism spectrum disorders: An examination of developmental functioning, autistic symptoms, and coexisting behavior problems in toddlers. *Journal of Autism Developmental Disorders, 39*, 1715-1722. doi: 10.1007/s10803-009-0810-8.

Hatch, J. A. (2002). *Doing qualitative research in educational settings*. Albany: State University of New York Press.

Hebbeler, K., Spiker, D., Mallik, S., Scarborough, A., & Simeonsson, R. (2003). *National early intervention longitudinal study: Demographic characteristics of children and families entering early intervention* (NEILS Data Report No. 3). Menlo Park, CA: SRI International.

Hepburn, S.L., DiGuieppi, C., Rosenberg, S., Kaparich, K., Robinson, C., & Miller, L. (2008). Use of a teacher nomination strategy to screen for autism spectrum disorders in general education classrooms: A pilot study. *Journal of Autism Developmental Disorders, 38*, 373-382. doi: 10.1007/s10803-007-0404-2

Hertz-Picciotto, I., & Delwiche, L. (2009). The rise in autism and the role of age at diagnosis. *Epidemiology, 20*, 84-90. doi: 10.1097/EDE.0b013e3181902d15

Hill, A. P., Zuckerman, K., & Fombonne, E. (2015). Epidemiology of autism spectrum disorders. In M. de los Angeles Robinson-Agramonte *Translational Approaches to Autism Spectrum Disorder* (pp. 13-38). New York: Springer International Publishing.

Jo, H., Schieve, L. A., Rice, C. E., Yeargin-Allsopp, M., Tian, L. H., Blumberg, S. J., ... & Boyle, C. A. (2015). Age at autism spectrum disorder (ASD) diagnosis by race, ethnicity, and primary household language among children with special health care needs, United States, 2009–2010. *Maternal and Child Health Journal*, *19*(8), 1687-1697. doi: 10.1007/s10995-015-1683-4

Horrocks, J.L., White, G., & Roberts, L. (2008). Principal's attitudes regarding inclusion of children with autism in Pennsylvania Public Schools. *Journal of Autism Developmental Disorders, 38*, 1462-1473. doi:10.1007/s10803-007-0522-x

Hulett, K. E. (2009). *Legal aspects of special education* (1st ed.). Upper Saddle River, NJ: Pearson Education, Inc.

Hutton, A.M., & Caron, S.L. (2005). Experiences of families with children with autism in rural New England. *Focus on Autism and other Developmental Disabilities. 20*(3), 180-189. doi: 10.1177/10883576050200030601

Idol, L. (1997). Key questions related to building collaborative and individual schools. *Journal of Learning Disabilities, 30*, 384-394. doi:10.1177/002221949703000405

Idol, L. (2006). Toward inclusion of special education: A program evaluation of eight schools. *Remedial & Special Education, 27,*77–94. doi: 10.1177/07419325060270020601

Individuals with Disabilities Education Act of 1990, 20 U.S.C. & 1401 *et. seq.*

Individuals with Disabilities Education Act: Amendment of 1997. Pub Law No. 105-17, 111 Stat 38 (1997).

Individuals With Disabilities Education Improvement Act of 2004 (Pub. L. No. 108-446, 118 Stat. 2647).

Individuals with Disabilities Education Improvement Act of 2004, 20 U.S.C. § 1400 et seq.

Iovannone, R., Dunlap, G., Huber, H., & Kincaid, D. (2003). Effective educational practices for students with autism spectrum disorders. *Focus on Autism and Other Developmental Disorders, 18*(3). 150-165. doi:10.1177/10883576030180030301

Jimenez, B. A., & Kamei, A. (2015). Embedded instruction: An evaluation of evidence to inform inclusive practice. *Inclusion*, *3*(3), 132-144. doi: 10.1352/2326-6988-3.3.132.

Kalkbrenner, A. E., Daniels, J. L., Emch, M., Morrissey, J., Poole, C., & Chen, J. C. (2011). Geographic access to health services and diagnosis with an autism spectrum disorder. *Annals of epidemiology*, *21*(4), 304-310. doi:10.1016/j.annepidem.2010.11.010

Kanner, L. (1943). Autistic Disturbances of Affective Contact. *Nervous Child 2,* 217-250. Retrieved from http://www.ama.org.br/kannereng12.htm.

Kern, J. K., Geier, D. A., Sykes, L. K., & Geier, M. R. (2013). Evidence of neurodegeneration in autism spectrum disorder. *Translational neurodegeneration,* *2*(1), 1-6. doi: 10.1186/2047-9158-2-17

Kogan, M. D., Blumberg, S. T., Schieve, L. A., Boyle, C. A., Perrin, J. M., Ghandour, R. M., . . . van Dyck, P. C. (2009). Prevalence of parent-reported diagnosis of autism spectrum disorder among children in the US, 2007. *Journal of the American Academy of Pediatrics, 124,* 1395-1403. doi: 10.1542/peds.2009-1522

Kopetz, P. B., & Endowed, E. D. (2012). Autism worldwide: Prevalence, perceptions, acceptance, action. *Journal of Social Sciences, 8*(2), 196-201. Retrieved from http://thescipub.com/PDF/jssp.2012.196.201.pdf

Kozleski, B., Pugach, M., & Yinger, R. (2002, February). *Preparing teachers to work with students with disabilities: Possibilities and challenges for special and general teacher education.* White Paper. Washington, DC: American Association of Colleges for Teacher Education. (ERIC Document Reproduction Service No. ED 468 743).

Leach, D., & Duffy, M. L. (2009). Supporting students with autism spectrum disorders in inclusive settings. *Intervention in School and Clinic, 45*(1), 31-37. doi: 10.1177/1053451209338395

Ledford, J. R., & Wehby, J. H. (2015). Teaching children with autism in small groups with students who are at-risk for academic problems: Effects on academic and social behaviors. *Journal of Autism and Developmental Disorders, 45*(6), 1624-1635. doi: 10.1007/s10803-014-2317-1

Levy, S.E., Mandell, D.S., Merhar, S., Ittenbach, R.F., & Pinto-Martin, J.A. (2003). Use of complementary and alternative medicine among children recently diagnosed with autistic spectrum disorders. *Journal of Developmental and Behavioral Pediatrics, 24*, 418-424. Retrieved from http://journals.lww.com/jrnldbp/Abstract/2003/12000/Use_of_Complementary_and_Alternative_Medicine.3.aspx

Lincoln, Y.S., & Guba, E.G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.

Lorah, E. R., Tincani, M., Dodge, J., Gilroy, S., Hickey, A., & Hantula, D. (2013). Evaluating picture exchange and the iPad™ as a speech generating device to teach communication to young children with autism. *Journal of Developmental and Physical Disabilities, 25*(6), 637-649. Doi: 10.1007/s10882-013-9337-1

Lord, C. (2000). Commentary: Achievements and future directions for intervention research in communication and autism spectrum disorders. *Journal of Autism and Developmental Disorders, 30*(5), 393–398. doi: 10.1023/A:1005591205002

Lytle, R. K., & Bordin, J. (2001). Enhancing the IEP team: Strategies for parents and professionals *Teaching Exceptional Children, 55*(5), 40-44.

Mandell, D., Listerud, J., Levy, S., & Pinto-Martin, J. (2002). Race differences in the age at diagnosis among medical eligible children with autism. *Journal of the American Academy of Child and Adolescent Psychiatry*, *41*(12), 1447-1453. doi:10.1097/00004583-200212000-00016

Mandell, D., & Novak, M. (2005). The role of culture in families' treatment decision for children with autism spectrum disorders. *Pediatrics*, *116* (6), 1480-1486.

Mandell, D. S., Wiggins, L. D., Carpenter, L. A., Daniels, J., DiGuiseppi, C., Durkin, M. S., ... & Shattuck, P. T. (2009). Racial/ethnic disparities in the identification of children with autism spectrum disorders. *American Journal of Public Health, 99*(3), 493-498.doi:10.2105/AJPH.2007.131243

Mandy, W., Chilvers, R., Chowdhury, U., Salter, G., Seigal, A., & Skuse, D. (2012). Sex differences in autism spectrum disorder: evidence from a large sample of children and adolescents. *Journal of Autism and Developmental Disorders*, *42*(7), 1304-1313. doi: 10.1007/s10803-011-1356-0

Manning, S. E., Davin, C. A., Barfield, W. D., Kotelchuck, M., Clements, K., Diop, H., Smith, L. A. (2011). Early diagnosis of autism spectrum disorders in Massachusetts birth cohorts, 2001-2005. *Pediatrics, 127*, 1043-1051.

Marder, T., & Fraser, D. (2012). Evidence-based practice for special educators teaching students with autism. *Special Education Journal*, John Hopkins University School of education. Retrieved from http://www.education.jhu.edu/PD/newhorizons/Journals/specialedjournal/ MarderandFraser

Markowitz, J., Bitterman, A., Dailey, T.C., Misra, S., & Carlson, F. (2006). A national sample of preschoolers with autism spectrum disorders: Special education services and parent satisfaction. *Journal of Autism Developmental Disorders, 38,* 1509-1571. doi:10.1007/s/10803-007-0531-9

Markowitz, J., Carlson, E., Frey, W., Riley, J., Shimshak, A., Heinzen, H., . . . Hyunshik, L. (2006). Preschoolers with disabilities: Characteristics, services, and results, Wave I overview report from the *Pre-Elementary Education Longitudinal Study (PEELS).* Rockville, MD: Westat. Retrieved from http://files.eric.ed.gov/ fulltext/ED495723.pdf

Marshall, C., & Rossman, G. B. (1999). *Designing qualitative research* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Martin, G. (2010). Inclusive classrooms: An examination of the attitudes and perspectives of K-5 general education teachers. (Order No. 3405889, Northcentral University)

Mays, N and Pope, C. (1995) Rigour and qualitative research. *British Medical Journal* 311: 109-12

Merriam, S. (1988). *Case study research in education: A qualitative approach.* San Francisco, CA: Jossey-Bass.

Merriam, S.B. (1988). *Qualitative research and case study applications in education. Revised and expanded from case study research in education.* San Francisco, CA: Jossey-Bass.

Merriam, S.B., & Associates (2002). *Qualitative research in practice: Examples for discussion and analysis.* San Francisco, CA: Jossey-Bass.

Merriam, S., & Associates (2002). *Qualitative research in practice: Examples for discussion and analysis.* San Francisco, CA: John Wiley & Sons, Inc.

Merriam, S.B. (2009). *Qualitative research: A guide to design implementation.* San Francisco, CA: Jossey-Bass.

Montgomery, J. M., Stoesz, B. M., & McCrimmon, A. W. (2013). Emotional

    intelligence, theory of mind, and executive functions as predictors of social

    outcomes in young adults with Asperger syndrome. *Focus on Autism and Other*

    Developmental Disabilities, *28*(1), 4-13. doi: 10.1177/1088357612461525

Moores-Abdool, W. (2010). Included students with autism and access to general

    curriculum: What is being provided? *Issues in Teacher Education*, *19*(2), 153-

    169.

Morrier, M. J., Hess, K. L., & Heflin, L. J. (2011). Teacher training for implementation

    of teaching strategies for students with Autism spectrum disorders. *Teacher*

    Education and Special Education, 34(2), 119-132.

Nadel S., & Poss, J.E. (2007). Early detection of autism spectrum disorders: Screening

    between 12 and 24 months of age. *Journal of the American Academy of Nurse*

    Practitioners, 19(8), 408.

National Center for Education Statistics (2011). Digest of Education Statistics. Retrieved

    from http://nces.ed.gov/programs/digest/d11/tables/dt11_047.asp

National Center for Education Statistics (2012). Students with disabilities. Retrieved from

    http:/nces.ed.gov/fastfacts/display.asp?id=64

National Information Center for Children and Youth with Disabilities (NICHCY). 2001.

    General information about learning disabilities. Retrieved from

    http://www.NICHCY.org/public/factshe/fs17txt.htm.

No Child Left Behind Act of 2001. (2002). 20 U.S.C. & 6301 *et seq.*

Obiakor, F. E., Harris, M., Mutua, K., Rotatori, A., & Algozzine, B. (2012). Making inclusion work in general education classrooms. *Education & Treatment of Children*, *35*(3), 477-490. doi: 10.1353/etc.2012.0020

Osterling, J., & Dawson, G. (1994). Early recognition of children with autism: A study of first birthday home videos. *Journal of Autism and Developmental Disorders*, *24*, 247-257. doi: 10.1007/BF02172225

Overton,T., Fielding, C., Garcia de Alba, R. (2007). Differential diagnosis of Hispanic children referred for Autism Spectrum Disorders: Complex issues. *Journal of Autism and Developmental Disorders, 37*, 1996–2007. doi: 10.1007/s10803-006-0349-x

Palmer, R.F., Blanchard, S., Jean, C.R., & Mandell, D.S. (2005). School district resources and identification of children with autistic disorders. *American Journal of Public Health, 95*(1), 125-130. doi: 10.2105/AJPH.2003.023077

Panerai, S., Ferrante, L., & Zingale, M. (2002). Benefits of the treatment and education of autistic and communication handicapped children (TEACCH) programme as compared with a non-specific approach. *Journal of Intellectual Disability Research, 46*(4), 318-327. doi: 10.1046/j.1365-2788.2002.00388.x

Peacock, G., & Yeargin-Allsopp, M. (2009). Autism spectrum disorders: Prevalence and vaccines. *Pediatric Annals, 38*(1), 22-25. doi: 10.3928/00904481-20090101-09

Pedersen, A., Pettygrove, S., Meaney, F. J., Mancilla, K., Gotschall, K., Kessler, D. B., ... & Cunniff, C. (2012). Prevalence of autism spectrum disorders in Hispanic and

non-Hispanic white children. *Pediatrics, 129*(3), e629-e635. doi:10.1542/peds.2011-1145

Ramey,S.L., & Ramey, C.T. (1998). The transition to school: Opportunities and challenges for children, families, educators, and the communities. *The Elementary School Journal, 98*(4), 293-295.

Robertson, K., Chamberlain, B., & Kasari, C. (2003). General education teachers' relationship with included students with autism. *Journal of Autism and Developmental Disabilities, 33*(2), 123-130.

Robins, D., Fein, D., Baron, M. & Green, J. (2001). The modified checklist for autism in toddlers: An initial study investigating the early detection of autism and pervasive developmental disorders. *Journal of Autism and Developmental Disorders*, *31,* 131-144.

Robins, D., & Dumont-Mathieu, T. (2006). Early screening for autism spectrum disorders: Update on the modified checklist for autism in toddlers and other measures. *Journal of Developmental & Behavioral Pediatrics, 27*(Supplement 2), S111–S119.

Rogers, S. (1998). Empirically supported comprehensive treatments for young children with autism. *Journal of Clinical Child Psychology*, 27(2), 168–179.

Rohrer, M. W., & Sampson, N. R. (2014). *10 Critical Components for Success in the Special Education Classroom*. Thousand Oaks, CA: Corwin Press.

Rossman, G. B., Rallis, S. F. (1999). *Learning in the field: An introduction to qualitative research.* Thousand Oaks, CA: Sage.

Rothe, E. M., Lewis, J. E., Aftab, A., Mehdi, S., Lages, L., Sharma, R., ... & De Ray, M. (2016). An assessment of comorbidity and social demographics in a primarily African-American and Hispanic population of boys with ADHD treated in psychiatric/non-psychiatric and public/private clinics in Miami, Florida. *Journal of Child and Adolescent Behavior, 4*(277), 1-7. doi: 10.4172/2375-4494.100027

Rubin, H.J. & Rubin, I.S. (2005). *Qualitative interviewing: the art of hearing data.* (2nd ed.). Sage Publications, Thousand Oaks, CA.

Rutter, M., Le Couteur, A., & Lord, C. (1991). *Autism diagnostic interview, revised, toddler form.*

Rutter M. *(* 2005). Incidence of autism spectrum disorders: Changes over time and their meaning. *Acta Paediatrica*, 94(1), 2-15.

Safran, J. (2002). Supporting students with Asperger's Syndrome in general education. *Teaching Exceptional Children, 34*(5), 60-66.

Samson, A. C., Huber, O., & Gross, J. J. (2012). Emotion regulation in Asperger's syndrome and high-functioning autism. *Emotion*, *12*(4), 659. doi: 10.1037/a0027975

Schopler, E., & Reichler, J. (1980). Toward Objective Classification of Childhood Autism: Childhood Autism Rating Scale (C.A.R.S.). *Journal of Autism and Developmental Disorders, 10*, 91-103.

Schopler, E., Reichler, R. J., & Renner, B. R. (1998). *The childhood autism rating scale (CARS)*. Los Angeles, CA: Western Psychological Services.

Schwartz, I. S., Sandall, S. S., McBride, B. J., Boulware, G. (2004). Project data (Developmentally appropriate treatment for autism): An inclusive school-based approach to educating young children with autism. *Topics in Early Childhood Special Education*, *24*(3), 156-168.

Schwartz, I. S., & Randall, S. R. (2010). Is autism the disability that breaks part C? A commentary on "infants and toddlers with autism spectrum disorder: Early identification and early intervention," by Boyd, Odom, Humphreys, and Sam. *Journal of Early Intervention, 32*, 105-109. doi: 10.1177/10538185110366698.

Scruggs, T. E., & Mastropieri, M. A. (1996). Teacher perceptions of mainstreaming/inclusion, 1958-1995: A research synthesis. *Exceptional Children, 63*(1), 59-74.

Simeonsson, R. J. (1991). Primary, secondary, and tertiary prevention in early intervention. *Journal of Early Intervention, 15*(2), 124-134. doi: 10.1177/105381519101500202

Simpson, J., & Bogan, B. (2015). Searching for a Common Language on Differentiated Instruction. *Journal of Education and Human Development*, *4*(2), 34-40. doi: 10.15640/jehd.v4n2a4

Simpson, R. L. (2005). Evidence-based practices and students with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, *20*, 140–149.

Simpson, R. L., de Boer-Ott, S. R., & Smith-Myles, B. (2003). Inclusion of learners with autism spectrum disorders in general education settings. *Topics in Language Disorders*, *23*(2), 116–133.

Smith, D. D. (2012). *Steps in the IEP Process*. Retrieved from

http://www.education.com/ reference/article/steps-individualized-education-

program-IEP/

Stake, R.E. (1995). *The Art of Case Study Research: Perspective in Practice*. London:

Sage.

Strain, P. S., & Bovey, E. H. (2011). Randomized, controlled trial of the LEAP model of

early intervention for young children with autism spectrum disorders. *Topics in

Early Childhood Special Education*, 31, 133-154.

doi:10.1177/0271121411408740

Strain, P. S., Schwartz, I. S., & Barton, E. E. (2011). Providing interventions for young

children with autism spectrum disorders: What we still need to accomplish.

Journal of Early Intervention, *33*(4), 321-332. doi: 10.1177/1053815111429970

Talib, T. L., & Paulson, S. E. (2015). Differences in competence and beliefs about autism

among teacher education students. *The Teacher Educator*,*50*(4), 240-256. **doi:**

10.1080/08878730.2015.1072259

Tchaconas, A., & Adesman, A. (2013). Autism spectrum disorders: a pediatric overview

and update. *Current opinion in pediatrics, 25*(1), 130-143. doi:

10.1097/MOP.0b013e32835c2b70

Tek, S., & Landa, R. J. (2012). Differences in autism symptoms between minority and

non-minority toddlers. *Journal of Autism and Developmental Disorders, 42*(9),

1967-1973. doi: 10.1007/s10803-012-1445-8

The No Child Left behind (NCLB) Act of 2001, Pub. L. No. 107-11-, S 115, Stat. 1425 (2002).

Thompson, M. (2013). Inclusive practices for the general music classroom. (Order No. 1549033, Southern Illinois University at Carbondale. Retrieved from http://search.proquest.com/docview/1475248025?accountid=14872. (1475248025).

Tissot, C. & Evans, R. (2003). Visual teaching strategies for children with autism. *Early Child Development and Care*, *173*(4), 425-433.

Tomlinson, C.A. (2004). How to differentiate instruction in mixed-ability classrooms (2nd Ed.). Alexandria, VA; Association for Supervision and Curriculum Development.

Tomlinson, C. A. (1998). *How to differentiate instruction in mixed-ability classrooms* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Tomlinson, C. A. (2014). *The differentiated classroom: Responding to the needs of all learners* (2nd Ed,). Alexandria, VA: Association for Supervision & Curriculum Development.

Tomlinson, C. & Allan, S. D. (2000). *Leadership for differentiating schools and classrooms.* Alexandria, VA: Association for Supervision and Curriculum Development.

Tsai, L. Y. (2013). Asperger's disorder will be back. *Journal of Autism and Developmental Disorders, 43*(12), 2914-2942. doi: 10.1007/s10803-013-1839-2

Turner, D. (2010). Qualitative interview design: A practical guide for novice

    investigators. *The Qualitative Report, 15*(3), 754-760. Retrieved from

    http://www.nova.edu/ssss/QR/QR15-3/qid.pdf

Turnipseed, P. & McGowan, M. (2013). The Development and Field-testing of an

    Inclusion Q-Sort to Measure Teacher Perceptions of Inclusion. In R. McBride &

    M. Searson (Eds.), Proceedings of Society for Information Technology & Teacher

    Education International Conference 2013 (pp. 4271-4278). Chesapeake, VA:

    AACE. Retrieved February 23, 2014 from http://www.editlib.org/p/48798.

Tutt, R., Powell, S., & Thornton, M. (2006). Educational approach in autism: What we

    know about what we do. *Educational Psychology in Practice, 22*(1), 69-81.

U.S. Department of Education Office of Special Education and Rehabilitative Services.

    (2005). 27th Annual report to congress on the implementation of the Individuals

    with Disabilities Education Act, 2005, vol.1. Washington, D.C.: Author.

U.S. Department of Education. (2009). Office of Special Education Programs (OSEP).

    Thirty years of progress in educating children with disabilities through IDEA.

    Retrieved from http://www2.ed.gov/policy/speced/leg/idea/history30.html

U.S. Department of Health and Human Services (2009), Health Resources and Services

    Administration, Bureau of Health Professions, Evaluation and Analysis Branch.

    Area resource file (ARF). Retrieved from http://www.arfsys.com.

Valicenti-McDermott, M., Hottinger, K., Seijo, R., & Shulman, L. (2012). Age at

    diagnosis of autism spectrum disorders. *The Journal of Pediatrics, 161*(3), 554-

    556. doi:10.1016/j.jpeds.2012.05.012

Varcoe, L., & Boyle, C. (2014). Pre-service primary teachers' attitudes towards inclusive education. *Educational Psychology*, *34*(3), 323-337. doi: 10.1080/01443410.2013.785061

Verhoeff, B. (2013). Autism in flux: A history of the concept from Leo Kanner to DSM-5. *History of Psychiatry, 24*(4), 442-458. doi: 10.1177/0957154X13500584

Volkmar, F.R. (2005). International perspectives. In F. R. Volkmar, R. Paul, A. Klin, & D. J. Cohen (Eds.), *Handbook of autism and pervasive developmental disorders* (3rd ed.; pp. 1193- 1252). New York, NY: Wiley.

Volkmar, F., Chawarska, K., & Klin, A. (2005). Autism in infancy and early childhood. *Annual Review of Psychology*, 56, 315–336.

Volkmar, F. R., Klin, A., Siegel, B., Szatmari, P., Lord, C., Campbell, M., . . . & Towbin, K. (1994). Field trial for autistic disorder in DSM-IV. *American Journal of Psychiatry, 151,* 1361–1367.

Volkmar, F. R., & McPartland, J. C. (2014). From Kanner to DSM-5: Autism as an evolving diagnostic concept. *Annual Review of Clinical Psychology*, *10*, 193-212. doi: 10.1146/annurev-clinpsy-032813-153710

Walpole, C. J. (2008). Teacher attitudes towards the inclusion of special needs students in the general education classroom. (Order No. 3308204, Northcentral University). ProQuest Dissertations and Theses, , 102. Retrieved from http://search.proquest.com/docview/304835124?accountid=14872.

Wetherby, A. M., Guthrie, W., Woods, J., Schatschneider, C., Holland, R. D., Morgan, L., & Lord, C. (2014). Parent-implemented social intervention for toddlers with autism: An RCT. *Pediatrics*, *134*(6), 1084-1093. doi:10.1542/peds.2014-0757

Whelan, D. L. (2009). The equal opportunity disorder: Autism is on the rise, and it can affect any family. Here's what you need to know. *School Library Journal, 55*(8), 30-34. Retrieved from http://eric.ed.gov/?id=EJ859419

Wilde, L. D., Koegel, L. K.,& Koegel, R. L. (1992). *Increasing success in school through priming: A training manual*. Santa Barbara: University of California.

Wiggins, L. D., Levy, S. E., Daniels, J., Schieve, L., Croen, L. A., DiGuiseppi, C., ... & Reynolds, A. (2015). Autism spectrum disorder symptoms among children enrolled in the study to explore early development (SEED). *Journal of autism and developmental disorders, 45*(10), 3183-3194. doi: 10.1007/s10803-015-2476-8

Williams, L. W., Matson, J. L., Jang, J., Beighley, J. S., Rieske, R. D., & Adams, H. L. (2013). Challenging behaviors in toddlers diagnosed with autism spectrum disorders with the DSM-IV-TR and the proposed DSM-5 criteria. *Research in Autism Spectrum Disorders*, *7*(8), 966-972. doi:10.1016/j.rasd.2013.03.010

Willis, S. & Mann, L. (2000). *Differentiating instruction: Finding manageable ways tomeet individual needs*. Association for Supervision and Curriculum Development.

Wing L., & Gould J. (1979). Severe Impairments of social interaction and associated abnormalities in children: Epidemiology and classification. *Journal of Autism and Childhood Schizophrenia, 9*, 11–29.

Woods, J. J., & Wetherby, A. M. (2003). *Early identification of and intervention for infants and toddlers who are at risk for autism spectrum disorder. Language, Speech, & Hearing Services in Schools*, *34*(3), 180-193.

World Health Organization (1992). *The tenth revision of the international classification of diseases and related health problems (ICD-10).* Geneva: Author.

Yang, C., & Rusli, E. (2012). Teacher training in using effective strategies for preschool children with disabilities in inclusive classrooms. *Journal of College Teaching & Learning* (Online), 9(1), 53. Retrieved from http://search.proquest.com/docview/1418716074?accountid=14872

Yell, M. & Katsiyannis, A. (2004). Placing students with disabilities in inclusive settings: Legal guidelines. *Preventing School Failure, 49*(1), 28-35.

Yin, R. (1989). *Case study research: Design and Methods*. Newbury Parks, CA: Sage

Yin, R.K. (2009). Case study research: Design and methods (4th ed). Thousand Oaks, CA: Sage.

Zenko, C. (2014). Practical Solutions for Executive Function Challenges Created by the Unique Learning Styles of Students with Autism Spectrum Disorder (ASD). *SIG 16 Perspectives on School-Based Issues, 15*(4), 141-150. Retrieved from http://sig16perspectives.pubs.asha.org/article.aspx?articleid=2085883

Zigmond, N., Jenkins, J., Fuchs, L. S., Deno, S., Fuchs, D., Baker, J. N., Jenkins, L., & Coutinho, M. (1997). Special education in restructured schools: Findings from three multi-year studies. *Phi Delta Kappan,76*, 531-540.

Appendix A: Interview Questions

Content, Process, and Learning Environment

1. What barriers do general education teachers perceive affect their ability to

    differentiate instruction in their classrooms?

Content, Process, Product, Learning Environment

2. What strategies do general education teachers perceive would facilitate the

    process of providing differentiated instruction in their classrooms?

Content Questions:

1. How do you adjust your lesson plans or instruction to meet the needs of students with

    autism?

2. Does the district provide differentiated lessons to meet the needs of students with

    ASD included or mainstreamed in your classroom?

Process Questions:

1. Do you address the students learning styles when you plan the activities for the

    lessons?

2. Do you assist or have an assistant for students with ASD understand the lesson

    taught?

Product Questions:

1. How do you access students' knowledge or understanding of lessons?

2. What system do you have in place to demonstrate ASD students have an

    understanding of the lesson?

Learning Environment Questions:

1. How are students grouped?

2. Do you pair up general education students with ASD students' who are mainstreamed or included?

3. How is the room arranged to accommodate students with ASD?

4. Are there positive behavior supports implemented in your classroom?

Appendix: B

Participant's Consent Form

I am pursing my doctorate to reach out to urban school districts to impact the mainstreaming and inclusion of autistic students in general education. My study topic is Exposing General Education Teachers' Perceptions on teaching students with autism to help children with autism reach academic achievement and social success. You were chosen to participate in this study because you are a general education teacher in an urban school district teaching autistic students for one or more class periods. The duration of your participation in this study will not exceed 2 – 4 hours of your time over a 4-week period, depending on any unforeseen circumstances or disruptions to scheduled observations and interviews. This consent form is part of a process called "informed consent" to allow you to understand this study before deciding whether to participate. Please look over this consent form and let me know if you have any questions before you accept this invitation to participate in this study.

Purpose of Study:
The purpose of this study is to explore teachers' perceptions about mainstreaming and inclusion of autistic students placed in general education classrooms in an urban school setting. As a participant, I understand this study will involve audiotaping of interviews and observations in my classroom. I understand, neither my name nor any other identifying information will be associated with the audiotape or the transcript and the tapes will be transcribed and erased by the researcher once the transcriptions are checked for accuracy. I further understand immediately following the interview I will be given the opportunity to have the tape erased if I wish to withdraw my consent to participate in this study.

Participants' Procedures:
If you agree to be in this study, you will be asked to:
- Confirm participation in study
- Participate in two in-depth interviews for 60 minutes over a 4-week period.
- Be observed interacting with your students in your classroom.
- Complete a survey designed by the researcher either in person or via the internet.

Participant's Voluntary Agreement:
Your participation in this study is voluntary. I agree to participate in this study, but in the event I decide to change my mind, I can stop at any time and not reap any repercussions because of my opting out.

Risks and Benefits of Being in the Study:
There are no foreseeable conflicts of interest involved in this research study. The benefits from participating in this study include adding to the lack of literature on teachers' perceptions on mainstreaming and inclusion of autistic students in general education classrooms may impact social change in school districts across the country.

Compensation:
No monetary compensation will be offered for your participation in this study, but participants may receive a $10 gift card to a local restaurant.

Confidentiality Statement:
Any information participants provide will be kept confidential. The researcher will keep all documents in a locked file cabinet for five years. The researcher will not use any participants' information for any purposes outside of this research study. In addition, the researcher will not include names or anything else possibly identifying you in any way during this study.

Contacts Information:
You may ask any questions prior and during the research study by contacting the researcher at   , or my researcher's committee chair, who may be contacted via email at Sandra.johnson@waldenu.edu.

Participants' Statement of Consent:
I read the above information and agree to participate in this the study. I have agreed to participate in this research study. By checking the appropriate box and signing below, demonstrates your participation in this research. As participant, I am agreeing to the terms described above and consent to participate in this study.

❑   I agree to participate in the research
❑   I will not participate in the research

Printed Name of Participants' and Email Address

Date of consent

Participant's Signature

Researcher's Signature

The researcher will give you a copy of this form to keep.

Appendix C: Evaluating Various Autistic Non-interaction Signs (EVANS)
Checklist for Educators

Name of School:_____

Name of Teacher:_____ Number of Students_____

1. How many children do you have in your classroom: _____Boys _____Girls?
    a) Mainstreamed _____ b) Inclusion _____

2. Ethnicity of Children in Classroom
    ☐African-American   Total_____   How many with autism?_____
    ☐Arabic   Total_____   How many with autism?_____
    ☐Caucasian   Total_____   How many with autism?_____
    ☐Latino   Total_____   How many with autism?_____
    ☐Other   Total_____   How many with autism?_____

3. What grade do you service:
    ☐ Prekindergarten – 2nd
    ☐ 3rd – 5th
    ☐ 6th – 8th

4. Does teacher have formal training or education in special education?
    ☐Yes   ☐No

5. How many hours of formal special education training? _____
    Bachelor's Degree? ☐Yes ☐No Area of Certification _____

6. Does the District require you to have formal training or classes for students with autism?
    ☐Yes   ☐No

7. Are you familiar with the IDEA Act?
    ☐Yes   ☐No

8. Do you attend professional development workshops on special education laws or autism?
    ☐Yes   ☐No

9. Do you have certificates or license or any formal training to teach students with autism?
    ☐Yes   ☐No

10. Are you familiar with any Diagnostic Instrument Measures for ASD? (e.g. CHAT, MCHAT, PECS, TEACCH, etc.)
    ☐Yes   ☐No

11. Do you use any of the measurements to assist you with instruction for students with autistic students?
    ☐Yes   ☐No

12. Have parents addressed any concerns to you?　　☐Yes　　☐No

13. Is your school equipped (Speech, Psychologist, etc.) to handle autistic students?
　　☐Yes　　　　　　☐No

14. Do you believe in inclusion or mainstreaming of students, especially those with autism?
　　☐Yes　　　　　　☐No

15. Do you know that one out of every 110 children are autistic?
　　☐Yes　　　　　　☐No

16. Do you keep a record/log/portfolio for each child in your classroom?
　　☐Yes　　　　　　☐No

17. Are parents notified about their child's interactions in your classroom?
　　☐Yes　　　　　　☐No

18. Does your school offer you assistance for autistic students in your classroom?
　　☐Yes　　　　　　☐No

19. Does your school district have policies and procedures in place for children with autism?
　　☐Yes　　　　　　☐No

20. Please check only what you observed. Have you noticed any of these indicators of children in your classroom with autism?

☐Child is distant　　　　　　☐Child doesn't eat
☐Child gazes or stares　　　　☐Child has limited or no verbal cues
☐Child is aggressive/fussy　　☐Child doesn't participate with others
☐Child plays with same toy　　☐Child doesn't want to be touched
☐Child rocks/sways　　　　　☐Child bangs head constantly
☐Child appears clumsy　　　　☐Child cries more than 4 hours
☐Child repeats same behavior ☐Child is absent a lot
☐Child wets on self　　　　　☐Child overachieves in a subject

21. Do you discuss with parents the child's progress in your classroom?　☐Yes　　　　☐No

22. Did this questionnaire help you to take a closer look at students with autism in your school?
　　☐Yes　　　　　　☐No　　　　　　☐Maybe

23. Does this questionnaire grab your attention to take more courses related to autism?
　　☐Yes　　　　　　☐No

24. Located in the County of: Wayne　　☐Yes　　　　☐No

25 Please sign name or Initials _____.

Thank you for completing this face-to-face survey session and assisting with my research.

Appendix D: Letter from Detroit Public Schools

Detroit Public Schools

Office of Research, Evaluation, Assessment and Accountability
Support Services Complex – Building A
1425 East Warren
Detroit, MI 48207
Telephone: (313) 576-0050

February 17, 2015

Sabrina D. Evans
23601 Sutton Drive, Apt. #1213
Southfield, MI 48033

Dear Ms. Evans:

The Detroit Public Schools' Outside Research Committee has met and reviewed your research proposal titled, *"General Education Teacher's Perceptions About Teaching Autistic Students in Urban Schools."* We are pleased to inform you that your proposal to conduct research has been approved.

Please note that once you **provide, in writing, the names of your sample schools to the Office of Research, Evaluation, Assessment and Accountability**, we will invite the sample schools in your study to participate and inform you of each school's decision to participate or not to participate in the study. **No contact should be made with the proposed schools at this time and no research may be conducted in schools without the express written approval of this office.**

Thank you for including Detroit Public Schools in your study. If you have further questions, please call me at (313) 576-0050.

Sincerely,

Sibyl St. Clair, Ph.D.
Executive Director, Office of Research, Evaluation, Assessment and Accountability

pc: Darnell Earley, Emergency Manager
    Karen P. Ridgeway, Superintendent of Academics
    Deborah Gross, Ed.D., Program Associate I, Office of Research, Evaluation, Assessment and Accountability

DG: 02/17/15