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A Study of the Regular Educators' Preparedness to Educate Students with Autism Spectrum Disorder

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by

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Declaration of Originality

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work at Lindenwood University and that I have not submitted it for any other college or university course or degree.

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Abstract

This study's focus was on determining the level of knowledge K-5 educators have in one district regarding evidence-based practices that address the specific needs of students with Autism Spectrum Disorder [ASD]. The study also focused on determining what kind of inclusion task force had been established in the district, if any. Based on the findings of this study, all of the participating K-5 regular educators reported they have established a supportive culture/climate, have organized and defined work areas, use routines, regularly collect data, are flexible with curriculum, and group students based on needs. This study also revealed slightly over half of the K-5 educators conduct observations outside of their classrooms, maintain and shift the attention of students, and can teach attention to a task. Most of the K-5 regular educators also receive administrative support and are provided collaboration opportunities. Additional information revealed slightly less than half of the K-5 regular educators reported they can teach imitation. The data regarding the ability to teach communication and social skills were contradicting, and most educators reported an inclusion task force had not been established. Overall, it was determined K-5 regular educators need professional development in the area of core skills important for students with ASD.

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Chapter One: Introduction

The United States has nearly one in 88 children identified with Autism Spectrum Disorder [ASD] each year (Centers for Disease Control and Prevention, 2012). Today students with ASD are occupying regular education classrooms and have diverse needs (Busby, Ingram, Bowron, Oliver, & Lyons, 2012). With the passage of the Individuals with Disabilities Act and the No Child Left Behind Act, emphasis has been placed on teacher quality and instructing students with disabilities using evidence-based teaching methods (Whitmer, 2013).

Although there is an emphasis on teacher quality, regular educators are unqualified to adequately educate students with ASD, which is becoming an issue for districts across the United States (Busby et al., 2012). To add to the challenges, a traditional method of teaching does not meet the needs of students with ASD (Kaweski**,** 2011). Grandin and Panek (2013) stated, "Putting kids who are on the spectrum in the same classroom as their nonautistic peers and treating them the same way is a mistake" (pp. 182-183). With the unique challenges students with ASD present, traditional teaching methods do not work (Kaweski).

In Chapter One, ASD and inclusive education are discussed. Bandura's Social Cognitive Theory is offered to help explain the rationale behind the importance of effective training for regular education teachers. The absence of research available regarding the preparedness of regular educators to serve students with ASD is discussed, along with the research questions and definitions that guided this study. Last, limitations and assumptions are addressed.

Background of the Study

Autism Spectrum Disorder is the number one rapidly growing developmental disability in the United States (Autism Speaks, Inc., 2013). Within a six-year span, the number of school-age students identified with ASD increased by 78% (Centers for Disease Control and Prevention, 2012). Several factors contributed to the growth, including the change in the criteria to include a wide spectrum, increased awareness, and environmental factors (Hanbury, 2012). Additionally, in 1990 with an amendment to the Education for All Handicapped Children Act, autism was added as a special education category (Ryan, Hughes, Katsiyannis, McDaniel, & Sprinkle, 2011).

According to the mental health profession and the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders*, an individual must have deficits in social communication and exhibit repetitive behaviors, interests, or activities to meet the criteria for an ASD diagnosis (Kent et al., 2013). Barton and Harn (2012) explained autism is "a neurobiological developmental disorder, which means it is caused by disorders or impairments in the brain or central nervous system" (p. 5). The exhibited impairments can affect the abilities to focus, understand abstract concepts, follow multiple-step directions, and adjust to routine changes; and can affect motor, sensory, and communication abilities (Kaweski, 2011). The impaired capabilities present in individuals with ASD can also produce behaviors which can be challenging and extremely disruptive (Ryan et al., 2011).

Kaweski (2011) reported the behaviors and characteristics displayed by individuals with ASD are varying in degree. There is a variance because every autistic brain develops differently, which triggers distinctive abnormalities (Grandin & Panek,

2013). The variance in characteristics is also attributed to medical complications, language impairments, and cognitive range (Marder & Debettencourt, 2012). With the degree of characteristics and symptoms, students with ASD can exhibit sensory, social, behavioral, communication, and cognitive challenges that are mild to severe (Kaweski).

Districts are moving toward an inclusive model of education as the population of students with ASD continues to grow (Sansosti & Sansosti, 2012). Within an inclusive classroom, the regular education teacher teaches students with ASD alongside non-disabled peers (Hill & Sukbunpant, 2013). Sansosti and Sansosti recommended inclusion that is flexible, variable, and contingent upon the specific needs of the students. Although there is an emphasis on an inclusive model, regular educators continue to be unprepared to adequately educate students with ASD (Busby et al., 2012). The recognized challenges revealed in students with ASD can be overwhelming for teachers who believe they are unprepared to address the specific needs these students present (Busby et al.). When teachers experience overwhelming feelings of inadequacy, lack of motivation and confidence is revealed **(**Dixon, Yssel, McConnell, & Hardin, 2014).

One reason regular educators are unprepared is because teacher education programs are not providing courses for instructing students with ASD (Hendricks, 2011). The current courses are restricted and do not address the specific needs students with ASD present (Busby et al., 2012). Most education programs at the collegiate level require entry-level courses covering various disabilities, and no specialized training in evidence-based practices occurs (Busby et al.). Additionally, school districts are having a difficult time providing the specialized training necessary to address the challenges displayed by students with ASD due to the costs and time involved (Whitmer, 2013).

Numerous studies have established the main factor contributing to a student's success is the efficacy of the teacher (Winters, 2012). Smith (2015) stated, "Successful inclusion relies on teacher self-efficacy and positive educator attitudes toward inclusion" (p. 11). According to Ahmad (2011), teacher efficacy involves teaching efficacy, or one's capability, and personal efficacy, or one's self-assurance. In other words, teacher efficacy is dependent upon the teacher's perception of his or her ability and the belief students are teachable regardless of backgrounds or disabilities (Ahmad).

With inclusion as an option for students with ASD, it is imperative to identify the knowledge and understandings regular education teachers exhibit regarding best practices to address the specific needs of these students (Busby et al., 2012). Smith (2015) noted it is the teacher who decides what instructional approaches are utilized in the classroom to address the specific needs of students. When regular education teachers have a limited understanding of evidence-based practices to address the needs of students with ASD, resistance and fear emerge, which affect motivation, effort, and the quality of education provided (Sansosti & Sansosti, 2012). Without the motivation and effort to use best practices when educating students with ASD, improved outcomes will not transpire (Kaweski, 2011).

Theoretical Framework

For this study, Bandura's Social Cognitive Theory of self-efficacy assisted in framing the importance of the preparedness of regular education teachers to implement quality curriculum for students with ASD (Bandura, 1977). Personal self-efficacy, as defined by Bandura (1995), is one's "beliefs in one's capabilities to organize and execute the course of action required to manage perspective situations" (p. 2). A solid sense of

self-efficacy is the foundation for facing difficulties and challenges encountered with teaching (Stephanou, Gkavras, & Doulkeridou, 2013). Bandura (1995) maintained there is a link between confidence and belief in one's capabilities and motivation, actions, and emotional states. Teachers who decide they are not knowledgeable will lack confidence and will abandon efforts to educate based on learner needs (Dixon et al., 2014). High self-efficacy produces confidence and influences instruction, which positively affects student achievement (Bordelon, Phillips, Parkison, Thomas, & Howell, 2012). According to Bandura (1995), humans regulate their efficacy beliefs through four selection processes.

First, cognitively, when making decisions, individuals are visionary thinkers (Bandura, 1997). Therefore, the actions applied and the goals set are influenced by one's perception of his or her capabilities and perceived positive or negative outcomes (Bandura, 1997). With a high level of confidence and self-efficacy, an individual is cognitively able to organize his or her thoughts visually to anticipate scenarios, predict outcomes, and construct successful problem-solving techniques (Bandura, 1995). This ability to cognitively analyze and problem solve leads to intrinsic motivation, which fosters sustained effort, persistence, and task completion (Ohtani, Okada, Ito, & Nakaya, 2013). Those with a low sense of self-efficacy, however, think erratically and visualize failure, which leads to self-handicapping conditions, lack of persistence, and work avoidance (Ohtani et al.). Bandura (1977) emphasized one's cognitive processes affect confidence and one's self-efficacy beliefs, which in turn, influence decisions and actions initiated.

Through cognitive forethought, an individual's motivation increases or decreases depending on preconceived beliefs (Bandura, 1997). One's beliefs, as clarified by Vera, LeBlanc, Taris, and Salanova (2014), "determine not only the amount of effort invested in facing obstacles, but also the amount of time and persistence in trying to achieve something" (p. 133). These preconceived self-efficacy beliefs also influence one's affective state or stress level, which is a third selection process (Bandura, 1995). With a low sense of self-efficacy, anxiety increases, challenging situations are magnified, and depression manifests itself, which affects how one utilizes available resources (Vera et al.). Last, an individual's self-efficacy beliefs also affect the selection process, or the activities in which one chooses to participate (Bandura, 1997). With a high sense of self-efficacy, one pursues challenging activities rather than avoiding tasks that exceed capabilities (Vera et al.).

Positive self-efficacy beliefs are important for persistent motivation and because regular educators recognize they lack the skills to effectively teach students with ASD (Busby et al., 2012). Regular educators view the job of educating students with ASD as the special educator's responsibility (Busby et al.). Without adequate skills, regular educators are resistant and often have stereotypical feelings toward these students (Sansosti & Sansosti, 2012). They characterize students with ASD as individuals with unusual interests, disruptive behaviors, repetitive manners, and language deficits (Darretxe & Sepulveda, 2011). Busby et al. indicated professional development and on-the-job training could promote positive self-efficacy beliefs in educators working with ASD students. Higginson and Chatfield (2012) found after vicarious experiences, regular educators were more accepting of students with ASD, were willing to modify curriculum

to meet specific needs, and were more confident. The educators understood there were legitimate reasons for the observed behaviors rather than seeing the students with ASD as problematic (Higginson & Chatfield). Confidence increases through knowledge, which in turn increases the self-efficacy of the teacher, and the student has an increased chance of being positively impacted (Dierking & Fox, 2013).

Although regular educators believe they are inadequately trained, educating individuals with ASD in the least restrictive setting is a legal requirement (Busby et al., 2012). The Individuals with Disabilities Education Improvement Act mandated specialized instruction in the least restrictive placement (Whitmer, 2013). Research suggests inclusion fosters engagement and social interaction in students with ASD, while self-contained classrooms increase autistic characteristics (Kaweski, 2011). With the benefits of and laws requiring inclusive placements, regular educators must understand they are responsible for educating students with ASD rather than believing it is impossible because of inadequate skills (Busby et al.). In Chapter Two, teacher self-efficacy beliefs will be revisited to further investigate the effect on quality curriculum implementation.

Statement of the Problem

Educating students with disabilities in inclusive settings continues to increase because of federal laws requiring integration into the regular education classroom to the greatest extent possible (Whitmer, 2013). Educators know they are improperly trained in the specialized skills needed to successfully educate students with ASD (Busby et al., 2012). Teachers who believe they lack the competence to bring forth positive changes in student achievement will have little motivation to persist in a difficult situation (Iftikhar,

2011). According to Sansosti and Sansosti (2012), "Constant reworking and persistence are defining characteristics of effective inclusion on both an individual and system level" (p. 927). When inadequate practices are utilized, time is lost and the window for providing evidence-based instruction closes for those individuals diagnosed with ASD (Hill, Martin, & Nelson-Head, 2011).

Sansosti and Sansosti (2012) reported inadequate training as the greatest obstacle to successfully including an autistic student in the regular classroom setting. Training is a must, because students with ASD often have significant deficits and challenges; therefore, qualified educators are crucial (Smith, 2015). When inclusion is executed with fidelity, studies have shown an increase in communication and social skills among students with ASD (Alquraini & Gut, 2012). Additionally, Higginson and Chatfield (2012) found training increased knowledge, and the regular educator's attitude towards students with ASD changed to become more tolerant and accepting.

In 2009, the United Nations Educational, Scientific and Cultural Organization published *Policy Guidelines on Inclusion in Education*. The National Council for Special Education published their Annual Report in 2011. Both frameworks attempted to provide a guide for strengthening inclusion programs in schools. Although there have been attempts to provide frameworks for effective inclusive education, in 2013, Costley emphasized the need for training and recommended schools "develop a School Site Inclusion Task Force made up of teachers and administrators that will aid in increasing awareness and discussion of including children with disabilities into the general classroom" (p. 4). Nishimura (2014) also reported the need for effective training in evidence-based practices and suggested training and support should be a priority.

Although regular educators know they lack the training to successfully educate students with ASD, and research supports the need for training, states are unable to focus on inclusion because there are other priorities (Ahsan & Mullick, 2013). A culture of inclusion is additionally difficult because segregated schooling has a long history and not all regular educators believe inclusion is valuable (Nishimura, 2014). Inclusive efforts have also been challenging because one-shot professional development methods have not worked (Nishimura). Inclusion for students with ASD will continue to move forward due to laws supporting least restrictive education for all; however, regular educators continue to have insufficient skills and know they are inadequately trained to effectively educate students with ASD (Ahsan & Mullick).

Purpose of the Study

The following researchers all suggested regular educators are unprepared to effectively educate students with ASD: Busby et al. (2012), Hendricks (2011), and Sansosti and Sansosti (2012). However, there is a gap in research in regard to the specific knowledge regular educators' exhibit concerning evidence-based practices for successfully educating these students. Factors associated with successful inclusion include effective instructional practices, administrative support, and training for educators (Alquraini & Gut, 2012). Researching the regular educator's knowledge of evidence-based practices and guidelines for inclusive instruction will allow for a better understanding of the type and amount of professional development needed for school districts to successfully educate students with ASD.

The purpose of this study was to determine the level of knowledge and understanding K-5 regular educators have regarding evidence-based practices to address

the specific needs of students with ASD. The extent of training received by the regular educators was also examined. Further focus was placed on determining whether the urban school district represented in this study has an established a task force for inclusion.

The percentage of students with disabilities educated in inclusive settings continues to rise (Alquraini & Gut, 2012). School districts must take the initiative to implement inclusive practices and provide effective training (Costley, 2013). The data gathered could provide information to K-5 environments regarding the expertise of regular educators and the amount of training required to successfully educate students with ASD.

Research Questions

The following research questions guided the study:

1. What knowledge and understanding of best practices do K-5 regular education teachers exhibit to address the individual needs of students with ASD in the following areas:

- Supportive culture/climate
- Structured environment
- Individualized programming
- Ongoing assessments
- Supports and collaboration
- Professional development
- Flexible curriculum

2. What kind of task force for inclusion, if any, has been established?

Definitions of Key Terms

For the purposes of this study, the following terms are defined:

Evidence-based practices. Research indicates the use of evidence-based practices increases student performance (Torres, Farley, & Cook, 2012). According to Cook and Odom (2013), practices that are evidence-based "must be supported by multiple, high-quality, experimental or quasi-experimental (often including single-case research) studies demonstrating that the practice has a meaningful impact on consumer (e.g., student outcomes)" (p. 136). Evidence-based practices offer specific guidelines to assist with improving student skill level (Torres et al.).

Inclusion education. Inclusion education should be implemented in a manner where sufficient support is provided to allow for continual participation in class activities (Allen & Cowdery, 2012). Allen and Cowdery explained inclusion education occurs when "children with disabilities are full-time members of the general education classroom" (p. 5). According to Angelides, Savva, and Hajisoteriou (2012), inclusion should be implemented in a manner in which everyone is heard and procedures are followed.

Limitations and Assumptions

The following limitations were identified in this study:

1. This study focused on the preparedness of regular educators and on the administrative support provided within one urban school district in Missouri.

2. A survey including Likert scale items was used as a measurement tool to conduct this study. In using a Likert scale, the purpose is to measure the respondent's ratings across several items; as a result, response bias may occur (Rubie-Davies & Hattie,

2012). This is true because an individual's characteristics and interests can affect the responses chosen (Rubie-Davies & Hattie). Additionally, open-ended questions were utilized to determine themes within the data. With open-ended questions, an explanation of the performance or responses cannot be obtained (Adams & Lawrence, 2015).

3. With surveys distributed at the beginning of the school year, it is understandable every K-5 regular educator approached for this research did not participate. Additionally, this study only included five schools within one urban school district in Missouri positioned at the four extreme directional locations (north, south, east, and west) and one centrally located.

The following assumptions were accepted:

1. The design and approach to inclusion education varies across districts. The growth of inclusion has academically and socially impacted educators, students with ASD, and typical peers (Ferraioli & Harris, 2011). Although inclusion is widespread, because of leadership, there is a variance in design and approach (Obiakor, Harris, Mutua, Rotatori, & Algozzine, 2012). Leaders are often inconsistent in creating inclusive settings where effective teaching is prominent, funding and resources are provided, and professional development is implemented on a regular basis (Obiakor et al.).

2. Training regular educators to be effective in teaching students with ASD varies in quality and quantity. Busby et al. (2012) claimed, "Many general educators have only taken survey courses in exceptionalities and therefore have little specialized training in the field of autism" (p. 28). The amount and type of specialized training received is also dependent upon leadership support, collaboration between the special and regular educator, and resources provided, which vary across districts (Obiakor et al., 2012).

Additionally, due to the increase of students with ASD and the push for inclusion, the number of regular educators educating these students continues to grow (Busby et al.). Professional development can also be challenging because of the number of regular educators and their range of abilities and preparedness (Obiakor et al.).

Significance of the Study

According to the U.S. Department of Education (2013), 34% of students with ASD spend at least 60% of the time inside the regular classroom setting. Additionally, the number of students with ASD educated in inclusive settings is continuing to rise (Hart & Malian, 2013). Even though the number of students with ASD educated in inclusive settings is rapidly growing, there is little research regarding the preparedness of regular educators (Busby et al., 2012). With the responsibility shifting to the regular educator, according to Busby et al., further research needs to be conducted to determine how prepared regular educators are for teaching students with ASD.

With the lack of research regarding the regular educator's knowledge and ability concerning evidence-based practices that address the individual needs of the student with ASD, this study will provide important data on the regular educator's ability and knowledge within one urban school district in Missouri. The study will also provide information regarding the areas of professional development needed and the types and amount of professional development and support currently provided by the school district.

Summary

Although regular educators lack the necessary training to adequately educate students with ASD, including these students in the regular classroom setting continues to

be the norm (Sansosti & Sansosti, 2012). Delmolino and Harris (2011) argued, "The complex and varied presentation of ASD requires specialized training and expertise, which may not occur within standard training in regular and special education" (p. 1200). According to Gulec-Aslan (2013), "Qualified and competent educators play an important role in skill development and quality of life" (p. 2229). Since regular educators are now responsible for the education of students with ASD, information regarding the regular educator's specific knowledge of curriculum that addresses the unique needs of these students is required in order to plan for necessary training (Busby et al., 2012).

In Chapter One the introduction for this study was offered, which included background information on the characteristics and growth of ASD. The theoretical framework established the importance of effective training for regular education teachers. The significance of the study was offered to show the need for researching the specific knowledge and training regular educators have in teaching students with ASD. Last, unknown terms were defined, and the research questions, limitations, and assumptions were addressed.

In Chapter Two, the review of literature includes an overview of the history and benefits of inclusion and the reasons for resistance to inclusion. The features of a successful inclusion program, along with the characteristics of students with ASD, are also reviewed. Universal Design for Learning and Bandura's Social Cognitive Theory are presented as a foundation for individualizing curriculum and to support the need for teacher preparedness. Finally, the importance of quality, effective professional development is examined.

Chapter Two: Review of Literature

Individualized instruction and education in the mainstream is a popular movement in public education for students with ASD due to legislation mandating a least restrictive setting (Marder & Debettencourt, 2012). With the mandates requiring a least restrictive environment, the estimated percentage of students with ASD spending at least 80% of their day in the regular classroom increased overall by 244% during the period from 1992 to 2006 (Denning & Moody, 2013). While inclusion looks different for every student, according to Odom, Buysse, and Soukakou (2011), "Certain critical child outcomes of belonging, participating, and forming positive social relationships reflect success of inclusive placements for children with disabilities" (p. 347). Obiakor et al. (2012) reported, "Preferred, appropriate, and effective inclusive practices are guided by state and federal legislation, directed by codes of ethical and professional conduct, and defined by principles of effective instruction that are not bound by the setting in which children are taught" (p. 479). In the past, the learner has had to acclimate to the system; however, with the current inclusive push, the education system must accommodate the learner (Ahsan & Mullick, 2013).

Sansosti and Sansosti (2012) noted the potential of inclusion to accelerate the development of skills and create new social environments for students with ASD. Even though the school setting is the primary treatment center for students with ASD, there are few guidelines for properly educating these students (Magyar & Pandolfi, 2012). McCulloch and Martin's (2011) study focused on the few standards established for educators working with ASD students.

According to McCulloch and Martin (2011), Virginia and California are currently providing training and requiring teachers to be competent in teaching students with ASD. Additionally, California is requiring the completion of courses in evidence-based strategies for both new and veteran teachers with teaching assignments dependent upon the completion of the courses (McCulloch & Martin). Although the number of students with ASD placed in inclusive settings is continuously increasing, a marginal amount of research has been conducted to determine the knowledge regular educators have regarding inclusion and evidence-based practices and the amount of support and training provided by leadership (Hendricks, 2011). Hendricks stressed the need for determining who is teaching students with ASD and the teachers' abilities.

In Chapter Two, the history and benefits of inclusion, along with the reasons for resistance to inclusion, are examined. An examination of quality inclusive settings and a framework for accommodating for learner differences are also presented. The importance of knowing and understanding the characteristics of ASD is addressed. Last, Bandura's Social Cognitive Theory provides a framework for this study and is reviewed, along with the characteristics of successful professional development.

History and Future of Inclusion

Today, inclusive education is the choice program for students with disabilities (Ahsan & Mullick, 2013). Even though inclusion is popular today, Ahsan and Mullick reported, "The journey towards inclusive education [IE] began in 1948, when the UN declared the right to education for all in Article 26 of the Universal Declaration of Human Rights" (p. 151). Equal educational rights for students with disabilities again received a lot of attention with the 1954 case of *Brown v. Board of Education* (Obiakor et

al., 2012). However, it was not until The Education for All Handicapped Children Act of 1974 that mandates were initiated to educate students with disabilities in the least restrictive environments (Whitmer, 2013).

With the passage of the Individuals with Disabilities Education Act of 1990 and its reauthorizations, inclusion has become the focus even though the term is not included in the law (Obiakor et al., 2012). It was not until the early 1990s that inclusion became a recognized term within the field of education (Odom et al., 2011). Odom et al. reported:

> The change in terminology was pushed in part by the philosophy that inclusion would mean more than only physical placement of children with disabilities in the same classroom, but rather it conveyed that children with disabilities would become a part of larger social, community, and societal systems. (p. 345)

The No Child Left Behind Act of 2001 further encouraged inclusion by placing an emphasis on student success and the requirement of proficiency in academics before the year 2014 (Lamport, Graves, & Ward, 2012). In 2004, when the Individuals with Disabilities Education Act was reauthorized, inclusion became the preferred option for students with both minimal and severe disabilities (Cameron & Cook, 2013). With the laws placing emphasis on academic achievement in the least restrictive environment, the growth of inclusion is continuing, and individuals with ASD are participating in the regular classroom setting to the fullest extent possible regardless of the severity of the disorder (Odom et al.).

Since the passage of The Education for All Handicapped Children Act of 1974, several policies have been initiated attempting to define and promote inclusion (Ahsan &

Mullick, 2013). According to Ahsan and Mullick, these polices were established because of the diverse needs of students and include the following:

> . . . the Convention on the Rights of the Child (UN 1989), the World Declaration of Education for All (UNESC 1990), the Salamanca Statement and Framework of Action (UNESC 1994), the Dakar Framework for Action (UNESC 2000), and the UN Convention on the Rights of Persons with Disabilities (UN Enable 2008). (pp. 151-152)

As mentioned earlier, the mandates for inclusion have swung the responsibility pendulum, and the regular educator is now responsible for educating students with mild to severe disabilities, instead of the special educator (Cameron & Cook, 2013). Cameron and Cook reported:

> Inclusive classroom teachers today are faced with the challenging tasks of determining (a) which aspects of the general education curriculum are appropriate for which students; (b) how and when to provide instruction in the general education curriculum to different students; and (c) how and when to address the functional, behavioral, and social goals of their included students. (p. 18)

Regular educators will continue to be faced with the above challenges due to the requirement of state assessments and the laws mandating least restrictive environment (Lamport et al., 2012).

Guidelines for inclusion education needed to be established due to the mandates of least restrictive environment. In 2011, The National Council for Special Education presented the *Inclusive Education Framework: A Guide for Schools on the Inclusion of Pupils with Special Education Needs*, which included criteria for curriculum

implementation in inclusive settings. According to the National Council for Special Education:

> First, Teaching is planned, differentiated and informed by whole-school planning to enable pupils with special educational needs to access the curriculum in a meaningful manner…. Second, Teaching periods are well prepared with a range of evidence-based teaching methods, approaches and materials employed to enhance learning opportunities for pupils with special educational needs…. Third, Lesson content is differentiated to accommodate specific needs and abilities of pupils with special educational needs and is appropriate to age, ability and required outcomes…. Fourth, Classroom groups are flexible, temporary and generally organized on a mixed ability basis according to criteria such as learning preference, strengths, interests and cooperative learning principles. A clear rationale is made when using fixed ability grouping…. Fifth, Objectives and expectations are outlined at the start of lessons and learning outcomes are summed up at the end…. Sixth, Teaching periods are suitably challenging and enjoyable to the greatest possible degree. (p. 39)

The National Council for Special Education (2011) understood curriculum planning and implementation for inclusion must include the differentiation of content, process, and outcome and should be supervised by leadership.

Differentiation is necessary within inclusive settings because of the differences students exhibit (Darrow, 2015). Tomlinson (2014) defined content as "what teachers want students to learn from a particular segment of study, or the materials or mechanisms

through which students gain access to the important information" (p. 18). The content communicated should be developed around the important knowledge, understanding, and skills of the subject being taught (Tomlinson). Multiple materials and various media resources should also be varied when presenting content (Darrow). The second fundamental component of differentiation is process (Tomlinson). Process, as defined by Tomlinson, includes "activities designed to ensure that students use skills to make sense of, apply, and transfer essential knowledge and understandings" (p. 18). Process is accurately addressed when teachers guide and support students to make interest-based choices and when multi-option assignments are utilized (Watts-Taffe et al., 2012). The last component of differentiation is product, which is defined by Tomlinson as "vehicles through which students demonstrate and extend what they have learned" (p. 18). The grading process, according to Tomlinson, "reflects student performance, work process, and growth" (p. 24). In addition, the student's needs and interests should be reflected in the product presented (Watts-Taffe et al.).

In looking to the future of inclusion, the recommendation is for a complete culture change that is accepting of and values students who have disabilities and differences (Braunsteiner & Mariano-Lapidus, 2014). The change would be in focusing on the individual rather than the disability or deficit (Grandin & Panek, 2013). With this change, segregating students with special needs will be a thing of the past (Braunsteiner & Mariano-Lapidus). Additionally, to foster this culture change, Braunsteiner and Mariano-Lapidus proposed the need for additional training at the collegiate level and the employment of educators with disabilities and diverse backgrounds.

Benefits of Inclusion

Keeping students with ASD segregated encourages unwanted behaviors, and autistic characteristics are intensified (Kaweski, 2011). In the study conducted by Sansosti and Sansosti (2012), social regression was noted when a student with ASD was placed in a segregated summer program after receiving instruction in an inclusive setting. The general classroom does support students with ASD by offering social, academic, and communication benefits (Sansosti & Sansosti). With a supportive general education environment where social interaction is encouraged and interventions are implemented, students with ASD can build relationships with same-aged peers (Ferraioli & Harris, 2011). Through modeling and positive peer pressure, individuals with ASD show "increases in frequency of social initiations and responses, increased social engagement, increases in verbal and non-verbal sharing, and enhanced skills in the acquisition of emotion and preference expression" (Ferraioli & Harris, p. 23). In other words, through positive peer pressure, the student with ASD can learn socially appropriate behavior (Sansosti & Sansosti).

Inclusion to the maximum extent possible also offers more advanced educational goals (Kaweski, 2011). With increased access to the regular classroom setting, the student with ASD has a greater opportunity for grade-level instruction and academics that are more challenging, which increases the chance of skills being developed at a quicker pace (Sansosti & Sansosti, 2012). The regular classroom setting also provides increased opportunity for authentic educational strategies that are personally meaningful (Ruppar, 2013). Cooperative learning is one example of an authentic experience, which encourages

engagement, social skills, and motivation (Ferraioli & Harris, 2011). There is also a greater opportunity for a more rigorous education when instruction and academics are challenging (Braunsteiner & Mariano-Lapidus, 2014).

Research indicates individuals with ASD often have communication deficits (Bland-Stewart, Townsend, Ortega, & Stewart, 2013). Nonverbal skills such as reading facial expressions, understanding tone differences, and interpreting different stances can be challenging for students with ASD and lead to misinterpretation of the intended information (Ganz, 2014). Since individuals with ASD struggle with inference and interpreting literal language, social language is often difficult (Lubetsky, Handen, & McGonigle, 2011). Additionally, higher functioning ASD students with strong verbal skills may dominate conversations with a preferred topic, which can make two-way communication a struggle (Lubetsky et al.).

Language proficiency is important for social functioning (Lubetsky et al., 2011). Lubetsky et al. noted the ability to effectively communicate affects social interaction positively or negatively. According to Ruppar (2013), communication skills can be naturally developed through activities such as "greeting peers in the hallway, writing a journal entry, following directions during physical education or music class, and choosing a book to read during sustained silent reading" (p. 45). It is through natural situations with peers in a regular classroom setting students with disabilities learn to generalize skills to multiple environments (Ruppar).

Resistance to Inclusion

Braunsteiner and Mariano-Lapidus (2014) reported the narrow understanding of inclusion by education professionals is one reason there is resistance to inclusion.

Braunsteiner and Mariano-Lapidus also noted barriers can be reduced and acceptance can be increased if educators understand inclusion is full participation and involvement in the whole culture of the school without limitations, rather than just education with non-disabled peers. Braunsteiner and Mariano-Lapidus noted, “Perhaps we can shift the perception that diversity is a drain on resources to the view that differences is an asset in creating a rich and dynamic school environment” (p. 37). Another factor contributing to the resistance to inclusion is the regular educator’s feeling of inadequacy (Busby et al., 2012). According to Hendricks (2011), regular educators believe they need to be knowledgeable in a range of strategies to address the scope of difficulties exhibited by students with ASD. The perception students with ASD have severe, complex behavior issues that are disruptive to the classroom environment is another reason there is resistance to inclusion (Busby et al.). Regular educators have a tendency to believe traditional methods for reducing behavior and teaching academics do not work for students with ASD (Kaweski, 2011). Educators are also resistant because of the assumption of limited resources, the belief collaboration is time consuming, and the perception students with disabilities take time away from other students (Braunsteiner & Mariano-Lapidus).

Features of Successful Inclusion for Students with ASD

Although inclusion is popular for students with all types of disabilities, inclusion for students with ASD must be designed differently (Sansosti and Sansosti, 2012). Grandin and Panek (2013) emphasized a student with ASD cannot be treated like everyone else, because segregation and isolation within the classroom will occur. Additionally, Denning and Moody (2013) stressed students with ASD have unique needs,

and teaching academics is not enough. The following practices were noted throughout research as meeting the needs of students with ASD in inclusive settings.

Supportive culture and environment. According to Kaweski (2011), healthy development cannot occur without a culture supportive and respectful of diversity. Within a supportive culture, all students are supported naturally and unobtrusively (Denning & Moody, 2013). Teachers have high expectations and believe all students can be successful regardless of disabilities or challenges (Cameron & Cook, 2013). In a supportive culture, students have worth, and their unique gifts are celebrated (Barton & Harn, 2012). Rather than differences being feared, they are accepted (Braunsteiner & Mariano-Lapidus, 2014). In a classroom that is supportive, positive relationships are nurtured and encouraged with students feeling a sense of belonging and having the chance to participate meaningfully (Odom et al., 2011).

Structured environment. For students with ASD, learning and understanding occurs with structure and consistency (Hanbury, 2012). Darretxe and Sepulveda (2011) reported, "Unpredictable, improvised physical surroundings confuse persons with Asperger syndrome; therefore, organization and structured settings are fundamental" (p. 880). The physical organization of the classroom, according to Hanbury, should include clearly defined areas for specific purposes and functions. To ensure the purpose is defined, the work areas should be labeled with pictures, words, or symbols (Hanbury). With clearly defined work areas where distractions are minimal, expectations are realized, understanding is encouraged, and unexpected changes are avoided (Darretxe & Sepulveda).

Reducing distractions is also essential because of the potential for over-stimulation (Hanbury, 2012). By keeping the classroom clutter-free, the physical environment will appear calm and inviting (Palm, 2012). This involves reducing both auditory and visual distractions (Hanbury). The distractions and overabundance of stimuli can cause discomfort and anxiety, which in turn, can trigger unwanted behaviors in students with ASD (Kaweski, 2011).

Consistent routines and procedures are also characteristics of a structured environment (Denning & Moody, 2013). Routines, according to Hanbury (2012), "define the day for the child through a series of predictable markers or milestones, that is, activities which always occur at the same time, in the same place, in the same way" (p. 58). Barton and Harn (2012) noted, "Children with autism often prefer consistency and routine in their lives and benefit from having predictability and routines throughout the day" (p. 146). Routines need to be established and communicated to the student with ASD, which can be accomplished through words, pictures, or symbols (Hanbury). Consistent practices and methods should also be a part of the everyday classroom routine to increase work completion and reduce anxiety (Barton & Harn).

Individualized programming. A quality inclusive program, according to Odom et al. (2011), customizes educational practices to ensure each student achieves all accessible goals. Interventions and instruction for students with ASD should be flexible, and practices should be tailored to address the social, communication, and behavioral weaknesses prevalent in students with ASD (Dieker, 2013). According to Barton and Harn (2012), core content for students with ASD "includes skills related to learning, development, and independent functioning" (p. 96). The core skills that are essential for

students with ASD and should be fostered in inclusive settings are as follows: “(1) the ability to attend to relevant environmental stimuli, (2) imitation, (3) joint attention, (4) communication (using receptive and expressive language), (5) the ability to participate in daily routines and classroom activities (e.g., including play with toys), and (6) social skills” (Barton & Harn, p. 96). These deficits, according to Kaweski (2011), should be addressed within natural settings for the interventions to be effective.

Attention to relevant stimuli. The ability to focus on important information requires concentration and the recognition of social and environmental cues (Barton & Harn, 2012). With the inability to focus attention, attending to a task or multiple tasks and switching from one task to another is difficult (Darretxe & Sepulveda, 2011). By simplifying the teaching steps, as in discrete trial teaching, attention to relevant stimuli can be improved (Ryan et al., 2011). Teaching with sequential pictures, social stories, and using visual cues or diagrams can also be beneficial in assisting a student with ASD to attend to environmental stimuli (Darretxe & Sepulveda). Additional prompts involving physical proximity, hand-over-hand encouragement, or verbal prompting are also beneficial aids in redirecting and focusing attention (Barton & Harn).

Imitation. Imitation, another core skill that needs to be taught to students with ASD, is the ability to duplicate the actions, gestures, and sounds or words of others (Lowry, 2014). According to Ingersoll (2012), imitation is a skill obtained during the early childhood years and is important for social development. It is developed through interactions with the primary caregiver and peers (Lowry). Along with social development, Lowry reported imitation is critical for language development and joint attention.

Imitation is an essential skill because it is necessary for the acquirement of new skills, for showing empathy, and for ensuring regular behavior (Barton & Harn, 2012). When teaching imitation, Ingersoll (2012) recommended Reciprocal Imitation Training [RIT]. Ingersoll defined RIT as "a blend of naturalistic behavioral and developmental strategies to teach imitation within a social-interactive context" (p. 2). Prompting, according to Lowry (2014), is another popular method for teaching imitation. Barton and Harn noted, "Prompts give the child clues about how to perform the behavior and varying levels of assistance on how to perform it" (p. 129). For a better outcome, Lowry suggested combining prompting with positive reinforcement. Regardless of the teaching method, students with ASD should be taught imitation because it opens the door for learning to occur naturally within the student's environment (Barton & Harn).

Joint attention. The curriculum for students with ASD should also include the teaching of joint attention (Barton & Harn, 2012). Barton and Harn defined joint attention as "the nonverbal behaviors we use to request, comment, show, or share affect" (p. 12). Despite the intellectual or developmental level of the student with ASD, there will be impaired joint attention (Schietecatte, Roeyers, & Warreyn, 2012). Joint attention is communicative and social in nature, and without joint attention, an individual is unable to attend to an object or activity with a peer, point to indicate interest, or follow the eye movements of others (Barton & Harn).

When implementing interventions to improve joint attention, the interventions should revolve around the student's interests to increase the effectiveness (Kryzak & Jones, 2014). Prompt fading with positive reinforcement is an additional strategy that can improve joint attention in students with ASD (Kryzak & Jones). Prompt fading is the

systematic fading of prompts until the skill is completed independently (Barton & Harn, 2012). Prompt fading is more successful, according to Barton and Harn, when initiated within the natural setting and when temporary.

Receptive and expressive communication. Hanbury (2012) emphasized the need to identify, support, and develop the child's preferred communication method. Hanbury reported, "Impairments in communication place the child with autism in an alien world which is confusing, frightening and unintelligible" (p. 17). Communication difficulties include the inability to understand spoken language, express needs and wants, understand figurative language and humor, interpret voice tone, and receive and express information in an understandable manner (Hanbury). Kurt (2011) noted communication affects cognition, academics, social skills, and behavior and must be developed and supported in the classroom setting.

Although there are many ways to develop communication skills, providing multiple opportunities for communication is the most effective method for teaching communication to students with ASD (Koegel, Matos-Fredeen, Lang, & Koegel, 2011). By using incidental teaching throughout the school day, the environment is continually manipulated to motivate the student with ASD to initiate dialogue (Barton & Harn, 2012). For example, the environment can be manipulated during snack or play time to require the student with ASD to request the preferred snack or toy (Koegel et al.). This strategy encourages the use of language by connecting the activity to the child's interests and preferences (Barton & Harn). A second way to use incidental teaching throughout the school day is to offer choices and require a response (Koegel et al.).

Another commonly used method for teaching communication skills to students with ASD is Discrete Trial Teaching [DTT] (Kurt, 2011). With DTT, the educator focuses the student's attention, administers the antecedent to elicit a response, and offers a reinforcement to encourage the desired behavior (Donaldson & Stahmer, 2014). In the study completed by Kurt, receptive language skills improved when DTT was utilized along with gestures, signs, and verbal instruction. Hanbury (2012) also suggested using visuals, music, and consistent vocabulary to reduce the communication barriers prevalent within the classroom setting. Additionally, teachers must be direct, concrete, and literal for the student with ASD to comprehend language (Hanbury).

Participation in daily routines and classroom activities. To develop communication, social, and academic skills in students with ASD, the ability to independently participate in routines and classroom activities is a must (Barton & Harn, 2012). Since individuals with ASD often have strong visual skills, creating workstations with visually clear objectives and expectations will assist with fostering independence and task completion (Hanbury, 2012). To further promote engagement and task completion, predictable routines should be established and consistently maintained (Denning & Moody, 2013). Schedules should also be utilized to inform the student of upcoming activities, to assist with switching from one task to another, and to provide warnings of change (Denning & Moody). Hanbury noted, "Schedules compensate for the problems children with autism face in spanning and sequencing time and are designed to enable the child to predict events and structure their day" (p. 85). Additionally, to reduce distractions and increase engagement, the physical organization of the classroom should

also be restructured to reduce any visual and auditory stimuli that may distract the student with ASD (Hanbury).

Social skills. An inclusive setting has proven to be very beneficial for teaching social skills and is a core skill that must be integrated into the curriculum for students with ASD (Lamport et al., 2012). Social skills are interpersonal responses with another individual that have a positive impact (Bondy & Weiss, 2013). Deficits in social interaction are prevalent in individuals with ASD at a young age and continue throughout the developmental stages (Bondy & Weiss). Individuals with ASD who have limited social skills may have difficulty understanding a social setting and interpreting body language and facial expressions (Hanbury, 2012). Engaging with peers and adults is also difficult, because the rules for social interaction are often unknown and the feelings of others are not recognized (Hanbury). Other common social deficits include difficulty beginning and maintaining a conversation, trouble with imitation, inability to turn take, and obsession with a single topic (Bondy & Weiss). With inadequate social skills, behavior problems may increase and the opportunity for appropriate peer interaction is reduced (Bondy & Weiss).

By observing typically developing peers and adults within an inclusive setting, individuals with ASD can learn to imitate appropriate social interactions (Lamport et al., 2012). Additionally, according to Koegel et al. (2011), “Some intervention strategies with potential to be effective and efficient in inclusive classroom settings include priming, self-management, script-fading, peer-mediated interventions, and organizing social activities involving the interests of the student with ASD” (p. 4). Priming involves teaching the social activity before participation occurs in the natural setting (Koegel et

al.). Self-management strategies, as defined by Bondy and Weiss (2013), "are focused techniques that improve the social behavior of children with autism by having the individual keep a count of the number of times that he or she engages in the desired behavior or outcome" (p. 62). Script-fading, an additional strategy that assists with increasing social skills, involves the use of written, pictorial, or oral scripts as an example for appropriate social communication (Bondy & Weiss). As social communication improves, the script is slowly removed, so social independence can occur (Koegel et al.). Peer-mediation occurs within a natural setting and involves training peers to teach appropriate social interaction to classmates who have ASD (Bondy & Weiss). Last, since individuals with ASD often have perseverative interests, peer interaction can be encouraged in the classroom through the use of activities that relate to the specific interests of students with ASD (Koegel et al.).

Ongoing assessments. Individualized, meaningful instruction cannot occur without comprehensive assessments (Koegel et al., 2011). Koegel et al. explained standardized testing is beneficial; however, "criterion-based or observation-based assessments conducted within natural environments often provide additional useful information" (p. 6). According to Magyar and Pandolfi (2012), observation-based assessments should reveal the learning and behavioral characteristics of the individual, should evaluate the students' responses to intervention, and should uncover possible interventions for reducing symptoms.

Since ASD is a neurodevelopmental disorder, assessments should be ongoing, conducted within various settings, and both formative and summative in nature, because change occurs over time and within different settings (Magyar & Pandolfi, 2012). Meyer,

Rose, and Gordon (2014) reported, “Ongoing formative assessments provide a comprehensive picture of student’s performance, measuring not only their scores at one point in time, but also the evolution of their learning” (p. 74). Ongoing assessments “also provide teachers with a window into the efficacy of instruction, enabling them to make adjustments to keep students on track toward instructional goals” (Meyer et al., p. 74). Along with formally evaluating cognitive functioning, communication skills, behavioral symptoms, and adaptive skills, interviews with key individuals, video recordings, review of records, and observations over a period of time are also beneficial to the assessment process (Hanbury, 2012). By thoroughly assessing a student, the educator can understand what is being learned and how it is being learned (Meyer et al.). The employment of ongoing assessments also allows teachers to monitor progress, so evidence-based supports can be initiated and restructured to ensure quality education is occurring (Koegel et al., 2011).

Supports and collaboration. Support for educators teaching students with ASD has to begin at the administrative level (Odom et al., 2011). The administrator is a key player in successfully including a student with ASD into the regular classroom (Alquraini & Gut, 2012). As the leader of the school environment, administrators can facilitate collaboration among professional team members, assist in collecting data, provide emotional care, and offer problem-solving strategies (Alquraini & Gut). Administrators can also be supportive by providing opportunities for educators to observe peers who are having success in educating students with ASD (Dixon et al., 2014).

Collaboration and preparation times are also necessary supports for a successful inclusion program (Odom et al., 2011). Since there are usually many educators involved

in educating students with ASD, collaboration is absolutely necessary to ensure individualized instruction occurs (Alquraini & Gut, 2012). The group of educators needing collaboration time will include a variety of people with particular specialties depending upon the needs of the student (Barton & Harn, 2012). Collaboration is successful when goals and objectives are established and when experiences of success and failure are shared among team members (Alquraini & Gut). Through collaboration, intervention plans can easily be developed and monitored (Barton & Harn). Shared collaboration time also provides opportunity for academic preparation and for emotional support and encouragement (Mueller & Brewer, 2013).

Unique Characteristics of Students with ASD

To begin to address the individual needs of students with ASD within inclusive settings, the characteristics associated with the disorder have to be understood (Constable, Grossi, Moniz, & Ryan, 2013). Hanbury (2012) reported, "For the practitioner to make a positive contribution to the learning of the child with autism, it is necessary to develop an understanding of the child which is rooted in the nature of the condition" (p. 16). By understanding the characteristics of ASD, the teacher is able to effectively differentiate instruction, which increases the probability of a high-quality education (Odom et al., 2011).

According to Darretxe and Sepulveda (2011), there are three psychological theories that explain the characteristics and difficulties individuals with ASD display. Theory of Mind, which when lacking is also known as mind-blindness, impairs one's social interactions to the extreme (Hoddenbach et al., 2012). It is the ability to recognize and understand the thought patterns and feelings of others (Hoddenbach et al.). Without

theory of mind, nonverbal cues are overlooked or misinterpreted, and the thoughts, feelings, intentions, and motives of others are not recognized (McGuire & Michalko, 2011). The absence of theory of mind can also affect comprehension and narrative writing, since the perceptions of characters in texts and books are not easily understood (Constable et al., 2013). Social isolation is also likely if the culture of the classroom does not support social interaction naturally (Koegel et al., 2011).

The inability to see the big picture when details are presented, which is known as a weak central coherence, is another characteristic students with ASD often present (Constable et al., 2013). As Grandin and Panek (2013) noted, individuals with ASD "can't see the forest for the trees" (p. 120). Primarily the focus is on details and present facts; as a result, drawing conclusions and making connections between the present and past are compromised (Nuske & Bavin, 2011). Academically, an individual with a weak central coherence can struggle to understand the author's purpose or use context clues when reading texts to answer higher-order questions (Nuske & Bavin). Comprehension is often challenging, since texts are read with the same mindset, and important and unimportant parts are not recognized as being different (Constable et al.). While a weak central coherence can affect social communication and comprehension, seeing details can be a strength for pattern recognition (Grandin & Panek).

The third potential impairment to students with ASD is executive functioning (Darretxe & Sepulveda, 2011). Hanbury (2012) defined executive functioning as "the mechanism which enables us to move our attention flexibly and easily from one activity or object to another" (p. 10). Executive functioning involves higher-order thinking and enables an individual to regulate behavior, focus memory, prioritize, organize, and plan

(O'Bryant et al., 2011). Individuals with proper executive functioning can initiate and attend to a task, switch from one task to another, and update background information as needed (Rosenthal et al., 2013). A good working memory and the ability to sequence and set goals are also characteristics of proper executive functioning (Roebers, Cimeli, Rothlisberger, & Neuenschwander, 2012). Without flexible thinking and organization skills, imitation is difficult, which makes learning new information challenging (Barton & Harn, 2012). Other challenges include understanding assignment expectations, completing assignments in a timely manner, and submitting the assignments (Denning & Moody, 2013). While individuals with ASD have poor short-term memory and have difficulty sequencing and multitasking, remembering details long-term is a strength (Grandin & Panek, 2013).

While the above psychological theories explain impairments in communication, social understanding, and imagination, students with ASD also have a difficult time processing sensory information (Hanbury, 2012). Kaweski (2011) stated, "Students with autism struggle to organize and interpret incoming sensory information in meaningful ways and lack the natural ability to 'modulate' (alter the intensity) or filter out unwanted sound, light, touch and taste" (p. 20). Individuals with ASD can be sensory seeking, or they can be over-or under-responsive to unsolicited sensations (Grandin & Panek, 2013). Students who seek sensory input cannot get enough of the sensations like loud noises or deep pressure (Grandin & Panek). This often leads to inattention and the inability to focus or sit still when someone is directly speaking to the student with ASD (Hanbury). Outwardly, the student might rock, twirl objects, flap their hands, or make noise (Grandin & Panek).

When an individual is over-responsive to sensory stimuli, he or she is receiving too much input, and a certain smell, noise, or clothing type is overwhelming (Grandin & Panek, 2013). While individuals with ASD can be over-responsive, they can also show little or no response to incoming input (Kaweski, 2011). With sensory under-responsiveness, students with ASD might not answer to their names, or they may have a high tolerance to pain (Grandin & Panek).

While the five senses provide a means to interpret and communicate with the world, if the brain interprets the sensory information differently, as is often true with individuals with ASD, then an alternate reality is possible (Grandin & Panek, 2013). Hanbury (2012) reported, "Forming relationships, remaining safe in a chaotic environment and learning in the rich and varied stimulus of the modern classroom are all severely compromised by the inability to process sensory input effectively and consistently" (p. 11). These communication, social, imagination, and sensory challenges displayed by students with ASD often cause anxiety and generate challenging behaviors (Kaweski, 2011). These challenging behaviors can impede learning, are disruptive, and are the main reasons students with ASD are excluded from the regular classroom setting (Strain, Wilson, & Dunlap, 2011). Challenging behaviors that can impede learning are noncompliance, physical aggression, tantrums, and self-stimulating movements or performances (Gulec-Aslan, 2013). Since the behaviors exhibited can be disruptive to the learning environment, it is imperative teachers have the skills and understanding to address the behavior issues (Strain et al.). This encompasses knowledge of applied behavior analysis, functional behavioral evaluations, modifications within the

environment, and an understanding of how and when to employ reinforcers and consequences (Strain et al.).

Along with the above weaknesses, individuals with ASD also have hidden potentials or strengths (Eveleth, 2011). These strengths, according to Grandin and Panek (2013), should be recognized and defined for each student with ASD. One of the strengths is the ability to recognize patterns (Eveleth). This group of individuals are referred to as pattern thinkers; they excel in determining how parts fit together and in seeing relationships (Grandin & Panek). Because they are able to understand the reasoning behind the function, pattern thinkers are usually good at music and math (Grandin & Panek).

The ability to see details is often considered a weakness for students with ASD; however, seeing details can also be a strength (Grandin & Panek, 2013). By identifying specific details, an individual with ASD is quickly able to recognize inconsistencies within written or oral presentations (Eveleth, 2011). Detail-oriented students with ASD, according to Grandin and Panek, are word-fact thinkers. Besides being detail-oriented, word-fact thinkers have strong opinions and are able to quote statistics and dialogue, so writing should be encouraged (Grandin & Panek).

Last, individuals with ASD can also be picture thinkers (Grandin & Panek, 2013). Picture thinkers prefer hands-on activities, and they enjoy construction and building sets (Grandin & Panek). These students are creative and want to create original work (Grandin & Panek). Eveleth (2011) emphasized the need to recognize the talents students with ASD have instead of focusing on the deficits, so students with ASD can be successful and happy.

Universal Design for Learning

Since inclusive education is becoming the norm, more and more students with diverse needs, including those with ASD, are included in the regular classroom, and Universal Design for Learning (UDL) provides a frame of reference for customizing curriculum and instruction that ensures all students are actively participating (Rose & Meyer, 2002). During the first part of the 1990s, CAST, a development and research group, started UDL to address and eliminate barriers within the classroom (Meyer et al., 2014). The consensus was students did not need to overcome barriers in the classroom, but it was the classroom that needed to eliminate barriers (Meyer et al.). Hall, Meyer, and Rose (2012) argued, "The UDL approach focuses on curricular 'disabilities,' because it is the curriculum that cannot meet the learning needs of all students and needs to be fixed" (p. 11). One size does not fit all when speaking about curriculum (Hall et al.).

To ensure all students have equal access to the curriculum and the opportunity to reach elevated standards, three core principles were established as part of the UDL framework (Meyer et al., 2014). These include multiple means of engagement, multiple means of representation, and multiple means of action and expression (Meyer et al.). This framework offers teachers some practical solutions that are helpful in deconstructing some of the barriers presented in the classroom (Hall et al., 2012). The purpose of UDL is "to provide guidance, not prescriptions, for inclusive classroom practice" (Hall et al., p. 10). McGhie-Richmond and Sung (2013) explained UDL acknowledges diversity and expects it; therefore, the UDL framework is designed to support teachers in proactively planning for diversity.

By implementing the principles of UDL, all students can become active learners (He, 2014). This is a proven framework, according to Rose and Meyer (2002), because UDL is "based on two decades of research into the nature of learning differences and the design of supportive learning environment" (p. 2). The underpinning of UDL is based on the recognition, strategic, and affective brain networks, which are important for learning (Rose & Meyer). When a classroom teacher understands the three brain networks, individualized instruction and teaching is easier, according to Rose and Meyer.

Principles of the UDL Framework	
Principle 1:	To support recognition learning, provide multiple, flexible methods of presentation.
Principle 2:	To support strategic learning, provide multiple, flexible methods of expression and apprenticeship.
Principle 3:	To support affective learning, provide multiple, flexible options for engagement.

Figure 1. Principles of the UDL framework. Adapted from *Teaching Every Student in the Digital Age: Universal Design for Learning,* by D. Rose and A. Meyer, 2002. Copyright 2002 by the Association for Supervision and Curriculum Development.

The first principle of the model, multiple means of presentation or representation, supports the recognition network (Hall et al., 2012). This is "how information is perceived and comprehended" (Hall et al., p. 12). Since comprehension and perception are different among individual learners, multiple mediums of representation are important (Hall et al.). By presenting information in a variety of ways, the educator is able to

address variability in prior knowledge, accommodate for the inability to see patterns, and support the integration of new knowledge (Meyer et al., 2014). Educators can address variability by presenting information using multiple media, visual and auditory illustrations, and vocabulary scaffolding strategies (Hall et al.). Organization tools such as graphic organizers and visuals are also useful for supporting the recognition network in students with ASD (Denning & Moody, 2013). Denning and Moody noted organizers and visuals encourage independence and work completion among students with ASD. By presenting material through various examples that tap into all the senses, learning is increased (Rose & Meyer, 2002).

The second principle of UDL, multiple means of action and expression, supports the brain network of strategic learning (Hall et al., 2012). This principle involves allowing students to express their knowledge in different ways (Denning & Moody, 2013). Hall et al. explained it is "a proactive and expressive endeavor requiring skills in strategy, organization, and communication" (p. 16). By applying the second principle of UDL, the educator opens the door for students to express their learning through multiple means rather than only through written or oral presentations (Hall et al.). For students with ASD, providing structured assignments, scaffolding assignments, using rubrics, and providing task options supports the second UDL principle (Denning & Moody).

The last principle of UDL, multiple means of engagement, supports the brain network of affective learning (Rose & Meyer, 2002). This principle involves getting and maintaining the attention of the learner through hooks that are interesting, authentic, and challenging (Hall et al., 2012). Applying this principle also encourages effort, persistence, and self-regulation, which are indicators of a life-long learner (Hall et al.).

For a student with ASD, engagement is increased when schedules and routines are utilized and lessons and activities are designed according to the student's specific interests (Denning & Moody, 2013).

Importance of Teacher Efficacy

Customizing instruction is important for students with ASD, and an environment conducive to learning and cognitive development are highly dependent upon the teacher's self-efficacy (Dimopoulou, 2012). According to Liu (2013), the following three meanings define teacher efficacy: "whether a teacher believes that he or she can teach well, whether a teacher believes that he or she can make pupils succeed, and whether a teacher believes that he or she can achieve the teaching goals" (p. 79). According to Tschannen-Moran, Wolfolk Hoy, and Hoy (1998), if the teacher believes he or she is capable of arranging and executing a successful plan, then teacher efficacy is high.

Teaching students with ASD within an environment where there are a variety of students with various needs is a huge task, which requires persistence and confidence (Hendricks, 2011). Dimopoulou (2012) reported, "Perceived self-efficacy influences the level of goal challenge people set for themselves, the amount of effort they mobilize, and their persistence in the face of difficulties" (p. 513). The teacher is more committed to teaching to the individual learner, will utilize new teaching methods, and will differentiate instruction to meet learner needs when the educator has belief in his or her abilities (Dixon et al., 2014). With a strong belief in one's own instructional capabilities, effective classroom strategies are implemented and the classroom environment is more positive (Dicke et al., 2014). Teachers with a strong self-efficacy also tend to be more supportive, less critical, and willing to open lines of communication (Liu, 2013).

Bandura noted the following four sources contribute to higher self-efficacy: mastery experience, vicarious experiences, verbal persuasion, and physiological activity (Holzberger, Philipp, & Kunter, 2013). However, according to Dicke et al. (2014), the main resource that assists educators in overcoming obstacles and challenges in the classroom is a positive personal belief in their own abilities. When a teacher does not believe he or she can competently teach the massive amount of content required to the average student, differentiating a lesson for students with special needs could be perceived as impossible (Dixon et al., 2014). Although differentiating instruction for students with diverse needs is challenging, teachers can be successful if there is strong efficacy in regard to personal and teaching abilities (Dixon et al.).

Mastery or successful experiences, according to Bandura, are the most influential way to create strong feelings of self-efficacy and to build confidence (Bandura, 1995). Mastery experiences are authentic experiences in which one acquires "the cognitive, behavioral, and self-regulatory tools for creating and executing appropriate courses of action to manage ever-changing life circumstances" (Bandura, 1995, p. 3). While repeated failure hinders the growth of self-efficacy, student success fosters positive efficacy beliefs (Bordelon et al., 2012). As the success of a teacher grows through mastery experiences, so does the teacher's confidence (Dierking & Fox, 2013). Confidence increases through knowledge, which in turn, increases the self-efficacy of the teacher, and the student has an increased chance of being positively impacted (Dierking & Fox).

Confidence and self-efficacy also increase through vicarious experiences or by observing the success of peers with similar attributes (Bandura, 1997). According to

Bandura (1997), by observing the successful experiences of others, one is able to visualize successfully mastering similar activities (Bandura, 1997). The third source that influences self-efficacy beliefs and confidence is verbal persuasion (Bandura, 1997). When individuals are persuaded verbally and placed in situations where failure is unlikely, then self-efficacy beliefs increase (Bandura, 1995). The last source that increases confidence and influences self-efficacy beliefs, according to Bandura (1977), is physiological and affective states. This source is a reliance on one's emotions and feelings to predict success or failure (Bandura, 1977). When there is a capable perception, the task demands are less challenging, which increases confidence and one's self-efficacy beliefs (Bandura, 1997). Consequently, the opposite occurs with an incapable perception (Bandura, 1997). According to Ahmad (2011), humans will not persevere in their endeavors unless there is confidence desired results can be produced.

Professional Development

When teaching students with ASD in an inclusive setting, educators must be flexible and consistent, and specialized instruction must occur (Odom et al., 2011). The effectiveness of specialized instruction is dependent upon the regular educator's fidelity (Strain & Bovey, 2011). Regular educators, however, believe they do not have the skills to effectively address the needs of students with ASD (Busby et al., 2012).

Without perceived capabilities, the teacher's personal self-efficacy is lowered, which affects the educator's ability to implement the required supports with fidelity, so students with ASD can reach their full potential (Dimopoulou, 2012). Without evidence-based supports, students with ASD can become socially isolated, be ridiculed, experience lowered self-esteem, and be challenged by academics (Kaweski, 2011).

In the study completed by Higginson and Chatfield (2012), regular educators were more confident in their abilities to educate students with ASD and accepting of the students when professional development was provided. Additionally, Mueller and Brewer (2013) found educators believed professional development assisted in improving student outcomes. Since the obstacles for educators of individuals with ASD appear to be more challenging due to unavailable resources, extensive workloads, and excessive paperwork, professional development is a must to ensure positive belief in one's abilities (Dicke et al., 2014).

Professional development is an opportunity to distribute current information about proven methods and evidence-based curriculum (Barton & Harn, 2012). Barton and Harn stated professional development "is the ongoing training teachers receive once they are working out in the field" (p. 272). This training for teachers of students with ASD must focus on the disorder, differentiated instruction, the characteristics of an effective learning environment, assessment strategies, evidence-based practices, and behavioral supports (Hendricks, 2011). Professional development is necessary and must be provided, according to Barton and Harn, for the improvement of the teacher's capabilities.

Dixon et al. (2014) stressed professional development must be viewed as a process or journey. In other words, it must be ongoing and long-term (Higginson & Chatfield, 2012). Although professional development is necessary, Barton and Harn (2012) emphasized traditional methods consisting of one-time training sessions are ineffective because there is usually no follow-up. Additionally, with one-time training sessions, only a basic understanding of the concept occurs, which often does not improve

instructional competencies (Dixon et al.). Barton and Harn proposed using coaching and consultation paired with professional development sessions to assist with improving the teacher's ability to implement evidence-based strategies.

Consultation is a service where a skilled educator assists the classroom teacher and not the student with ASD (Barton & Harn, 2012). Dixon et al. (2014) explained consultants "facilitate in the development of foundational understanding and instructional competencies for the topic at hand" (p. 114). The consultant meets and openly communicates with the regular educator to discuss goals, devise plans, implement strategies, and monitor progress (Barton & Harn). Strategies discussed can include specific teaching skills and strategies for addressing and managing behavior issues (Gulec-Aslan, 2013).

Coaching is a hands-on delivery service where practices are modeled, feedback is provided, data are regularly collected, and reflection occurs (Barton & Harn, 2012). The coach is the expert and teaches other practitioners to effectively implement evidence-based skills (Barton & Harn). The coach is basically a teacher who facilitates scheduled observation times where practice can occur and feedback can be provided (Dixon et al., 2014).

Professional development is beneficial when paired with coaching and consultation opportunities and when long-term (Higginson & Chatfield, 2012). Ongoing coaching was identified by educators as the most valuable support in a study completed by Mueller and Brewer (2013). With long-term support, teacher competence and confidence increases and student outcomes improve (Mueller & Brewer). Long-term

support is necessary to ensure quality inclusion occurs (Higginson & Chatfield). Long-term support also ensures the subject matter is presented comprehensively, goals are met, and outcomes are realized (Gulec-Aslan, 2013).

Summary

Within the review of literature, the history and benefits of inclusion were reviewed, along with the reasons for resistance. The features of successful inclusive education and accommodating for learner differences were also discussed. Bandura's Social Cognitive theory was revisited, and the characteristics associated with ASD and professional development were examined.

As the population of students with ASD continues to rise, inclusion is gaining in popularity as the choice program (Whitmer, 2013). One reason for the popularity is because inclusion is cost-effective and shown to benefit students with disabilities, including those with ASD (Whitmer). The No Child Left Behind Act and the Individuals with Disabilities Education Improvement Act also aided in the growth of inclusion, because the laws required accountability in educational programming and emphasized the requirement of highly qualified educators (Hill & Hill, 2012). Despite legislation requirements and the increase of students with ASD, regular educators and schools continue to be spontaneous in their attempts to effectively educate these students (Busby et al., 2012). The regular educator who is teaching students with ASD continues to believe educating these students requires specialized skills he or she does not have (Busby et al.).

One way to determine the actual skills and knowledge of evidence-based practices regular educators have to address the unique needs of students with ASD is to research

the specific understandings. There are specific practices noted as important and necessary if students with ASD are to have a successful inclusion experience. Using the features of successful inclusion for students with ASD, this research was conducted to determine the knowledge regular educators have in those areas, which include the following: supportive culture/climate, structured environment, individualized programming, ongoing assessments, and flexible curriculum. Additionally, research was conducted to determine whether regular educators are supported in their endeavors to educate students with ASD through professional development, collaboration opportunities, or with an established task force. The understandings of regular educators, along with the support provided educators by administrators, were determined by conducting a survey and asking teachers to report on their knowledge, experience, and support opportunities.

In Chapter Two, literature related to successful inclusion for students with ASD is reviewed. Chapter Three focuses on the design of the present study and the methodology. In Chapter Four, the data are offered and analyzed. The findings are summarized, conclusions are made, and recommendations for additional research are presented in Chapter Five.

Chapter Three: Methodology

Since federal legislation requires school districts to educate children with disabilities in the least restrictive setting, general educators are enlisted with the responsibility of educating these students (Busby et al., 2012). When gathering information to improve the curriculum at the University of Troy, Busby et al. revealed the need for additional research that focuses on the preparedness of regular educators for educating students with ASD. With the pressures of legislation, school districts must embrace the challenge and be diligent in training general education teachers (Ryan et al., 2011). Busby et al. reported, "General educators need adequate knowledge and training, including clinical experiences, for teaching children with autism" (p. 28). Without adequate knowledge and training, regular educators will have a difficult time fostering higher achievement and emotional stability in students with ASD (Kunter et al., 2013).

Quantitative data were collected and calculated for this study to determine the specific knowledge K-5 regular educators exhibit regarding best practices for educating students with ASD. The following areas of focus were identified throughout research as practices that meet the needs of students with ASD and/or assist the regular educator: supportive culture/climate, structured environment, individualized programming, ongoing assessments, supports and collaboration, professional development, and flexible curriculum. Quantitative data were also gathered to determine the extent of support provided to regular educators and to determine whether a task force has been established in one urban school district in Missouri. In Chapter Three, the design for this study, along with the population and sample, are established. The instrument used in the study, data collection procedures, and data analysis are also discussed.

Problem and Purpose Overview

This study was established to explore the knowledge and understandings K-5 regular educators have of evidence-based practices that address the specific needs of students with ASD. The goal was to identify the evidence-based practices K-5 regular educators lack understanding of and to provide that information to school districts as suggested professional development areas. Secondly, the study was conducted to determine whether a task force for inclusion was in operation and to investigate the current support provided to regular educators teaching students with ASD. As previously stated, regular educators accept they do not have the adequate skills to effectively educate students with ASD (Busby et al., 2012). Without confidence and knowledge, regular educators are less likely to individualize instruction to address the needs of the student with ASD (Dixon et al., 2014). Therefore, by researching the areas in which regular educators lack knowledge, school districts might recognize the need for professional development to improve regular educators' skills and ultimately benefit students with ASD.

One potential problem that could have manifested during the implementation of this study is social desirability bias (Adams & Lawrence, 2015). The survey utilized in this study asks questions of participants regarding their own opinions and attitudes. According to Adams and Lawrence, the responses to the survey could be inaccurate because the participants may "respond based on how they want to be perceived rather than how they actually think or behave" (p. 106). Additionally, the information gathered from the surveys may not have been comprehensive (Adams & Lawrence).

There also could have been an issue with gathering the data. This study utilized a survey that was distributed by a third party. With a third party distribution, response rate could have been lower compared to a survey that was personally administered (Adams & Lawrence, 2015).

Research Questions

The following research questions were established to guide this current study:

1. What knowledge and understanding of best practices do K-5 regular education teachers exhibit to address the individual needs of students with ASD in the following areas:

- Supportive culture/climate
- Structured environment
- Individualized programming
- Ongoing assessments
- Supports and collaboration
- Professional development
- Flexible curriculum

2. What kind of task force for inclusion, if any, has been established?

Research Design

With the type of research and the subject matter, a non-experimental survey design was appropriate for this study. For this study's quantitative research, a cross-sectional survey was employed. Bandura's social cognitive theory of self-efficacy provided a guide for this study (Bandura, 1977). The purpose of this study was to identify the understanding and knowledge regular education teachers in one urban school district

in Missouri have in regard to best practices for addressing the specific needs of students with ASD. The purpose was also to establish whether a task force has been employed and professional development is provided. In identifying the best research method, mixed-method, qualitative, and quantitative methods were considered before determining quantitative research was the most applicable.

Qualitative research, according to Adams and Lawrence (2015), is non-numerical. Berger (2014) explained qualitative research focuses on "important social, political, and economic matters and use concepts and theories from psychoanalytic thought" (p. 8). This type of research is theoretical in nature, utilizes interpretations and evaluations, and analyzes concepts to construct explanations (Berger). One of the main benefits of using qualitative research is that it allows for a broad inquiry, which often opens the door for additional research (Choy, 2014).

Choy (2014) offered a list of limitations in qualitative research, including the requirement of skill when conducting the study. Additionally, the results are not always conclusive, issues can easily be excluded, and qualitative research can be time consuming (Choy). The analysis process requires intensive categorization and recording, which requires skill and time (Choy). After considering the limitations of qualitative research, it was determined this type of research was not the most appropriate. Since the utilization of qualitative research was dismissed, the choice of a mixed-methods study was not an option.

With quantitative research, comparisons can be formed from the data gathered within a large population (Creswell, 2014). According to Creswell, the variables in the research "can be measured, typically on instruments, so that numbered data can be

analyzed using statistical procedures" (p. 4). Choy (2014) also pointed out quantitative research can be collected and analyzed within a minimal time period. Creswell further supported the use of quantitative research when he listed survey research as a quantitative design. Creswell stated, "Survey research provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population" (p. 13). Choy reported the following as weaknesses of quantitative research: difficulty obtaining an in-depth description, research of a larger scale is challenging, and participant perceptions are often unknown. However, these limitations would not affect this study in a profound manner.

Population and Sample

After a stratification of the population was conducted to include only certified K-5 regular education teachers employed by one urban school district in Missouri, the population for this study included 500 to 650 K-5 educators. Creswell (2014) explained, "Stratification means that special characteristics of individuals (e.g., gender-females and males) are represented in the sample and the sample reflects the true proportion in the population of individuals with certain characteristics" (p. 158). To ensure the sample was a representation of K-5 regular educators teaching throughout the urban school district, the educators teaching in the elementary schools positioned at the four extreme directional locations (north, south, east, and west) and those teaching at one elementary school centrally located were surveyed. The sample included 95 K-5 regular educators.

To keep the identities of the participating educators and schools anonymous, a geographical location was assigned to each school (north, south, east, west, central). The geographical locations were utilized throughout the research instead of the names of the

participating schools. The paper surveys and consent forms were hand delivered on one occasion to a third party at each of the participating schools and were distributed by those individuals.

Instrumentation

For this study, a cross-sectional survey with open- and closed-ended questions was utilized (see Appendix A). A cross-sectional survey is used when data are being collected from a sample at a specific time (Fink, 2013). This survey was approved by the dissertation committee members and was designed to obtain descriptive data. The survey contained five demographic questions, 25 closed-ended questions, and five open-ended questions.

Oluwatayo (2012) pointed out in educational research there are threats to reliability and validity. These threats include "biases and errors in the conceptualization of the research, the research design, sampling and process of the study" (Oluwatayo, p. 398). According to Creswell (2014), internal threats to validity "are experimental procedures, treatments, or experiences of the participants that threaten the researcher's ability to draw correct inferences from the data about the population in an experiment" (p. 174). Internal threats can include the following: history, maturation, regression, selection, mortality, diffusion of treatment, compensatory/resentful demoralization, compensatory rivalry, testing, and instrumentation (Creswell). For this study, the above internal threats were considered so internal validity could be controlled. Procedures were established to ensure all surveys were distributed and collected by a third party, so participants remained nameless. Survey questions were kept short, simple, and to a minimum.

For the closed-ended questions, a Likert scale was used within the measurement instrument to determine whether regular education teachers have the knowledge and support to address the individual needs of students with ASD using best practices. Adams and Lawrence (2015) explained the Likert scale measures one's beliefs or attitudes about a particular topic or situation and allows for a statistical analysis to be conducted. The Likert scale used for this study contained the following response options: Strongly Agree, Agree, Disagree, and Strongly Disagree. The scale was designed to provide opportunity for a positive or negative response.

Open-ended questions were also utilized within the measurement instrument to provided opportunity for regular educators to thoroughly express their knowledge. The open-ended questions provided opportunity for participants to expand on their knowledge of evidence-based practices, a task force for inclusion, the biggest challenge when educating ASD students, and knowledge of the recommended criteria for curriculum implementation. Adams and Lawrence (2015) emphasized open-ended questions provide opportunity for participants to write individual answers and can later be categorized into major ideas and analyzed.

Data Collection

A comprehensive, sequential process was utilized in collecting data for this study. After obtaining authorization from the Lindenwood University's Institutional Review Board (see Appendix B), permission was sought for and attained from the participating urban school district in Missouri to conduct research within the district (see Appendix C). Consent was reached from the participating urban district by completing a request to

conduct research form and submitting it to the manager of quality improvement and accountability.

Once permission from the participating urban school district was received, the principals from each of the five contributing schools were contacted by phone. After initial contact was established, a letter was sent through district email to each principal explaining the study, the requirements of the third party, and the dates on which the surveys and informed consent forms (see Appendix D) would be distributed to the participating school and collected.

The next step was distributing the paper surveys and consent letters to the participating schools' principals. Both the surveys and consent letters were hand delivered, along with two envelopes labeled "surveys" and "consent letters." Attached to each survey was a consent letter that explained the purpose of the research, along with privacy of identity and voluntary participation statements, contact numbers for questions or concerns, a description of the risks and benefits, and the procedures for completing the survey.

The principal of each of the five schools voluntarily assisted as the third party and distributed and collected the surveys and consent letters to ensure the participants remained anonymous. The surveys and consent letters were collected and stored in two separate envelopes until the researcher collected them one week after distribution. By storing the surveys and consent letters in two separate envelopes and with no identifying information on the surveys, the participants remained anonymous.

Once the surveys were collected, the information represented was presented accurately using an Excel spreadsheet. The data were organized and studied to gather the

necessary information needed to complete the study. The data remained in the possession of the primary investigator at all times and were stored in a locked cabinet at the investigator's residence. After the completion of the study, the statistical and survey information will be stored in a locked cabinet for three years, according to federal regulation.

While collecting and classifying the data, attention was paid to ensure internal and external validity were established (Creswell, 2014). The selection of the participants was arranged, so there was an equal distribution within the population (Creswell). In addition to ensuring a valid selection process, the results for this study were not generalized to groups or individuals with differing characteristics (Creswell). Additionally, since this study included a paper survey that was hand delivered, the participation rate might have been affected. Adams and Lawrence (2015) maintained, "The higher your nonresponse rate, the less likely it is that your sample will represent your population" (p. 127). Of the 95 educators included in the sample, 30 contributed to this study. According to Adams and Lawrence, there would need to be a 10% response rate or higher for a representation of the population to exist.

Data Analysis

Descriptive statistics were used to analyze the quantitative data for this study. Descriptive statistics, as reported by Adams and Lawrence (2015), "answer the who, what, where, when, and how questions" and "provide a way to get more detail about an event or to understand attitudes and behaviors" (p. 103). Descriptive statistics are used to describe data instead of explain relationships (Adams & Lawrence).

The current study included five demographic questions, 24 Likert-type questions, five open-ended questions, and one question that required participants to circle the listed areas of knowledge. The Likert scale used in the current study included the following ranges: SD = Strongly Agree, A = Agree, D = Disagree, and SD = Strongly Disagree. The data gathered from the closed-ended questions were categorized and then tabulated by research question. For this study, the mode was calculated to determine the preparedness of regular educators in educating students with ASD. Measure of central tendency is an average and includes the mean, median, and mode (Salkind, 2011). According to Salkind, "Which measure of central tendency you use depends on the type of data that you are describing" (p. 30). For the open-ended questions, a thematic analysis was utilized to describe and organize the data according to similarities and themes (Adams & Lawrence, 2015).

To further identify patterns and acquire a comprehensive understanding of the quantitative data, frequency and percent distributions were utilized. Salkind (2011) defined frequency distribution as "a method of tallying and representing how often certain scores occur" (p. 52). With a frequency distribution, the data are usually grouped as a range or as class intervals (Salkind). Adams and Lawrence (2015) clarified, "A percentage is the proportion of a score within a sample" (p. 143). Both percent and frequency distributions "describe the places or rankings in the sample" (Adams & Lawrence, p. 158). After completing the frequency and percent distributions, the data were organized into tables for understanding. All statistical analysis were computed and saved in Microsoft Excel.

Ethical Considerations

This study was proposed to and approved by the Institutional Review Board and the participating urban school district in Missouri before the research project was initiated. When analyzing data in quantitative research, Creswell (2014) warned against "disregarding data that proves or disproves personal hypotheses that the researcher may hold" (p. 99). Additionally, Creswell explained, "The data analysis should reflect the statistical tests and not be underreported" (p. 99). The privacy of the participants was respected when analyzing the data, as Creswell suggested. By having a third party (the school principal) distribute and collect the surveys, the identities of the participants were kept anonymous when received by the researcher. If surveys inadvertently included identifying factors, they were not used in the research. Additionally, with the consent form, the participants were notified their participation was voluntary, there was no penalty to withdraw from the research, and there was no requirement to answer all of the questions. Careful attention was taken to ensure all statistical analysis was reported and to ensure the results were unbiased.

Summary

Chapter Three began with an overview of the research problem and purpose. The research questions were presented, followed by the research design. The population and sample for the study were discussed, and an explanation was given for conducting the study using quantitative research. The instrumentation process was offered, along with the procedures for collecting data. Last, the measures used to analyze the data were reviewed.

This quantitative study was descriptive, and modes, percentages, and frequency tables were used to describe the knowledge and support regular educators have in effectively instructing students with ASD within inclusive settings. With the collection and analysis of the data, the regular educator's knowledge of best practices for effectively educating students with ASD could be understood. Collecting and analyzing the data also provided an understanding of the support and professional development delivered to regular educators.

In Chapter Four, demographic information is presented according to individual teacher responses. Individual teacher responses to questions related to the following evidence-based practices are also analyzed and presented: supportive culture/climate, structured environment, individualized programming, ongoing assessments, and flexible curriculum. The results of the data are offered on the types of professional development and support received and whether support is provided through a task force. Finally, Chapter Five includes a summarization of the findings, conclusions, and recommendations for further study.

Chapter Four: Analysis of Data

This study was conducted to determine the knowledge and understandings K-5 regular education teachers have of the evidence-based practices that address the specific needs of students with ASD. Specifically, this study focused on the following areas: supportive culture/climate, structured environment, individualized programming, ongoing assessments, supports and collaboration, professional development, and flexible curriculum. The above areas were mentioned throughout research as necessary requirements for successful inclusion, and the goal of this study was to establish whether K-5 regular educators have knowledge in the above areas, have received professional development, and are provided the needed supports and collaboration time. The researcher also sought to determine whether a task force for inclusion had been established in the urban school district in Missouri where this study was conducted.

Since there is a gap in the research regarding the knowledge of regular educators who educate students with ASD, this study was undertaken to close the gap. School districts across America are placing more and more students with ASD in the regular classroom setting because of the legal mandate of least restrictive environment (Sansosti & Sansosti, 2012). Although the number of students with ASD placed in regular education classrooms is growing, Busby et al. (2012) reported regular educators are unprepared, and there is a need for additional research to determine the actual knowledge regular educators have regarding best practices.

This study involved a quantitative research design. Descriptive statistics were used to analyze the data to determine what knowledge K-5 regular education teachers have regarding best practices for educating students with ASD and to determine whether

a task force had been established within the urban school district in Missouri. Data also contained information regarding professional development and perceived challenges. Surveys completed by K-5 regular educators within one urban school district in Missouri were analyzed.

The current study was conducted within one urban school district in Missouri. Once a stratification of the population was completed, the population included 500 to 650 K-5 regular educators. The K-5 regular educators teaching in the elementary schools located at the four extreme directional locations (north, south, east, and west) and those teaching in one centrally located elementary school were surveyed for this study, which resulted in a sample of 95 K-5 regular education teachers.

Descriptive Analysis of Quantitative Data

Surveys were distributed to 95 K-5 regular educators to collect quantitative data, and 30 educators completed the surveys. Survey questions one through five were designed to gather demographic information. Questions six through 29 were Likert scale items and were utilized so a descriptive analysis could be conducted. The last six questions provided opportunity for regular educators to elaborate on their biggest challenges, training provided or received, criteria for curriculum implementation, a task force for inclusion, knowledge of best practices, and areas of needed training.

The research questions were designed to gather information regarding best practices and were concentrated on the knowledge of K-5 regular educators. Additionally, data were gathered to determine whether a task force for inclusion had been established in the participating urban school district in Missouri. Demographic information was also gathered from the participants.

The demographics of the participants provided the following information: location of the educator's school, years of teaching, highest degree completed, current number of students with ASD, and experience teaching students with ASD. Adams and Lawrence (2015) reported demographic information has no numerical value, but the information can be beneficial. Question one on the survey instrument asked the educators the location of the schools in which they taught. According to the data gathered, seven of the 18 educators (39%) participated from the north school, five of 22 (23%) participated from the south school, one of 18 (6%) participated from the east school, seven of 18 (39%) participated from the west school, and 10 out of 19 K-5 regular educators (53%) contributed to this study from the central school. There were at least 20% of the K-5 regular educators from four out of five schools contributing to the present research.

Table 1 summarizes the demographic information from questions two through five. As displayed in Table 1, 30% of the K-5 regular educators have been teaching for 10 years or fewer, whereas 70% have been teaching for 11 or more years. Over half of the participating educators, 67%, hold a Master's degree or higher. Only 33% of the K-5 educators presently had a student with ASD in their classrooms, and 87% of the educators reported previous experience educating students with ASD.

Table 1

Descriptive Statistics of Demographic Information

Question	Number of Responses
2. Total Years of Teaching Experience	
First Year of Teaching	3
1-5 Years of Teaching	2
6-10 Years of Teaching	4
11-15 Years of Teaching	8
16-20 Years of Teaching	5
More Than 21 Years of Teaching	8
3. Highest Degree Completed	
Bachelors	8
Bachelors + 15	2
Masters	19
Masters + 15	1
PhD/EdD	0
4. Current ASD Students Responsible For	
0 ASD Students	20
1 ASD Student	7
2 ASD Students	2
3 ASD Students	1
More Than 3 ASD Students	0
5. Past Number of ASD Students	
0 ASD Students	4
1-3 ASD Students	11
4-6 ASD Students	12
7-9 ASD Students	0
10 or More ASD Students	3

Note. $n = 30$.

Research question 1. What knowledge and understanding of best practices do K-5 regular education teachers exhibit to address the individual needs of students with ASD in the area of supportive culture/climate?

Survey questions nine and 29 supported this research question (see Table 2). Out of the 30 K-5 educator responses to question number nine, 20 educators (67%) specified they strongly agree they have created a supportive culture with high expectations, unobtrusive support, and respect for diversity. The other 10 K-5 educators (33%) agreed they have established a supportive climate within their classroom. As shown in Table 2, 17 educators (57%) stated they strongly agree to question 29, which asked the K-5 educators if they provide additional support to students when it is needed. Thirteen educators (43%) agreed to this statement. While evidence-based practices are necessary for students with ASD, to be effective they must be implemented naturally and in an unobtrusive manner (Barton & Harn, 2012). Kaweski (2011) emphasized the culture within the classroom must be supportive and respectful of diversity if healthy student development is to occur. As reported in Table 2, the survey results indicated 100% of the participating K-5 educators believe their classrooms are supportive.

Table 2

Descriptive Statistics of Responses to Research Question 1, Supportive Culture/Climate

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
9. In my classroom, I have created	20	10	0	0
29. In my classroom, I ensure	17	13	0	0

Note. $n = 30$.

Research question 1. What knowledge and understanding of best practices do K-5 regular education teachers exhibit to address the individual needs of students with ASD in the area of structured environment?

This research question was answered using questions 10 and 11 (see Table 3). Out of the 30 educator responses to question 10, 26 K-5 educators (87%) strongly agreed they use consistent routines and procedures on a daily basis, and four educators (13%) agreed. As displayed in Table 3, question 11 was answered by 30 educators, with 13 educators (43%) stating they strongly agree their classroom have organized and defined areas for specific purposes, while 17 K-5 educators (57%) agreed they have defined areas in their classrooms. A student with ASD cannot learn and understand if there is not structure and consistency within the classroom, including defined areas for specific purposes (Hanbury, 2012). Along with defined areas for specific purposes, Barton and Harn (2012) also emphasized the need for structured routines and a structured teaching design. It is important educators design a classroom that is structured for students with ASD, and since there were no educators disagreeing or strongly disagreeing to questions 10 and 11,

100% of the K-5 educators surveyed do organize and define the areas within their classrooms with minimal distractions and use consistent routines.

Table 3

Descriptive Statistics of Responses to Research Question 1, Structured Environment

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
10. In my classroom, I use consistent	26	4	0	0
11. In my classroom, areas are organized	13	17	0	0

Note. $n = 30$.

Research question 1. What knowledge and understanding of best practices do K-5 regular education teachers exhibit to address the individual needs of students with ASD in the area of individualized programming?

To determine whether K-5 educators individualize programming in their classrooms, questions 13, 14, 15, 16, and 17 were used, with 30 educators responding to all five questions (see Table 4). Question 13 asked educators if they had the skills to teach a student with ASD to attend to a task or activity. As shown in Table 4, one educator (3%) strongly agreed to this question, 16 (53%) agreed, 12 (40%) disagreed, and one educator (3%) strongly disagreed. The K-5 regular education teachers were split on this question with 17 educators (57%) reporting they have the skills, while 13 educators (43%) reported they do not have the skills to effectively teach attention to a task or activity to a student with ASD.

Question 14 on the survey asked educators if they could effectively teach students with ASD imitation. As presented in Table 4, one educator (3%) strongly agreed, 13 educators (43%) agreed, 14 educators (47%) disagreed, and two educators (7%) strongly disagreed. The K-5 regular educators were also split on this question, with close to an equal distribution between those who believe they have the skills and those who believe they do not have the skills. According to the survey results, 14 educators (47%) reported they could effectively teach a student with ASD imitation, while 16 educators (53%) reported they do not have the skills to teach imitation.

For question 15 of the survey instrument, the educators were asked if they know how to maintain and shift the attention of a student with ASD. As shown in Table 4, two K-5 educators (7%) strongly agreed to question number 15, 14 educators (47%) agreed, 13 (43%) disagreed, and one K-5 educator (3%) strongly disagreed to possessing the skills necessary to maintain and shift the attention of students with ASD. Just over half of the educators (53%) stated they have the skills required to maintain and shift the attention of a student with ASD, while just under half (47%) of the K-5 regular educators reported they do not have these skills.

Question number 16 focused on communication and asked the educators if they could effectively address receptive and expressive language issues within their classrooms. According to the data gathered and displayed in Table 4, one educator (3%) strongly agreed, 18 (60%) agreed, 11 (37%) disagreed, and zero K-5 regular educators strongly disagreed to having the skills required to effectively address receptive and expressive language issues in students with ASD. In analyzing question number 16, more

educators (63%) believe they have the skills to effectively address deficits in the area of communication than those educators who believe they do not have the skills (37%).

Question 17 on the survey also assisted with determining whether K-5 educators have the skills to individualize programming for students with ASD. Question 17 requested educators reflect on their abilities to address social skills and active participation deficits among students with ASD. As revealed in Table 4, one educator (3%) strongly agreed, 19 educators (63%) agreed, and 10 educators (33%) disagreed. There were no educators who strongly disagreed to having the proper skills to effectively address social deficits and encourage active participation in students with ASD. While there were no educators who strongly disagreed, most of the educators (63%) agreed they have the skills and knowledge to address social deficits and increase participation among students with ASD.

According to Barton and Harn (2012), curriculum for students with ASD should be individualized to increase independent functioning, learning, and personal development. The following core skills must be addressed in the classroom if students with ASD are going to function independently, learn, and develop personally: imitation, attention to relevant stimuli, joint attention, participation in daily routines, communication skills, and social skills (Barton & Harn). As shown in Table 4, the data collected from questions 13, 15, 16, and 17 indicate slightly over half of the K-5 educators surveyed can teach a student with ASD how to attend to a task, how to switch from one task to another, how to receive and express their thoughts and feelings, and how to effectively socialize. Slightly fewer than half (47%), according to the results of

question 14, can effectively teach a student with ASD imitation, which is an important skill for learning new proficiencies in the classroom (Barton & Harn).

Table 4

Descriptive Statistics of Responses to Research Question 1, Individualized Programming

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
13. I have the skills to effectively	1	16	12	1
14. I have the skills to effectively-imitation	1	13	14	2
15. I know how to gain	2	14	13	1
16. I know how to address	1	18	11	0
17. If a student is not willing	1	19	10	0

Note. $n = 30$.

Question 34 of the survey instrument was also related to individualized programming (see Table 5). The question listed 17 evidence-based practices that have been proven to be useful in teaching students with ASD. The K-5 regular education teachers were asked to circle the evidence-based practices they could use and implement within their classrooms. As displayed in Table 5, 30 educators responded to this question with more than 80% of the educators noting they could use or implement the following practices within their classroom: differentiated instruction, structured environment, visual schedules, cooperative learning, positive behavior support, and visual/verbal cues. Less than 30% of the educators reported they could effectively use or address the following:

pivotal response treatment, discrete trial training, applied behavior analysis, picture exchange system, and addressing communication (receptive and expressive).

Table 5

Descriptive Statistics of Responses to Survey Question 34, Evidence-Based Practices

Evidence-Based Practice	Number of Responses
Differentiated Instruction	29
Structured Environment	25
Visual Schedules	26
Visual and Organization Tools	18
Cooperative Learning	29
Pivotal Response Treatment	1
Discrete Trial-Training	0
Social Stories	9
Applied Behavior Analysis	2
Picture Exchange System	4
Scaffolding/Task Analysis	15
Positive Behavior Supports	24
Sensory Supports	15
Social Skills Education	9
Visual/Verbal Cues	24
Prompting	23
Communication (Receptive/Expressive)	2

Note. $n = 30$.

Research question 1. What knowledge and understanding of best practices do K-5 regular education teachers exhibit to address the individual needs of students with ASD in the area of ongoing assessments?

Both questions 18 and 19 were used to answer this research question, with 30 K-5 educators responding to both questions (see Table 6). Question 18 asked educators if they regularly collect data and conduct ongoing assessments in order to meet the individual needs of students. As displayed in Table 6, 16 educators (53%) strongly agreed, 14

educators (47%) agreed, and there were no educators who disagreed or strongly disagreed. Since there were no K-5 educators who disagreed or strongly disagreed to question 18, all 30 educators surveyed (100%) reported they regularly collect data and conduct ongoing assessments.

Question 19 asked educators if they conduct observations and assessments within alternate settings when a student is having difficulty in a setting other than their classrooms. As shown in Table 6, two (7%) educators reported they strongly agree, 15 (30%) agreed, 12 (40%) disagreed, and one educator (3%) strongly disagreed. According to the reported data, 17 K-5 regular education teachers (57%) conduct observations and assessments in settings other than their classrooms if the need arises, while 13 educators (43%) reported they do not regularly conduct observations and assessments outside of their classrooms.

Magyar and Pandolfi (2012) emphasized the need for ongoing assessments across settings due to ASD being a neurodevelopmental disorder. Ongoing assessments are also necessary because they are comprehensive (Meyer et al., 2014). From this study's data, it can be concluded K-5 regular educators frequently administer ongoing assessments within their classrooms; however, when students have difficulty in other settings, only approximately half of the K-5 regular educators are likely to conduct observations outside of their classrooms.

Table 6

Descriptive Statistics of Responses to Research Question 1, Ongoing Assessments

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
18. I regularly collect data and conduct	16	14	0	0
19. When a student in my classroom	2	15	12	1

Note. $n = 30$.

Research question 1. What knowledge and understanding of best practices do K-5 regular education teachers exhibit to address the individual needs of students with ASD in the area of supports and collaboration?

Educators teaching students with ASD must be familiar with the current research to effectively address the deficits exhibited by these students (Hendricks, 2011). As a result, there must be administrative support and scheduled collaboration and preparation time (Odom et al., 2011). To determine whether K-5 regular educators receive administrative support and have the opportunity to collaborate, questions 20 and 27 were used on the survey instrument (see Table 7). Thirty educators responded to question 20 and were asked if their administrator was knowledgeable in teaching students with ASD, provided support, and provided the needed resources to effectively teach students with ASD. For this question, three educators (10%) strongly agreed, 20 educators (67%) agreed, and seven educators (23%) disagreed to having administrative support and an administrator knowledgeable in educating students with ASD.

Question 27 on the survey instrument asked K-5 educators if they had opportunity for collaboration with team members, including the special education teacher. As shown

in Table 7, 30 educators responded to this question, and there were 10 educators (33%) who strongly agreed, 16 educators (53%) who agreed, three educators (10%) who disagreed, and one educator (3%) who strongly disagreed to collaboration opportunities. In analyzing the data, most of the K-5 educators (77%) surveyed believe their administrator is knowledgeable in teaching students with ASD and provides support and resources. Most of the K-5 educators surveyed (87%) also believe they have opportunity for collaboration, including collaboration opportunities with the building special education teacher.

Table 7

Descriptive Statistics of Responses to Research Question 1, Supports and Collaboration

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
20. My administrator is knowledgeable	3	20	7	0
27. When a student in my classroom	10	16	3	1

Note. $n = 30$.

Research question 1. What knowledge and understanding of best practices do K-5 regular education teachers exhibit to address the individual needs of students with ASD in the area of professional development?

Professional development is crucial because regular educators believe they do not have the skills to educate students with ASD, and this belief of incompetence is the number one barrier to successfully including these students into the regular classroom setting (Sansosti & Sansosti, 2012). Professional development is most effective when it is

ongoing with the use of mentors, modeling, and constructive feedback (Higginson & Chatfield, 2012). Questions six and seven of the survey instrument (see Table 8) addressed this research question to determine whether the K-5 regular educators surveyed have had sufficient, ongoing training in evidence-based practices to effectively address the needs of students with ASD. For question six, the regular educators were asked if they had received sufficient training to effectively educate students with ASD. Thirty educators responded to this question, with seven educators (23%) stating they agreed, 17 educators (57%) disagreed, and six regular educators (20%) strongly disagreed. After analyzing the responses to question six, more educators (77%) believe they have not received sufficient training than those who believe (23%) they have received enough training to effectively educate students with ASD.

Question seven of the survey instrument asked the K-5 regular educators if they have received ongoing training regarding evidence-based practices that address the specific needs of students with ASD. There were 30 K-5 regular educators who replied to this question. As presented in Table 8, the responses were as follows: four agreed (13%), 19 disagreed (63%), and seven educators strongly disagreed (23%) to receiving ongoing training. According to the data gathered, more K-5 educators (87%) stated they have not received ongoing training than the K-5 educators (13%) who stated they have received ongoing training.

Table 8

Descriptive Statistics of Responses to Research Question 1, Professional Development

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
6. I have received sufficient training	0	7	17	6
7. I am provided ongoing training	0	4	19	7

Note. $n = 30$.

In addition to question seven, question 31, which was an open-ended question, asked educators to explain the types of training they have received at the collegiate level or from the urban school district in Missouri where this study was conducted (see Figure 2). Out of the 30 educators completing the survey instrument, 23 K-5 educators responded to this question with some of the educators providing more than one answer. As shown in Figure 2, only two educators (9%) out of the 23 stated they have received ongoing training from the participating district, while 21 educators (91%) did not report they have received ongoing training. This question supports the data from question seven with most of the educators (87%) reporting they have not received ongoing training. In the study completed by Mueller and Brewer (2013), educators reported ongoing coaching as the most valuable support. Additionally, the researchers concluded ongoing support increases teacher competence and confidence as well as student outcomes (Mueller & Brewer).

While only two educators reported receiving ongoing training in question 31, 12 of the 23 educators (52%) reported the only training they have received on educating students with ASD was through college courses. Additionally, as displayed in Figure 2,

six educators (26%) reported the training they have received was provided through consultations with the building special education teacher. Other themes from question 31 regarding types of professional development opportunities are as follows: expert speakers and various provided resources.

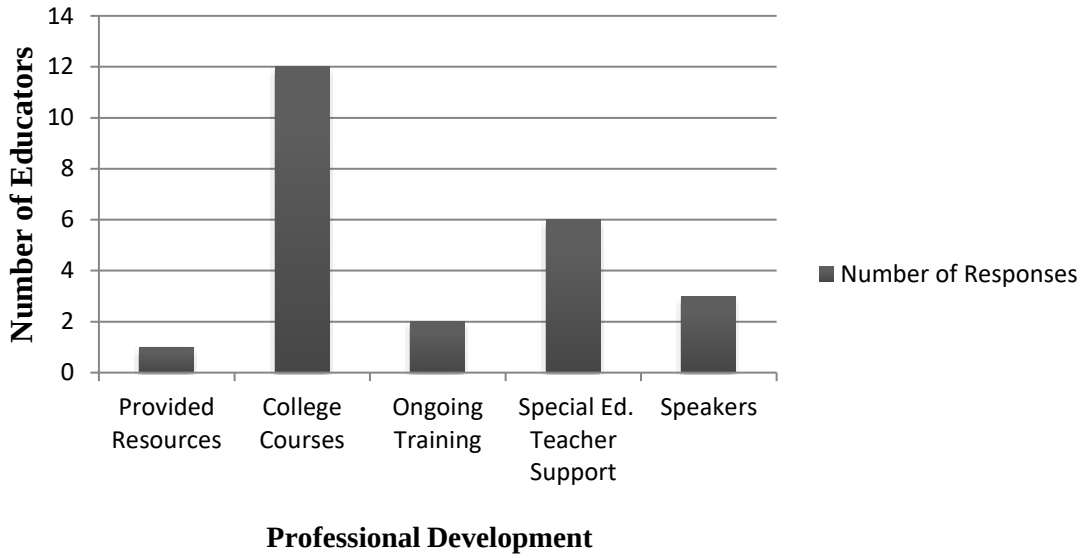

Figure 2. Descriptive statistics of responses to research survey question 31, professional development. $n = 30$.

When considering areas of needed professional development, questions 34 and 35 of the survey instrument were utilized. As mentioned earlier, question 34 of the survey asked educators to circle the evidence-based practices they could effectively use or implement in the classroom. Less than 30% of the educators indicated they could effectively implement the following practices or address the following skills in their classroom: pivotal response treatment, discrete trial training, applied behavior analysis,

picture exchange system, and communication (receptive and expressive). These could be areas for concentrated professional development. However, when the K-5 regular educators were asked in question 35 to list the areas for which they believe training is required, the educators listed differentiated instruction, behavior supports, structured environment, and visual schedules/tools. Out of the 20 educators who answered question 35, seven educators (35%) stated training would be beneficial in all of the areas listed in question 34 of the survey instrument (see Table 5). Additionally three of the 20 educators (15%) marked they would like training in scaffolding/task analysis, and two (10%) indicated they would like training in each of the following areas: social stories, social skills, and sensory supports. One educator (59%) reported needed training is required in the area of pivotal response treatment.

Research question 1. What knowledge and understanding of best practices do K-5 regular education teachers exhibit to address the individual needs of students with ASD in the area of flexible curriculum?

Students with ASD must receive individualized instruction that targets deficit areas and is flexible (Whitmer, 2013). Without a flexible curriculum, success will not occur in the regular classroom setting (Palm, 2012). To determine whether the K-5 regular educators surveyed utilize a flexible curriculum within their classrooms, questions eight, 12, 21, 22, and 23 on the survey instrument were used (see Table 9).

Question eight examined the educators' flexibility with curriculum and sought to determine whether the educators group students according to preferences, strengths, and interests. Of the 30 educators who responded to this question, 17 (57%) strongly agreed and 13 (43%) agreed to providing a flexible curriculum and grouping students. There

were no K-5 regular educators who disagreed or strongly disagreed; therefore, as shown in Table 9, all 30 educators (100%) reported they are flexible with curriculum and group students based on ability, interests, and strengths.

While question eight asked if the educator was flexible with curriculum, question 12 asked the educators if they were flexible with instructional methods and assessments. Thirty educators responded to question 12. As displayed in Table 9, 20 K-5 regular educators (67%) surveyed strongly agreed and 10 educators (33%) agreed to using flexible instructional methods and assessments to address learning differences and to ensure students are reaching their attainable goals. There were no educators who disagreed or strongly disagreed to question 12; therefore, out of the 30 educators surveyed, all of the educators (100%) reported they routinely use flexible instructional methods and assessments.

For question 21, the K-5 regular educators surveyed were asked if they present information in a variety of different ways. Presenting information using a variety of methods supports the recognition network of the brain (Hall et al., 2012). By presenting information using a variety of methods, educators can address the differences in prior knowledge, the inability to read patterns, and can assist with teaching new concepts (Meyer et al., 2014). As shown in Table 9, out of the 30 educators who responded, 14 (47%) strongly agreed and 16 (53%) agreed they present information using a variety of methods. All of the educators surveyed strongly agreed or agreed (100%) to this question.

Question 22 of the survey instrument asked the K-5 regular educators if they allow students to express their knowledge using different methods, which supports the second principle of UDL (Hall et al., 2012). Out of the 30 educators who responded to

this question, 13 strongly agreed (43%) and 17 agreed (57%). As displayed in Table 9, since there were no regular educators who disagreed or strongly disagreed to question 22, all educators surveyed (100%) reported they allow students to express their knowledge using a variety of methods.

Question 23 also assisted with answering the research question concerning flexible curriculum. This question asked the K-5 regular educators if they use hooks, visuals, auditory activities, and hands-on activities to maintain the attention of learners. As shown in Table 9, 30 educators responded to this question, with 15 educators (50%) stating they strongly agree and 15 educators (50%) stating they agree. The data collected show all of the educators surveyed do use hooks, visual and auditory activities, and hands-on activities to focus the attention of learners. There were no educators who disagreed or strongly disagreed to questions eight, 12, 21, 22, or 23; therefore, all 30 educators surveyed (100%) reported they implement a flexible curriculum in their classrooms.

Table 9

Descriptive Statistics of Responses to Research Question 1, Flexible Curriculum

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
8. In my classroom, I group students	17	13	0	0
12. I am flexible with my instruction	20	10	0	0
21. In my classroom, I present information	14	16	0	0
22. In my classroom, I allow students	13	17	0	0
23. In my classroom, I get and maintain	15	15	0	0

Note. $n = 30$.

Research question 2. What kind of task force for inclusion, if any, has been established? Costley (2013) stressed the need for an on-site task force for inclusion composed of educators and administrators to assist with including students with ASD into the regular classroom setting. Question 33, an open-ended question, supported research question two (see Table 10). Out of the 30 K-5 educators completing the surveys, 16 educators answered this survey question. As shown in Table 10, two educators reported a task force had been established within the participating urban school district in Missouri, 11 educators reported a task force had not been established, and three educators reported they did not know if a task force had been established within the urban school district in Missouri.

Table 10

Descriptive Statistics of Responses to Research Question 2, Established Task Force

Occurring Themes/Responses	Number Responding
Yes	2
No	11
Don't Know	3

Note. $n = 16$.

Question 33 also assisted with answering research question two by asking the K-5 educators to describe the established task force within the urban school district in Missouri or to provide a description of a task force if one had not been established. The most common theme from question 33 is that a task force includes a group of educators and administrators who work together to provide support and training to educators who have students within their classrooms with extensive needs. Other educators defined a task force as a resource group that provides a handbook of basic information. Another theme throughout the data gathered was a task force is a group of educators who assist with the implementation of modifications.

Perceived Challenges-Descriptive Data

Busby et al. (2012) reported regular educators believe educating students with ASD is challenging because of the requirement of specialized skills, the need for additional collaboration time, and because of the complex behaviors of the ASD student. In the study completed by Hendricks (2011), educators reported the following as most challenging when working with students with ASD: social, communication, sensory, and

motor deficits. Question 30 of the survey instrument, which was an open-ended question, asked educators to elaborate on their biggest challenges when educating students with ASD. Out of the 30 educators completing the survey instrument, 20 educators replied to question 30 with some of the educators listing more than one answer (see Table 11). Seven educators stated the biggest challenge when educating students with ASD is addressing the needs of 20 to 25 students when one student requires specialized attention. The following challenges were noted in the answers to question 30 and support the research completed by Busby et al. (2012) and Hendricks (2011): social challenges, communication needs, complex/disruptive behaviors, additional collaboration time, and the requirement of specialized skills. Additionally, there were three educators who stated the biggest challenge was understanding the thought processes of the student with ASD, and three educators noted attention to task was the biggest challenge when a student with ASD is included in the regular education classroom.

Table 11

Descriptive Statistics of Responses to Survey Question 20, Biggest Challenge

Occurring Themes	Number Responding
Social Challenges	3
Communication Needs	2
Attention to Task	3
Complex/Disruptive Behavior	2
How ASD Students Think/Process	3
Requirement of Specialized Skills	1
Addressing Needs of 20-25 Students	7
Collaboration Time	1

Note. $n = 20$.

Bandura's Social Cognitive Theory-Descriptive Data

Bandura's social cognitive theory of self-efficacy assisted in explaining the importance of the preparedness of regular educators to provide quality education for students with ASD. Bandura (1995) defined self-efficacy as one's "beliefs in one's capability to organize and execute the course of action required to manage perspective situations" (p. 2). Questions 25 and 26 on the survey instrument were developed to determine whether the K-5 educators surveyed believe they have the skills and confidence to effectively educate students with ASD (see Table 12). Question 25 asked the educators if they were confident they could help all of the students in their classrooms to meet full potential, including students with ASD. Of the 30 educators responding to

this question, 11 educators (37%) strongly agreed, 17 (57%) agreed, and two educators (7%) disagreed. The results indicate 28 regular education teachers out of 30 (93%) have the confidence they can help all students achieve full potential, including students with ASD. The data gathered from question 25 indicate regular educators are confident they do have the skills to effectively educate students with ASD.

Question 26 on the survey instrument asked the 30 regular educators if they have an understanding of the characteristics associated with ASD and can address the issues exhibited by these students. As shown in Table 12, according to the 30 educator responses, two (7%) strongly agreed, 18 (60%) agreed, and 10 educators (33%) disagreed they possess the knowledge and skills to address the deficits exhibited by students with ASD. When the question on the survey instrument focused on specific characteristics associated with ASD (social difficulties, inability to make connections/draw conclusions, attention difficulties, behavioral difficulties, and sensory impairments), as question 26 did, over half (67%) of the participating educators reported they have the confidence, skills, and knowledge to address the exhibited characteristics.

According to Stephanou et al. (2013), with positive self-efficacy, educators can face challenges. The educator is also persistent when challenges are presented (Busby et al., 2012). Bandura (1997) emphasized individuals apply actions, set goals, and are persistent with effort when there is a strong sense of personal self-efficacy. To assist with determining whether K-5 educators have the self-efficacy to be persistent in challenging situations, questions 24 and 28 were utilized (see Table 12).

Question 24 asked educators if they view problems as challenges that must be mastered. This question focused on the persistence of the educator. With 30 educators

responding to question 24, 13 (43%) strongly agreed, 16 (53%) agreed, and one educator (3%) disagreed to seeing problems as challenges that have to be mastered. The data indicated most of the K-5 educators participating in this research (97%) are persistent when problems arise and believe problems must be mastered.

Question 28 on the survey instrument asked the regular education teachers if they plan alternate strategies and learn from their experiences when a strategy or accommodation does not work. This question sought to determine whether K-5 educators are persistent when faced with a challenging situation, which would be an indicator of positive self-efficacy (Bandura, 1997). As presented in Table 12, 30 educators responded to question 30 with 10 (33%) stating they strongly agree and 20 educators (67%) stating they agree. The data from question 28 indicate 100% of the K-5 educators participating in this research believe they learn from their experiences and plan alternate strategies when the implemented accommodations and strategies do not work.

Table 12

Descriptive Statistics of Responses to Survey Questions 24, 25, 26, and 28, Bandura

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
24. When faced with problems	13	16	1	0
25. I am confident I can help	11	17	2	0
26. I have an understanding of the characteristics	2	18	10	0
28. When I implement a strategy/ accommodation	10	20	0	0

Note. $n = 30$.

Criteria for Curriculum Implementation-Descriptive Data

Since there are specific guidelines that should be followed when implementing curriculum within an inclusive setting, question 32 on the survey instrument asked the K-5 educators to explain their knowledge of the recommended criteria (see Table 13). Of the 30 educators participating in this study, 19 educators responded to question 32, with some of the educators providing more than one answer. The following themes were noted when reviewing the answers to survey question 32: meet with team members, review student's IEP, differentiate instruction, and structure. Out of the 19 educators responding to question 32, eight educators reported they did not know how curriculum should be implemented within an inclusive setting. Eight educators also reported curriculum implementation within an inclusive setting should include differentiated instruction. One educator stated curriculum implementation should involve meetings with team members,

and one educator reported curriculum implementation within an inclusive setting involves looking at the student's individualized Education Program [IEP].

Table 13

Descriptive Statistics of Responses to Survey Question 32, Recommended Curriculum

Occurring Themes	Number Responding
Differentiated Instruction	8
Structure	2
Don't Know	8
Meet with Team Members	1
Review Student's IEP	1

Note. $n = 19$.

According to the National Council for Special Education (2011), there are specific guidelines that should be followed when implementing curriculum within an inclusive setting. Curriculum needs to be whole-school planned, differentiated, enjoyable, and should involve the use of evidence-based practices (National Council for Special Education). Within an inclusive classroom, students should also be grouped according to interests, needs, and strengths, and the expectations and objectives should always be prearranged (National Council for Special Education). As shown in Table 13, the data gathered from question 32 indicate 11 of the 19 responses followed the guidelines that should be utilized when implementing curriculum within an inclusive setting. The responses of differentiated instruction, structure, and meeting with team members aligned with the guidelines the National Council for Special Education established.

Summary

Data analysis was completed to determine the knowledge and understandings K-5 regular education teachers have of the following evidence-based practices that address the needs of students with ASD: supportive culture/climate, structured environment, individualized programming, ongoing assessments, supports and collaboration, professional development, and flexible curriculum. The data analysis was also completed to determine whether a task force for inclusion had been established within the participating urban school district in Missouri. A stratification of the population was completed, to include only certified K-5 regular educators. The sample was a representation of K-5 educators teaching in the elementary schools positioned at the four extreme directional locations and those teaching at a school centrally located. The survey instrument was distributed to 95 regular educators, with 30 educators providing feedback.

Descriptive statistics were used to determine the level of understanding of evidence-based practices regular educators have to address the specific needs of students with ASD and to determine whether there was an established task force in the participating urban school district in Missouri. Descriptive statistics were also used to describe demographic information, to explain the biggest challenge educators face when educating students with ASD, and to determine whether K-5 educators have knowledge of the type of curriculum that should be implemented within an inclusive setting. Finally, descriptive statistics were used to assist with determining the self-efficacy of the K-5 regular educators.

Within Chapter Five, the purpose of this study is reviewed, along with the procedures, summary of findings, and the research questions. The limitations of the study

are discussed, and conclusions are summarized. Last, the implications for practice and recommendations are examined.

Chapter Five: Summary and Conclusions

This study was conducted to investigate the specific knowledge K-5 regular educators have concerning evidence-based practices for effectively educating students with ASD. The emphasis was in determining the knowledge regular educators have in the following areas: supportive culture/climate, structured environment, individualized programming, ongoing assessments, supports and collaboration, professional development, and flexible curriculum, which were mentioned in research as necessary for successful inclusion to occur. The purpose of this study was also to determine if a task force was available to assist K-5 regular educators who teach students with ASD within inclusive settings.

Bandura's (1977) Social Cognitive Theory of self-efficacy provided the underpinning for this study. Bandura's theory framed the importance of the preparedness and efficacy beliefs of K-5 regular education teachers to implement quality curriculum for students with ASD. According to Bandura (1997), "Effective functioning requires both skills and the efficacy beliefs to use them well" (p. 37). With a strong sense of self-efficacy, an individual is able to reorganize preexisting skills to manage situations that are unpredictable and constantly changing (Bandura, 1997). Bandura (1997) emphasized, "Perceived self-efficacy is not a measure of the skills one has but a belief about what one can do under different sets of conditions with whatever skills one possesses" (p. 37).

A review of current literature was also provided within this study. The current literature covered inclusion education, including the features of successful inclusion for students with ASD. The review of current literature also focused on the importance of teacher efficacy and quality professional development.

Survey instruments were distributed to K-5 regular education teachers teaching at five different schools located within one urban school district in Missouri, and the results were utilized for the purpose of this study. The acquired data were analyzed to determine the specific knowledge 30 K-5 regular education teachers have concerning the following evidence-based practices for educating students with ASD: supportive culture/climate, structured environment, individualized programming, ongoing assessments, supports and collaboration, professional development, and flexible curriculum. Data were also collected to determine whether a task force had been established to assist the educators in meeting the needs of students with ASD.

The following research questions guided this study:

1. What knowledge and understanding of best practices do K-5 regular education teachers exhibit to address the individual needs of students with ASD in the following areas:

- Supportive culture/climate
- Structured environment
- Individualized programming
- Ongoing assessments
- Supports and collaboration
- Professional development
- Flexible curriculum

2. What kind of task force for inclusion, if any, has been established?

The literature that aligns with this study included a historical review of inclusion education and future implementations. Resistance to inclusion was reviewed along with

the benefits. A detailed discussion of the features of successful inclusion was included in the literature review, and the unique characteristics of students with ASD were summarized. Last, a framework for customizing curriculum, the importance of teacher efficacy, and professional development were topics presented in the literature review as related to this study.

The population for this study included 500 to 650 K-5 regular education teachers employed by one urban school district in Missouri. The sample included 95 K-5 regular educators teaching in elementary schools positioned at the four extreme directional locations (north, south, east, and west) and those teaching at a centrally located elementary school. The K-5 regular education teachers completed surveys distributed by a third party.

Summary of Findings

The surveys were distributed to 95 K-5 regular educators with 30 educators participating in this study, and the results were analyzed to determine the level of knowledge the educators have regarding evidence-based practices to accommodate students with ASD. A data analysis was also conducted to determine the amount of professional development received and to determine if a task force had been established to meet the needs of K-5 educators teaching students with ASD. Data were gathered and reported from K-5 educators teaching in five different schools within one urban school district in Missouri.

The K-5 regular education teachers responded to five demographic questions, 24 Likert scale questions, five open-ended questions, and a question that required the educators to circle their areas of knowledge. The Likert scale used for this study ranged

from strongly agrees, agree, disagree, and strongly disagree. Thirty educators participated in this study, and the descriptive information gathered from the surveys was used to present information for future studies and to for areas of needed professional development.

The first five questions of the survey instrument elicited demographic information, which described the characteristics of the sample and population. According to the information provided by the 30 K-5 regular education teachers who participated in this study, 39% of the educators currently teach at an elementary school positioned at the extreme north, 23% teach at a school located in the southern part of the school district, 6% at an east school, 39% at a west school, and 53% of educators participating in this study currently teach at a centrally located school within one urban school district in Missouri. Out of the 30 educators participating in this study, 70% of the K-5 educators have 11 or more years of teaching experience, while 30% of the educators reported having fewer than 10 years of teaching experience. When asked about the highest degree completed, 67% of the educators who participated stated they had a Master's degree or higher, and 33% reported they had a Bachelor's degree or a Bachelor's plus 15 additional graduate hours. When asked about their current responsibility for teaching students with ASD, 33% of the K-5 regular educators stated they were responsible for at least one student with ASD. In addition, 87% of the participating regular educators reported they have previously been responsible for educating a student with ASD.

Data analysis of survey responses for research question one. Knowledge of evidence-based practices for educating students with ASD was the focus of research question one. Questions nine and 29 of the survey instrument were analyzed to determine

whether the K-5 regular educators have established a supportive culture/climate within their classrooms. Question nine stated the following: “In my classroom, I have created a supportive culture where diversity is respected, students are supported unobtrusively, there are high expectations for all, and the unique gifts of students are celebrated.” Question 29, which was also analyzed to determine whether a supportive culture/climate was present, read, “In my classroom, I ensure all students are learning and provide additional support when it is needed.” Of the 30 teacher responses, 100% of the educators strongly agree or agree they have established a supportive culture/climate within their classrooms. Additionally, 100% of the educators reported they strongly agree or agree they provide additional support to students when there is a need. Overall, the K-5 educators reported they have established a supportive cultures/climate, and they support students when a need is prevalent.

The second evidence-based practice analyzed was structured environment. Questions 10 and 11 on the survey instrument were analyzed to determine whether K-5 educators have established structured classroom environments. Question 10 was, “In my classroom, I use consistent routines and procedures that are communicated to students on a daily basis.” Question 11 stated, “In my classroom, areas are organized and defined for specific purposes, and auditory and physical distractions are minimized.” Since there were no educators who reported they disagree or strongly disagree to questions 10 and 11, it can be concluded the K-5 regular education teachers use consistent routines and procedures, they establish areas defined for specific purposes, and they minimize distractions in their classrooms.

The responses collected regarding individualized programming were more dispersed than those for supportive culture/climate and structured environment. To establish whether K-5 regular educators can individualize programming for students with ASD, questions 13, 14, 15, 16, and 17 on the survey instrument were analyzed. Question 13 asked, "I have the skills to effectively teach a student with Autism Spectrum Disorder to attend to and respond to a particular task, activity, or individual." Thirty educators responded to question 13, with slightly more educators (57%) reporting they have skills to teach attention to a task, activity, or individual. Conversely, out of the 30 educators reporting, 43% stated they do not have these skills.

Question 14 on the survey instrument also focused on individualized programming. Question 14 stated, "I have the skills to effectively teach a student with Autism Spectrum Disorder imitation." After analyzing the 30 educator responses, there were slightly more educators (53%) who reported they do not have the skills to teach imitation, while 47% of the educators reported they do have the necessary skills to teach imitation to a student with ASD. Question 15 asked the K-5 educators to rate the following: "I know how to gain, maintain, and shift the attention of a student with Autism Spectrum Disorder." After reviewing the 30 responses to question 15, 53% of the educators reported they have the knowledge to gain, maintain, and shift the attention of a student with ASD, and 47% stated they do not have the knowledge.

Question 16 focused on determining whether regular educators could address receptive and expressive language deficits. Question 16 on the survey instrument read, "I know how to address the communication needs of students (receptive and expressive language skills) in my classroom." The results from question 16 indicated 63% of the 30

regular educators have the skills to address communication deficits in students with ASD. Thirty-seven percent of the educators stated they do not have the proficiencies to effectively teach communication skills. More K-5 regular educators reported they have the expertise to teach receptive and expressive language skills to students with ASD than those who reported they do not have this expertise.

Last, question 17 focused on individualized programming. Question 17 stated, "If a student is not willing or lacks the social skills to actively participate in the daily routines and classroom activities, I know how to teach the student how to actively participate." After analyzing the information gathered from question 17, 67% of the 30 regular educators stated they could address social deficits and encourage participation in students with ASD, while 33% of the educators reported they do not have the skills to address social and participation deficits in students with ASD. Most of the K-5 educators contributing to this study (67%) reported they do have the necessary skills to address deficits in the areas of social ability and task completion.

Question 34 of the survey instrument also focused on individualized programming. The question listed the following 17 evidence-based practices that are effective for students with ASD, and the educators were asked to circle the practices they could use and implement: differentiated instruction, structured environment, visual schedules, visual and organization tools, cooperative learning, pivotal response treatment, discrete trial training, social stories, applied behavior analysis, picture exchange system, scaffolding/task analysis, positive behavior supports, sensory supports, social skills education, visual/verbal cues, prompting, and addressing communication (receptive/expressive). Of the 30 educators responding to question 34, at least 80% of the

educators reported they could use and implement the following evidence-based practices: differentiated instruction, structured environment, visual schedules, cooperative learning, positive behavior support, and visual/verbal cues. Conversely, 30% or fewer educators listed they were able to implement or teach the following: pivotal response treatment, discrete trial-training, applied behavior analysis, picture exchange system, and communication (receptive/expressive).

The fourth evidence-based practice analyzed was ongoing assessments, and questions 18 and 19 were used to determine whether K-5 educators regularly use ongoing assessments. Question 18 on the survey instrument stated, “I regularly collect data and conduct ongoing assessments to address the individual needs of students in my classroom.” In analyzing question 18, 100% of the regular education teachers strongly agreed or agreed they conduct ongoing assessments to meet the specific needs of students. Question 19 was, “When a student in my classroom has had difficulty in settings other than my classroom, I have conducted observations/assessments within other settings.” When analyzing question 19, if the student is having difficulty in other settings, 57% of the 30 K-5 educators reported they would conduct observations and assessments in settings other than the classroom. The other 43% reported they would not regularly conduct observations and assessments outside of the classroom if a student was having difficulty.

The area of supports and collaboration was another evidence-based practice analyzed, and questions 20 and 27 on the survey instrument were used to determine whether K-5 regular educators are supported and have opportunity for collaboration. Question 20 stated, “My administrator is knowledgeable in teaching students with Autism

Spectrum Disorder and provides the support and resources when needed." When reviewing question 20, 23 educators (77%) reported they strongly agree or agree their administrator is knowledgeable in teaching students with ASD and provides support and resources, while seven (23%) reported they disagree to question 20. Question 27 on the survey instrument was, "There is collaboration, in my building, with the special education teacher and other team members to effectively provide support for teaching students with Autism Spectrum Disorder." Of the 30 educators responding to question 27, 26 (87%) strongly agreed or agreed they have opportunities to collaborate with team members. Four educators (13%) reported they are not offered opportunities to collaborate. Overall, most of the K-5 regular education teachers surveyed reported they are supported and have opportunities for collaboration.

Sansosti and Sansosti (2012) emphasized the importance of professional development for the inclusion of students with ASD to be successful. Questions six and seven on the survey were used to determine whether K-5 regular educators have had sufficient ongoing training in evidence-based practices. Question six, which was answered by 30 educators, asked, "I have received sufficient training that has prepared me to effectively educate students with Autism Spectrum Disorder." In analyzing the responses to question six, 23 educators (77%) reported they disagree or strongly disagree to receiving sufficient training in effectively educating students with ASD. Seven educators (23%) agreed they have received sufficient training. Question seven on the survey instrument stated, "I am provided ongoing training from my district regarding evidence-based practices that address the needs of students with Autism Spectrum Disorder." After reviewing the 30 responses to question seven, 26 K-5 regular education

teachers (87%) disagreed or strongly disagreed and four (13%) agreed to receiving ongoing training in evidence-based practices that are effective for students with ASD. Overall, after analyzing questions six and seven, most of the K-5 regular education teachers reported they have not received sufficient training or ongoing training in evidence-based practices for effectively educating students with ASD.

In addition to being important, professional development should also be ongoing, according to the research completed by Mueller and Brewer (2013). Question 31 on the survey instrument was an open-ended question and asked the following: "Explain what kind of training you have received at the collegiate level or from your district for effectively educating students with Autism Spectrum Disorder." The responses to question 31 were consistent with the responses from questions six and seven. Twenty-three K-5 educators completed question 31 on the survey instrument, with two (9%) stating they have received training from the district in which they work. Therefore, 21 educators (91%) did not state they have received training from the district. Additionally, 12 of the 23 educators (52%) reported the training received was through college courses, and six (26%) reported collaboration with the special education teacher was the only training they had received. Overall, after analyzing question 31, the K-5 regular education teachers have received training at the collegiate level and have received additional assistance from the building special education teacher; however, most of the educators reporting have not received training from the urban school district in Missouri where this research was conducted.

Another evidence-based practice investigated was flexible curriculum, and questions eight, 12, 21, 22, and 23 on the survey were utilized to determine whether K-5

regular education teachers are flexible with the curriculum in their classrooms. Question eight was, “In my classroom, I group students according to learning preferences, strengths, and interests. I am flexible with the curriculum to accommodate for individual differences.” After analyzing the responses to question eight, 100% of the K-5 regular education teachers strongly agreed or agreed they group students according to preferences, strengths, and interests.

Flexibility was also the focus of Question 12. Question 12 stated, “I am flexible with my instruction methods and assessments to address learning differences to ensure all students are reaching their attainable goals.” Additionally, 100% of the 30 regular education teachers participating in the survey strongly agreed or agreed they are flexible with their instructional methods and assessments. Question 21 on the survey instrument was, “In my classroom I present information in a variety of different ways.” After reviewing the 30 responses to question 21, 100% of the regular educators strongly agreed or agreed they present information using a variety of methods.

Question 22 addressed flexibility by addressing differentiation. Question 22 on the survey stated the following: “In my classroom, I allow students to express their knowledge of the content in different ways.” Of the 30 responses, 100% of the educators strongly agreed or agreed they allow students to express their knowledge using different methods.

Question 23 was the final question on the survey instrument that addressed flexible curriculum. The question was, “In my classroom, I get and maintain the attention of learners through hooks, and teach using hands-on, visual, and auditory activities (learning is interesting, challenging, and authentic).” With 30 responses to question 23,

100% of the educators reported they use hooks, hands-on activities, and visual and auditory activities to maintain the attention of students. Since there were no K-5 regular education teachers who disagreed or strongly disagreed to questions eight, 12, 21, 22, or 23, 100% of the 30 educators reported they utilize a flexible curriculum in their classroom.

Data analysis of survey responses for research question two. The focus of research question two was in determining whether a task force for inclusion had been established in the urban school district in Missouri where this study was conducted. Question 33 on the survey instrument was an open-ended question and addressed research question two. Question 33 stated the following: "If a task force for inclusion has been established in your school district please describe it. If not please describe what a task force should involve." Sixteen of the 30 educators who contributed to this research answered question 33 on the survey instrument with two K-5 educators (13%) stating a task forced had been established, 11 (69%) reported no task force had been established, and three (19%) reported not knowing whether a task force had been established. Overall, of the 16 K-5 regular education teachers who answered question 33, most (69%) reported no task force had been established within the urban school district in Missouri where this research was conducted. Additionally, in analyzing the data, most of the 16 educators reported a task force includes educators and administrators whose goal is to provide support and training to educators with students who have special needs. Although it was reported a task force had not been established within the urban school district in Missouri where this research was conducted, the K-5 regular education teachers do have an understanding of the definition of a task force and of the key players involved.

Additional information from data analysis of survey responses. Both Busby et al. (2012) and Hendricks (2011) reported regular educators believe educating students with ASD is challenging because of the additional preparation time that is needed, the complex deficits students with ASD exhibit, and because of the specialized educator skills required. Question 30 of the survey instrument was an open-ended question and asked, "If you have taught students with Autism Spectrum Disorder in your classroom, explain the biggest challenge and what areas you needed more training." There were 20 K-5 educators who responded to question 30, and the task of addressing the needs of 20 to 25 students when a student requires individualized attention was reported by seven educators as being the biggest challenge when educating a student with ASD. Other themes that were noted as challenges from question 30 were social challenges, communication needs, complex/disruptive behaviors, additional collaboration time, requirement of specialized skills, understanding the thought processes of students with ASD, and attention to task. In analyzing the data, the following were themes reported by the 30 K-5 educators that were the same as those reported by Busby et al. and Hendricks as the reasons regular educators believe educating students with ASD is challenging: additional collaboration time needed, deficits ASD students exhibit, and the requirement of specialized skills.

Bandura (1997) emphasized competence requires skills and the confidence to use the skills well. In analyzing the survey results, the K-5 regular educators participating in this study reported they have the skills to establish a supportive culture in their classroom, and they provide support to students when there is a specific need. The educators also stated they have the skills to establish consistent routines and implement

consistent procedures, to conduct ongoing assessments, and to implement a flexible curriculum.

However, when investigating individualized programming or the core skills students with ASD need to learn, develop, and gain independence, the K-5 educators participating in this study were not as confident in their abilities. The core skills that must be taught to students with ASD, according to Barton and Harn (2012), are the following: imitation, attention to relevant stimuli, joint attention, participation in daily routines, communication skills, and social skills. In reviewing the data from question 13 of the survey instrument, slightly less than half of the K-5 educators (43%) reported they do not have the skills to teach attention to task or the ability to gain, maintain, and shift the attention of a student with ASD (47%), which was information analyzed from question 15. From the information gathered from question 14 of the survey instrument, slightly more than half of the regular education teachers (53%) reported they do not have the skills to teach imitation. Whereas, in analyzing questions 16 and 17, 63% of the 30 educators reported they have the skills to teach receptive and expressive language skills, and 67% of the K-5 regular education teachers reported they have the skills to teach social skills.

Additionally, in analyzing question 34 of the survey instrument, 75% or more of the K-5 educators participating in this study reported they can use or successfully implement the following evidence-based practices: differentiated instruction (97%), create a structured environment (83%), visual schedules (87%), cooperative learning (97%), positive behavior supports (80%), sensory supports (83%), visual/verbal cues (80%), and prompting (77%). Conversely, the following evidence-based practices were

reported by very few educators as practices they could use or implement successfully: pivotal response treatment (3%), discrete trial training (0%), social stories (30%), applied behavior analysis (7%), picture exchange system (13%), social skills education (30%), and receptive expressive language skills (7%). After an in-depth review of the data, the K-5 educators contradicted themselves regarding their abilities to effectively teach social skills and communication skills to students with ASD. From the information gathered from questions 16 and 17, slightly more than 60% of the K-5 educators participating in this study reported they could teach communication and social skills to students with ASD, whereas the information gathered from question 34 indicated the educators did not have the skills to successfully teach social or communication skills.

Along with the skills, Bandura (1997) emphasized confidence in using the skills. Questions 25 and 26 on the survey were developed to determine whether the K-5 regular education teachers believe they have the skills and confidence to effectively educate students with ASD. Question 25 stated, “I am confident I can help all of the students in my classroom reach their full potential, including those with Autism Spectrum Disorder.” Of the 30 educators responding to question 25, 28 K-5 educators (93%) strongly agreed or agreed they were confident they could help all students, including those with ASD. Question 26 asked, “I have an understanding of the characteristics associated with Autism Spectrum Disorder (social difficulties, inability to make connections/draw conclusions, attention difficulties, behavioral difficulties, and sensory impairments), and I have the skills and knowledge to address these issues in my classroom.” Of the 30 educator responses, 20 educators (67%) reported they have the skills to address the characteristics associated with ASD.

Bandura (1997) also emphasized individuals with a strong sense of personal self-efficacy are persistent in their endeavors when challenges are presented. Questions 24 and 28 were utilized to determine whether K-5 regular educators are persistent during challenging situations. Question 24 read, “When faced with problems in my classroom, I view them as challenges that have to be mastered.” Twenty-nine (97%) of the 30 educators strongly agreed or agreed to viewing problems as challenges that have to be mastered. Question 28 stated, “When I implement a strategy/accommodation in my classroom and it does not work, I plan an alternate strategy and learn through my experience.” All 30 of the regular education teachers who responded to question 28 strongly agreed or agreed they implement alternate strategies and learn through their experiences when a strategy or accommodation does not work. Overall, most of the K-5 educators participating in this study view problems as challenges that must be mastered and implement alternative strategies when the first plan does not work.

Finally, according to the National Council for Special Education (2011), curriculum implemented within an inclusive setting should be whole-school planned, differentiated, enjoyable, and should include evidence-based practices. Additionally, the National Council for Special Education also emphasized the need for grouping according to abilities, interests, and strengths. With specific criteria for implementing curriculum within an inclusive setting, it was important to determine whether K-5 educators had knowledge of the suggested criteria. Question 32 on the survey stated, “Explain the understanding you have of the recommended criteria for curriculum implementation in inclusive settings.” Out of the 30 educators participating in this study, 19 responded to question 32, and eight educators (42%) stated they do not know how curriculum should

be implemented within an inclusive setting. Additionally, eight educators (42%) also reported differentiated instruction should be a part of the curriculum when educating students in an inclusive setting. In reviewing the responses to question 32, 11 of the 19 responses followed the guidelines established by the National Council for Special Education with the following responses aligning: differentiated instruction, structure, and meeting with team members.

Limitations of the Findings

The limitations of this study originated from the research design selected by the researcher and the sample represented. Information was gathered from K-5 regular education teachers within only one urban school district in Missouri. Additionally, the sample was limited to 95 K-5 regular education teachers positioned at the four extreme directional locations (north, south, east, and west) and one centrally located. Since only 30 educators total completed the surveys, including only one educator from the school positioned at the east location, a representation of the population could be limited. The surveys were also distributed at the beginning of the school year when educators have high levels of prior commitments, which could have affected the sample size.

Another limitation was a survey was utilized to obtain information from educators regarding their perceptions of their own abilities. Since the responses were based on opinion and the surveys were completed anonymously without the presence of the researcher, inaccurate information could have been obtained due to response bias. Response bias occurs, according to Rubie-Davies and Hattie (2012), because one's personal characteristics and interests affect the way the individual answers questions. Additionally, the responses to the open-ended questions could not be explained by

participants, since the educators completed the surveys privately. It is, however, an assumption the K-5 regular educators participating in this research answered the questions on the survey honestly and response bias did not occur. It was also an assumption that inclusion education varies across districts, but with certain criteria in place inclusion can be successful. A final assumption is professional development varies in quantity and quality across districts, but according to Dixon et al. (2014), there are proven guidelines that can improve the quality of professional development.

Conclusions

While staying within the framework of the limitations presented with this study, the knowledge and understanding K-5 regular educators have in regard to best practices for educating students with ASD were investigated. Additionally, this study was designed to determine whether a task force for inclusion existed within the participating school district. Based on the questions that were addressed in the study, the research was descriptive in nature; therefore, a statistical analysis was not needed.

Research question 1. What knowledge and understanding of best practices do K-5 regular education teachers exhibit to address the individual needs of students with ASD in the following areas: supportive culture/climate, structured environment, individualized programming, ongoing assessments, supports and collaboration, professional development, and flexible curriculum?

The information collected from research questions six through 23 and questions 27, 29, 31, and 34 provided the descriptive data to answer research question one. Descriptive statistics describe data and assist with understanding one's attitudes and behaviors (Adams & Lawrence, 2015). Based on the data gathered, all of the participating

K-5 educators teaching in the urban school district in Missouri have established a supportive culture/climate, have organized and defined work areas, and use consistent routines within their classrooms. The information gathered also revealed all 30 of the K-5 regular education teachers regularly collect data and conduct ongoing assessments; are flexible with curriculum; and group students based on ability, interests, and strengths. All of the K-5 regular educators collect data and conduct ongoing assessments; however, only 17 of the 30 K-5 regular education teachers conduct observations and assessments outside of the classroom setting when a student is having difficulty.

The following core skills must be addressed within inclusive settings, according to Barton and Harn (2012), in order for students with ASD to meet their attainable goals: imitation, attention to relevant stimuli, joint attention, participation in daily routines, communication skills, and social skills. Based on the data, 14 of the 30 K-5 regular education teachers employed by the urban school district in Missouri can teach imitation to students with ASD, while 16 do not have the skills. Sixteen of the 30 educators can also maintain and shift the attention of a student with ASD, and 14 educators do not have the skills to complete this task. Students with ASD often have difficulty attending to tasks, and 13 of the 30 K-5 regular education teachers do not have the abilities to teach attention to task, while 17 educators have the skills to teach a student with ASD to engage in an activity or task (Denning & Moody, 2013). The data from question 16 revealed more of the K-5 regular educators have the skills to address communication deficits in students with ASD, with 19 of the 30 educators having the abilities. Additionally, 20 of the 30 K-5 educators working in the urban district in Missouri have the abilities to teach social skills to students with ASD according to question 17 on the

survey instrument. However, very few of the K-5 regular educators indicated they could teach social or communication skills to students with ASD on question 34 of the survey instrument.

When teaching a student with ASD within an inclusive setting, Odom et al. (2011) emphasized the need for support at the administrative level and for collaboration and preparation time with team members. The information gathered from the survey results revealed 23 of the 30 K-5 regular education teachers employed by the urban school district in Missouri are provided administrative support, and 26 of the 30 educators are provided opportunities for collaboration with team members. Professional development is also crucial and should be ongoing (Higginson & Chatfield, 2012). Most of the K-5 regular education teachers (23 out of 30) have not received sufficient training to adequately educate students with ASD and have not received ongoing training in evidence-based practices (26 out of 30). The analyzed data revealed only two out of the 23 K-5 education teachers reported having received ongoing training from the urban school district in Missouri, while 12 have only received training at the collegiate level.

Research question 2. What kind of task force for inclusion, if any, has been established?

According to Costley (2013), an inclusion task force composed of specialists should be available to assist regular educators responsible for teaching students with ASD. After analyzing the data, of the 16 K-5 regular education teachers responding to question 33, two reported a task force has been established in the urban school district in Missouri where this study was conducted. Although only two educators reported a task force has been established, most of the 16 educators answering question 33 did

understand a task force is composed of educators and administrators whose goal is to support and train teachers who educate students with special needs.

Implications for Practice

According to the survey results and descriptive statistics, the following practices would be beneficial for K-5 regular educators teaching students with ASD in learning environments that are inclusive:

1. Educators teaching students with ASD in learning environments that are inclusive need additional professional development opportunities in evidence-based practices for educating students with ASD. Barton and Harn (2012) suggested:

> When professional development is offered as in-service training, colleagues can work together to take information learned and turn it into actual practice through peer coaching and follow-up consultation with trainers. This takes time and support, so working with administrators is essential in making sure practitioners have time set aside to observe peers, provide feedback to one another, and meet with consultants. (p. 272)

Professional development is a must if the competencies of educators teaching students with ASD are to improve (Barton & Harn).

2. Educators teaching students with ASD within inclusive settings need additional knowledge of how to teach the following core skills to students with ASD: imitation, attention to relevant stimuli, joint attention, participation in daily routines, communication skills, and social skills. Students with ASD have to be provided with opportunities to socialize, communicate, imitate, attend to relevant stimuli, understand

nonverbal behaviors, and participate in daily routines within nonintrusive, nurturing, and highly structured settings (Barton & Harn, 2012). Hanbury (2012) stressed:

> The majority of students with autism are now educated in mainstream provision and educators need to ensure that we can provide a meaningful, learner-focused programme for each individual by developing our curriculum and our practice to meet an ever-changing need. (p. 2)

Educators must be willing to teach the core skills related to the deficits exhibited by students with ASD if these students are to learn, function independently, and mature (Barton & Harn).

3. Teachers educating students with ASD within inclusive settings need additional information and opportunities for conducting observations and assessments outside of their classrooms. Magyar and Pandolfi (2012) stressed the need for progress motoring to assess the student's response to interventions and supports provided. The need to conduct observations outside of the classroom was also emphasized by Magyar and Pandolfi to determine whether the student with ASD is using the knowledge taught in other settings, or to determine whether a global effect is occurring.

4. A task force needs to be established to assist educators teaching students with ASD. Costley (2013) reported the need for an on-site task force to assist with the inclusion of students with ASD. Boston Public Schools (2014) emphasized a task force is important to improve education for all students. The inclusion task force developed by Boston Public Schools has initiated an inclusion plan that utilizes UDL, implements professional development through a tiered design, establishes integrated classrooms beginning at the lower elementary level, and provides on-site inclusion specialists. In

order to move to effectively integrating students with disabilities into the regular classroom, a task force must be established (Boston Public Schools).

5. Educators need additional understanding of how to address the characteristics associated with ASD (social difficulties, inability to make connections/draw conclusions, attention difficulties, behavioral difficulties, and sensory impairments). Bandura (1997) stressed the need for skills and emphasized confidence in using the skills. Bandura (1997) stated, "Effective functioning requires both skills and the efficacy beliefs to use them well" (p. 37).

Recommendations for Future Research

Based on the information gathered from this study, several recommendations for future studies can be offered. One study that would be of importance would be to analyze the preparedness of regular educators at the middle school and high school levels and their abilities to effectively educate students with ASD using evidence-based practices. According to Szidon, Ruppar, and Smith (2015), the gap between the student with ASD and their peers in the area of social communication is often much bigger at the middle and high school levels. Studying middle school and high school teachers' abilities to address the social communication challenges of students with ASD could assist school districts in their endeavors to prepare students with ASD for transition out of middle school and high school.

Furthering this study to include a larger sample with focus on the regular education teachers' abilities and knowledge to teach core skills (imitation, attention to relevant stimuli, joint attention, participation in daily routines, communication skills, and social skills) to students with ASD would be beneficial. Barton and Harn (2012)

emphasized students with ASD could not learn, independently function, or mature without being taught the above core skills. With more and more students with ASD being placed in the regular classroom setting, investigating the knowledge of K-5 educators to effectively teach the above core skills could not only be beneficial to school districts, but could also benefit students with ASD.

Investigating established inclusion task forces would be beneficial, since it is the responsibility of schools districts to educate all students. Costley (2013) stressed the need for an on-site task force to assist regular education teachers educating students with ASD. It could be beneficial to school districts to compare the characteristics of inclusion task forces within various districts. The similarities and differences could be investigated, along with the effectiveness. This could assist school districts in their endeavors to effectively educate all students.

A last suggestion would be to conduct a study and investigate the K-5 regular educators' confidence in using the skills they have in teaching students with ASD. Bandura (1997) noted without the confidence to use the skills one has, success cannot occur. If a study is conducted to determine the confidence regular educators have in implementing evidence-based practices specific for students with ASD, information could be provided to school districts on where the lack of confidence lies in order to provide additional information on areas of needed assistance.

Summary

The purpose of this study was to investigate the level of knowledge and understanding K-5 regular education teachers have in regard to evidence-based practices that address the individual needs presented by students with ASD. This study also

focused on determining whether an inclusion task force has been established in the district where this study was conducted. Bandura's Social Cognitive Theory established the importance of effective training for regular educators. It was determined K-5 regular education teachers have established supportive cultures/climates, provide defined work areas, and use consistent routines. Regular education teachers also regularly collect data; implement a flexible curriculum; and group students according to strengths, ability, and interests. It was also determined K-5 regular educators are supported by their administrators and have time for collaboration with team members. Regular education teachers, however, do not regularly conduct observations outside of the classroom setting, and they often lack the proficiencies to teach core skills (imitation, attention to relevant stimuli, joint attention, participation in daily routines, communication skills, and social skills) to students with ASD. In addition, K-5 regular education teachers have not received sufficient training or ongoing training in the area of evidence-based practices, and a task force for inclusion has not been established in the school district where this research was conducted.

This study can provide a foundation for additional studies. Questions were raised regarding the regular educators' confidence in their abilities to implement evidence-based practices along with the need for quality inclusion task forces so all students are receiving an adequate education. As inclusion for students with disabilities, including those with ASD, continues to expand, further studies will be needed to determine the support regular education teachers are receiving and the quality of education being provided.

Appendix A

Survey Questions

1. What is the location of your school?
    - North
    - South
    - East
    - West
    - Central

2. How many total years have you been teaching?
    - First year of teaching
    - 1-5 years
    - 6-10 years
    - 11-15 years
    - 16-20 years
    - 21 years or more

3. What is the highest degree you have completed?
    - Bachelors
    - Bachelors + 15
    - Masters
    - Masters + 15
    - Ph.D/Ed.D

4. How many students with Autism Spectrum Disorder are you currently responsible for teaching?
    - 0
    - 1
    - 2
    - 3
    - More than 3

5. During your years of teaching, how many students with Autism Spectrum Disorder have you been responsible for teaching?
    - 0
    - 1-3
    - 4-6
    - 7-9
    - 10 or more

6. I have received sufficient training that has prepared me to effectively educate students with Autism Spectrum Disorder.
   Strongly Agree
   Agree
   Disagree
   Strongly Disagree

7. I am provided ongoing training from my district regarding evidence-based practices that address the needs of students with Autism Spectrum Disorder.
   Strongly Agree
   Agree
   Disagree
   Strongly Disagree

8. In my classroom, I group students according to learning preferences, strengths, and interests. I am flexible with the curriculum to accommodate for individual differences.
   Strongly Agree
   Agree
   Disagree
   Strongly Disagree

9. In my classroom, I have created a supportive culture where diversity is respected, students are supported unobtrusively, there are high expectations for all, and the unique gifts of students are celebrated.
   Strongly Agree
   Agree
   Disagree
   Strongly Disagree

10. In my classroom, I use consistent routines and procedures that are communicated to students on a daily basis.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

11. In my classroom, areas are organized and defined for specific purposes, and auditory and physical distractions are minimized.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

12. I am flexible with my instruction methods and assessments to address learning differences to ensure all students are reaching their attainable goals.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

13. I have the skills to effectively teach a student with Autism Spectrum Disorder to attend to and respond to a particular task, activity, or individual.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

14. I have the skills to effectively teach a student with Autism Spectrum Disorder imitation.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

15. I know how to gain, maintain, and shift the attention of a student with Autism Spectrum Disorder.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

16. I know how to address the communication needs of students (receptive and expressive language skills) in my classroom.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

17. If a student is not willing or lacks the social skills to actively participate in the daily routines and classroom activities, I know how to teach to student how to actively participate.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

18. I regularly collect data and conduct ongoing assessments to address the individual needs of students in my classroom.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

19. When a student in my classroom has had difficulty in settings other than my classroom, I have conducted observations/assessments within other settings.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

20. My administrator is knowledgeable in teaching students with Autism Spectrum Disorder and provides the support and resources when needed.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

21. In my classroom, I present information in a variety of different ways.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

22. In my classroom, I allow students to express their knowledge of the content in different ways.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

23. In my classroom, I get and maintain the attention of learners through hooks and teach using hands-on, visual, and auditory activities (learning is interesting, challenging, and authentic).
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

24. When faced with problems in my classroom, I view them as challenges that have to be mastered.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

25. I am confident I can help all of the students in my classroom reach their full potential, including those with Autism Spectrum Disorder.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

26. I have an understanding of the characteristics associated with Autism Spectrum Disorder (social difficulties, inability to make connections/draw conclusions, attention difficulties, behavioral difficulties, and sensory impairments), and I have the skills and knowledge to address these issues in my classroom.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

27. There is collaboration, in my building, with the special education teacher and other team members to effectively provide support for teaching students with Autism Spectrum Disorder.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

28. When I implement a strategy/accommodation in my classroom and it does not work, I plan an alternate strategy and learn through my experience.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

29. In my classroom, I ensure all students are learning and provide additional support when it is needed.
    Strongly Agree
    Agree
    Disagree
    Strongly Disagree

30. If you have taught students with Autism Spectrum Disorder in your classroom, explain the biggest challenge and what areas you needed more training.

31. Explain what kind of training you have received at the collegiate level or from your district for effectively educating students with Autism Spectrum Disorder.

32. Explain the understanding you have of the recommended criteria for curriculum implementation in inclusive settings.

33. If a task force for inclusion has been established in your school district, please describe it. If not, please describe what a task force should involve.

34. Please circle the area(s) that you have knowledge and could use or implement in your classroom:

    Differentiated Instruction
    Structured Environment
    Visual Schedules
    Visual and Organization Tools
    Cooperative Learning
    Pivotal Response Treatment
    Discrete Trial-Training
    Social Stories
    Applied Behavior Analysis
    Picture Exchange System
    Scaffolding/Task Analysis
    Positive Behavior Supports
    Sensory Supports
    Social Skills Education
    Visual/Verbal Cues
    Prompting
    Addressing Communication (Receptive/Expressive)

35. Of the above, which area(s) do you feel training is critical to effectively educate students with Autism Spectrum Disorder and why?

Appendix B

LINDENWOOD

LINDENWOOD UNIVERSITY ST. CHARLES, MISSOURI

DATE:	August 5, 2015
TO:	Tammy Rhodes
FROM:	Lindenwood University Institutional Review Board
STUDY TITLE:	[769952-1] A Study of the Regular Educators' Preparedness to Educate Students with Autism Spectrum Disorder (ASD)
IRB REFERENCE #:	
SUBMISSION TYPE:	New Project
ACTION:	APPROVED
APPROVAL DATE:	August 5, 2015
EXPIRATION DATE:	August 5, 2016
REVIEW TYPE:	Expedited Review

Thank you for your submission of New Project materials for this research project. Lindenwood University Institutional Review Board has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

- The sponsor indicated that she will email the school district approval letter. This letter should be uploaded to the project package. Data collection may not begin until this is completed.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the study and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to the IRB.

This project has been determined to be a Minimal Risk project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the completion/amendment form for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of August 5, 2016.

Please note that all research records must be retained for a minimum of three years.

If you have any questions, please contact Megan Woods at (636) 485-9005 or mwoods1@lindenwood.edu. Please include your study title and reference number in all correspondence with this office.

If you have any questions, please send them to mwoods1@lindenwood.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Lindenwood University Institutional Review Board's records.

Appendix C

To: Tammy Rhodes

From: [redacted]

Date: August 4, 2015

Subject: Request to Conduct Research

Your request to conduct research proposal titled, *A Study of the Regular Educators' Preparedness to Educate Students with Autism Spectrum Disorder,* submitted for consideration has been approved for submitted for consideration has been approved. Please understand this letter constitutes district approval, but the final decision for participation rests with each building principal. You will need to seek approval from each building principal before conducting your research.

Feel free to contact [redacted] at [redacted] if you have questions or need additional information.

[redacted]
Manager, Quality Improvement and Accountability

Appendix D

Lindenwood University
School of Education
209 S. Kingshighway
St. Charles, Missouri 63301

Informed Consent for Participation in Research Activities

"A Study of the Regular Educators' Preparedness to Educate Students with ASD"

Principal Investigator: Tammy Rhodes
Telephone: (417) 299-3913 E-mail: TSR795@lindenwood.edu

Participant _____ Contact info _____

1. You are invited to participate in a research study conducted by Tammy Rhodes under the guidance of Dr. Robyn Gordon. The purpose of this research is to determine the level of knowledge k-5 regular educators have in effectively educating students with Autism Spectrum Disorder using evidence-based practices and to determine whether a task force for inclusion has been established in your school district.

2. a) Your participation will involve the completion of a survey of your knowledge regarding best practices for effectively educating students with Autism Spectrum Disorder. The survey will also include questions about professional development and your knowledge of an established task force for inclusion in your school district. The survey will include both closed and open-ended questions.

In order to ensure confidentiality, please do not include your name on the survey.

If you choose to participate in this study, your survey will need to be returned to the assigned envelope located within the central office of your school within a week. The surveys will be collected one week after distribution.

b) The amount of time involved in your participation will be 10 to 15 minutes. Approximately100 k-5 regular educators will be involved in this research, and the research will include k-5 regular educators from five different elementary schools within one urban school district.

3. There are no anticipated risks associated with this research.

4. There are no direct benefits for you participating in this study. However, your participation will contribute to the knowledge about the preparedness of regular educators to effectively educate students with Autism Spectrum Disorder using evidence-based practices.

5. Your participation is voluntary and you may choose not to participate in this research study or to withdraw your consent at any time. You may choose not to answer any questions that you do not want to answer. You will NOT be penalized in any way should you choose not to participate or to withdraw.

6. We will do everything we can to protect your privacy. As part of this effort, your identity will not be revealed in any publication or presentation that may result from this study, and the information collected will remain in the possession of the investigator in a safe location.

   Each participant will receive the survey from a third party. After completing the survey, the participants will place completed surveys in an envelope, which will be monitored by the third party to assure anonymity. Although a small number of participants from each of the five schools will be asked to complete the survey, there is a slight possibility the identity of the participants may recognized by the Primary Investigator.

7. If you have any questions or concerns regarding this study, or if any problems arise, you may call the Investigator, (Tammy Rhodes @ 417-299-3913) or the Supervising Faculty, (Dr. Robyn Gordon @ 417-522-6658). You may also ask questions of or state concerns regarding your participation to the Lindenwood Institutional Review Board (IRB) by contacting Dr. Marilyn Abbott, Interim Provost, at mabbott@lindenwood.edu or 636-949-4912.

I have read this consent form and have been given the opportunity to ask questions. I may retain a copy of this consent form for my records. I consent to my participation in the research described above.

Participant's Signature	Date	Participant's Printed Name
Signature of Principal Investigator	Date	Investigator Printed Name

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Vita

Tammy Rhodes currently works as a special education teacher for the Springfield R-XII School District. Her current responsibilities consist of individually designing lesson plans for K-5 special education students and maintaining accurate and complete special education records. She graduated from Evangel University with a Bachelor's of Science in Psychology and Social Science Education in December of 1994 and with a Master's of Education in 2004 from Drury University.