This study examined teachers’ knowledge of symptoms, concerns, and self-efficacy in teaching children with autism. The sample of 166 preschool through 12th grade general education teachers (n=105), special education teachers (n=29), and other educational professionals [i.e., 22 aides, 2 occupational therapists, 7 speech pathologists, and 1 Title teacher] (n=32) attending an in-service from eleven elementary schools were selected from four school districts in the Midwest. Similar to previous studies, there was confusion regarding autism knowledge amongst all educators. Special educators had more knowledge, higher self-efficacy, and less concern in teaching children with autism than general education teachers. Differences amongst groups’ main teaching objectives also existed. Given the increase of mainstreaming children with autism in the general education classroom, results of this study warrant the need for additional workshops, teacher preparation courses, and fieldwork experiences on autism.
A COMPARISON OF GENERAL EDUCATION AND SPECIAL EDUCATION
TEACHERS’ KNOWLEDGE, SELF-EFFICACY, AND CONCERNS IN TEACHING
CHILDREN WITH AUTISM

A Thesis
Submitted to the Faculty of Miami University
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To the four of you that I dedicate this project with the hope teachers can reflect and become more competent and compassionate in serving children like you.

I have had the pleasure of tutoring kids with PDD for the last ten years in the development of basic self help, language, and social skills. The most important lesson of any teacher is that one can not teach without too being taught valuable life lessons. As it has once been quoted:

“If we take people as we find them, we may make them worse. But if we treat them as though they are what they should be, we help them to become what they are capable of becoming.”

~Johann Wolfgang Von Goethe

For me, this quote best summarizes that the profession of teaching is definitely a two-way street. Although my initial intention starting out as a tutor was to help others become all that they are capable of becoming, it turned out it was these four little boys who helped me become something totally different than what I once was- and all for the better. Sometimes the best gifts come in the most unexpected wrappings. They taught me life lessons I did not even know I needed to be taught.

To the four of you, I think I now finally “get it”…thank you.
Chapter 1

Introduction

Self-efficacy is one of the few teacher characteristics consistently related to effective teaching practices and student learning (Woolfolk & Hoy, 1990). According to Bandura’s (1997) theory of social cognition, self-efficacy beliefs (i.e., one’s belief in one’s competency to do a particular task) are the most powerful predictors of motivation and behavior. Additionally, an important relationship exists among self-efficacy, knowledge/skill level, and behavior. Specifically, an individual’s intention to perform a behavior will depend upon both possessing the knowledge/skills needed to obtain the desired goal as well as having a conviction that they can do the behavior successfully (Bandura, 1997). However, as Bandura (1986) argues, simply having the knowledge/skills to complete a task doesn’t guarantee the individual will actually perform the task. It is self-efficacy that seems to be the important link between knowing what to do and actually doing it. As Soto and Goetz (1998) assert: “…the beliefs that individuals hold about their abilities and about the outcome of their efforts powerfully influence the ways in which they behave”. This link between self-efficacy and knowledge directly impacts those individuals working in the educational system. For teachers, self-efficacy seems to be the key element influencing one’s confidence to apply their knowledge/skills in differing situations (Gorrell & Capron, 1994, as cited in Soto & Goetz, 1998).

With the requirement of “least restrictive environment” mandated by the Individuals with Disabilities Education Act (IDEA: Public Law 94-142 Education for All Handicapped Children Act, 1975), there was a noteworthy increase in the percentage of students with disabilities educated in regular education classrooms. It was reported that 47% of students with disabilities spent 80% or more of the day in a regular education setting (U.S. Department of Education, 2002). Therefore, identification of factors that support an inclusive school setting is essential (Soto & Goetz, 1998).
Regular educators’ perceived difficulty in teaching students with special needs in an inclusive setting depends upon the disability severity level of the student (Scruggs & Mastropieri, 1996). One such population of students that is notoriously difficult to teach is students with autism (Quill, 1995). The complexity of teaching these students is due to the pervasive developmental, cognitive, behavioral, and social deficits inherit in the disorder (DSM-IV-TR: American Psychiatric Association, 2000).

Over 20% of children with autism spend 80% or more of their time in a regular education classroom (U.S. Department of Education, 2000). Given this rise in the mainstreaming of children with autism, there is a need for better understanding the general educators’ variables affecting efficacious instruction for this population (Swaim & Morgan, 2001). Specifically, there is a dearth of literature that examines general educators’ knowledge in comparison to special educators’ knowledge of the disorder, their self-efficacy, and their concerns in teaching students with autism. Previous research studies of these variables had several significant limitations including low response rates (Jennett, Harris, & Mesibov, 2003) and small sample size (Stone & Rosenbaum, 1988; Mavroupoulou & Padeliadu, 2000). Additionally, little attention in assessing teacher knowledge of the characteristics of the disorder has been noted. Furthermore, the literature overlooks the important role of teacher self-efficacy in teaching this population. The single study which examined the role of teacher self-efficacy in teaching children with autism was also characterized by a low response rate and only assessed self-efficacy in special educators (Jennett, Harris, & Mesibov, 2003).

The proposed study was a partial replication of past research examining teachers’ knowledge of autism and concerns in teaching such students. The proposed study expanded on the previous literature by examining these variables in both general and special education teachers. Differing from previous research, assessment of the important role of self-efficacy in both general and special education teachers was addressed.
Chapter 2
Literature Review

Defining Self-Efficacy

The term “self-efficacy” is defined as a two-component construct that includes: (a) a general outcome expectancy, or a belief that one’s actions will lead to desired outcomes, and (b) a personal self-efficacy, or a belief that one has the necessary skills to bring about those desired outcomes (Bandura, 1997). Specifically, the confidence one has that behavior will lead to outcomes, together with the confidence one has in one’s own ability to perform the behavior, determines one’s actions (Soodak & Podell, 1996). Bandura asserts that it is these self-efficacy beliefs (i.e., individual judgments of one’s competence in completion of a task) that are the strongest predictors of human motivation and future behavior (Bandura, 1997).

Self-efficacy differs from the construct of self-image, self-concept, and self-esteem. Whereas, self-efficacy is one’s judgment of capability of a specific task (e.g., I do well in geometry but not calculus), self-image, the global picture people have of themselves, can be viewed as a tree with two main branches: self-concept and self-esteem (Snowman & Biehler, 2003). Self-concept is defined as a person’s general description of physical, social, emotional, and cognitive attributes of themselves (e.g., I am tall). Self-esteem is the evaluative judgments made about those attributes [(e.g., I am slower at a task but more thorough than most (Snowman & Biehler, 2003)]. Furthermore, there is a clear distinction between self-esteem and self-efficacy. As Bandura (1997) notes:

Perceived self-efficacy is concerned with judgments of personal capability, whereas self-esteem is concerned with judgments of self-worth. There is no fixed relationship between beliefs about one’s capabilities and whether one likes or dislikes oneself. Individuals may judge themselves hopelessly inefficacious in a given activity without suffering any loss of self-esteem whatsoever, because they do not invest their self-worth in that activity (p.11).

Therefore, it is possible for individuals to feel good about themselves (high self-concept/self-esteem) but have a low self-efficacy for specific tasks.
**Self-Efficacy Beliefs and Behavior**

Belief in one’s personal competency affects both behavior and thought patterns (Pajares, 1996). Bandura posits that behavior, personal factors, and environment all interact in a triangular model called “reciprocal determinism” (Bandura, 1986) such that “how individuals interpret the results of their performance informs and alters their environments and their self-beliefs, which in turn, inform and alter subsequent performances” (Pajares, 1996, p. 544). According to Bandura (1997) beliefs influence: (a) choices that individuals make and their future course of action, (b) how much effort a person will expend on a particular activity, (c) how long a person will persevere when confronted with obstacles, and (d) degree of resilience. The higher the sense of self-efficacy, the greater the effort, persistence, and resilience in activities pursued (Bandura, 1997). Whereas low self-efficacy beliefs foster thinking that things are tougher than they are, which in turn cultivates feelings of stress and depression, high self-efficacy helps to promote feelings of competency in approaching difficult tasks (Pajares, 1996). Bandura’s social cognitive theory suggests that individuals pursue activities/situations in which they feel competent and avoid situations in which they doubt their capability to perform successfully (Bandura, 1993, 1997).

**Teacher Self-Efficacy: Historical Context**

The Rand Corporation studies were the first to indicate a relationship between teacher’s efficacy and student reading achievement (Armor et al., 1976; Berman et al., 1977 as cited in Woolfolk & Hoy, 1990). The authors in these studies described self-efficacy as the belief he or she can influence how well a student learns, even those who may be difficult or unmotivated.

According to social cognitive theory, related to efficacy expectations is *outcome expectancy*. Bandura describes efficacy as the individuals’ belief that he or she can perform the necessary actions of a task, while outcome expectancy is the person’s estimate of the likely consequences of performing that task at the expected level (Bandura, 1986; Tschannen-Moran & Hoy, 2001). As suggested by Bandura (1977), Gibson and Dembo (1984) further differentiated between *personal teaching efficacy* (the belief that one has the ability to effect change in students) and *general teaching efficacy*
(belief that teaching can influence student outcomes). Past research has found these two factors to be only moderately correlated with each other (Tschannen-Moran & Hoy, 2001). This differentiation helps elucidate why teachers may believe that certain teaching behaviors will affect student performance (general teaching efficacy), while simultaneously not believing they can perform those actions (personal teaching efficacy) (Guskfy, 1987). In contrast, teachers may hold their profession in low esteem, but may feel that they are personally effective at what they do (Soodak & Podell, 1996).

Furthermore, teacher efficacy is defined to be both context and subject-matter specific (Bandura, 1997). For example, a teacher may feel competent in one area of study or in teaching one kind of student, but not in other subjects or with differing students (Bandura, 1997; Tschannen-Moran & Hoy, 2001).

Ashton and Webb (1986) extended Bandura’s social learning definition to define teacher self-efficacy. Teacher efficacy, according to these theorists, also has two dimensions: (a) general teaching efficacy, or the beliefs that teaching can impact a student’s achievement despite certain variables such as a student’s ability or environment; and (b) personal teaching efficacy, or the beliefs that one’s teaching abilities can bring about student learning. Thus, personal efficacy is more specific and individual than a belief about what teachers in general can accomplish (Tschannen-Moran & Hoy, 2001).

**Variables Affecting Teacher Self-Efficacy**

Teacher preparation (i.e., teaching experience and acquisition of teaching knowledge and skills) is an important predicator of teacher efficacy variation (Soto & Goetz, 1998). Findings in a study of 310 preschool, elementary, junior high, and high school level teachers indicate that years of teaching experience influence self-efficacy (Soodak & Podell, 1996). Specifically, the more experienced teachers (i.e., with more than 6 years teaching experience) demonstrated a greater belief in their ability to teach well than less experienced (i.e., with 1-6 years teaching experience) teachers (Soodak & Podell, 1996).
A recent study of 83 pre-service and 156 experienced teachers asked teachers themselves what factors contribute to high self-efficacy (Herbert, Lee, & Williamson, 1998). Both experienced and pre-service teachers rated “confidence in knowledge” (e.g., gained via teaching experience, teacher preparation, professional development, and personal experience) highly (i.e., 37%, 31% respectively). However, “confidence in knowledge” was cited most frequently for experienced teachers; whereas, “personal qualities” (e.g., caring attitude, motivation, positive outlook, and ability to get along with people) was the most cited reason for high efficacy for pre-service teachers (Herbert, Lee, & Williamson, 1998). Given that both groups surveyed recognized the importance of teaching experience and teaching knowledge, this study is consistent with Bandura’s (1977, 1986) view that identified experience as the primary determinant of self-efficacy.

Variables Affecting Teacher Self-Efficacy in Instruction of Students with Special Needs

Teaching experience also is critical in the development of self-efficacy in working with children with disabilities. For example, direct experience dealing with students with special needs is a critical factor in general educators’ efficacy of teaching such a population and with their willingness to include such students in their class (Giangreco, Dennis, Cloniger, Edelman, & Schattman, 1993). This view is also in agreement with Bandura’s (1977, 1986) assertion that performance is an especially important source of efficacy information and highlights the importance of meaningful field experiences in teacher education programs (Soodak & Podell, 1996).

Given the link among self-efficacy, knowledge/skill level, and effective teaching practices, assessment of a teacher’s knowledge/skill level in managing or teaching children with exceptionalities is another important variable to consider. Specifically, research indicates that general educators who teach children with disabilities do not have the competencies necessary to meet the needs of these special learners (Campbell-Whatley, Obiakor, & Algozzine, 1995). Specifically, 9 out of 10 general education teachers in the United States reported that they lacked the necessary skills to educate children with special needs (Jones & Messenheimer-Young, 1989 as cited in Campbell-Whatley, Obiakor, & Algozzine, 1995). One such study evaluated the relationship between years of experience and competency to educate children with disabilities in
special education teachers \((n=173)\) and general education teachers \((n=200)\) (Cambell-Whatley, Obiakor, & Algozzine, 1995). It was found that although general educators had significantly more years of experience than the special educators surveyed, their years of experience did not positively affect their ability to teach children with special needs. Specifically, special educators’ skill levels were higher than general educators’ skill level regardless of years of teaching experience (Cambell-Whatley, Obiakor, & Algozzine, 1995). This study suggests that while intuitively one would expect the more the teaching experience, the greater the skill in teaching, in the case of general educators teaching students with special needs, they believe they lack needed knowledge and skills in working with this population. Stoler (1992) suggests that since general education teachers typically do not take many specialized classes on characteristics, management, and efficacious instruction of children with exceptionalities, they are out of their areas of expertise when students who would normally be taught by special education teachers are placed in their classrooms (Stoler, 1992).

Sachs (1988, as cited in Sachs, 1990) hypothesized that a general education teacher’s self-efficacy doesn’t always correspond to the task of mainstreaming due to the extreme deficits of training (as compared to special educators preparation programs). Number of special education courses taken and extent of in-service preparation undoubtedly influences teacher efficacy. Research has indicated that general educators perceived their efforts to include and teach students with disabilities as more successful when they have had taken part in both pre-service and in-service programs infused with special education information (Brownell & Pajares, 1999). Specifically, general educators who took more special education courses were also more likely to use effective instructional strategies and have higher efficacy beliefs than peers taking less course work (Bender & Ikechukwu, 1989). Furthermore, general education teachers perceive their efforts to include and teach students with disabilities as more successful when they participated in in-service programs that included information regarding: (a) the needs of students with disabilities, (b) appropriate student curricular and instructional adaptations, and (c) behavior management techniques for students with disabilities (Brownell & Pajares, 1999). Hence, basic “knowledge” of the disorder/disability as well as how to
best manage problem behavior seems to be vital in both understanding and instructing students with special needs.

Research has also shown that student level of ability affects both perceptions of the student and their self-efficacy in teaching that student. Teachers have more negative perceptions of and lower self-efficacy in teaching students labeled “low ability” than those labeled as “bright” or “high-ability” (Guskey, 1987).

**Teacher Self-Efficacy**

Reviewed literature has indicated that teachers’ beliefs regarding their own abilities and capabilities as a teacher also influenced their perceptions of student ability and expectations of student achievement (Gersten, Walker, & Darch, 1988; Guskey, 1987; Raundenbush, Rowan, & Cheong, 1992). Teacher self-efficacy influences classroom practices. Teachers with a high sense of efficacy use praise more often than criticism, persevere more with “low achievers”, spend more time monitoring student performance, and spend more time on class preparation and paperwork than do teachers with low self-efficacy (Allinder, 1994; Gibson & Dembo, 1984, McDaniel, & McCarthy, 1989). Teachers with low self-efficacy also were seen to give more criticism for incorrect answers (Gibson & Dembo, 1984) and used less creative lesson presentation, less innovative teaching methods, and less effective classroom management skills (Guskey, 1988; Sakofske, Michayluck, & Randhawa, 1988). Additionally, teacher self-efficacy is positively related to the willingness to collaborate with other professionals regarding student concerns (Morrison, Wakefield, Walker, & Solberg, 1994).

**Self-Efficacy and Implications for Teaching Students with Severe Disabilities**

As was previously noted, high teacher efficacy is associated with a multitude of variables that are important in teaching students with severe disabilities. The success of mainstreaming students with special needs into general education classrooms depends upon both teachers’ positive attitudes toward special needs students and their attitude toward the policy of inclusion (Layser, Kapperman, Cunanan, & Luebke, 1991, as cited in Weisel & Tur-Kaspa, 2002). Research indicates that general educators are less tolerant of exceptional students than are special educators (Ritter, 1989; Safran &
Sanfran, 1987). In studies of general educators who had students with disabilities, researchers have indicated that teachers who feel more confident in their ability to teach students with learning and behavior difficulties are also more likely to engage in effective instructional practices than are colleagues with lower efficacy beliefs (Bender & Ikechukwu, 1989). Bandura (1997) notes that:

Social evaluations of capability are often conveyed both subtly and indirectly toward people who are believed to be of limited aptitude…They are assigned unchallenging tasks, praised excessively for mediocre performances and treated indifferently for faulty performance, repeatedly offered unsolicited help, or given less recognition than others when they perform well (p.102).

This is a noteworthy observation since teachers who believe they can influence their student’s classroom performance have better perceptions of their students’ abilities and higher expectations for their students’ overall achievement (Raudenbush, Rowan, & Cheong, 1992). In contrast, teachers with low self-efficacy blamed the students themselves, the student home environments, their lack of motivation, and disruptive behaviors in explaining their students’ lack of progress in the classroom (Gersten, Walker, & Darch, 1988; McDaniel & McCarthy, 1989). Teachers with low self-efficacy beliefs tended to adopt a pessimistic view of students’ motivation and they emphasized rigid control of classroom behavior (Woolfolk & Hoy, 1990). Furthermore, when compared to teachers of higher self-efficacy, teachers with low self-efficacy tended to put the responsibility for intervention more frequently onto a resource person (Guskey, 1988) and preferred “pull-out” models in dealing with difficult to manage students (Jordan, Kircaali-Iftar, & Diamond, 1993). Additionally, both regular and special education teachers with low self-efficacy recommend general education placements more often than teachers with a greater belief they are able to influence student outcomes (Soodak & Podell, 1993).

Teachers’ beliefs that they can have a direct effect on student learning are associated with tolerance, perseverance, and willingness to collaborate with a multidisciplinary team when working with this population (Morrison, Wakefield, Walker, & Solberg, 1994; Soto & Goetz, 1998). Greater efficacy enables teachers to work longer
with a student who is struggling (Gibson & Dembo, 1984) and be less inclined to refer a
difficult student to special education (Podell and Soodak, 1993). Additionally, high
teacher self-efficacy is associated with student achievement, student motivation, and
more positive feelings toward school (Soto & Goetz, 1998). These teacher characteristics
are imperative if inclusion is to be successful.

*Teacher Self-Efficacy and Teacher Knowledge of Autism*

Autism is one of five main pervasive developmental disorders (PDD) that fall
under the umbrella of autism spectrum disorders (ASD). These include: autism,
Asperger, PDD-NOS, Rett syndrome and childhood disintegrative disorder (DSM-IV,
1994). Previous findings indicate that children with autism may pose unique challenges
to general educators (Helps, Newsom-Davis, & Callias, 1999; Ochs et al., 2001;
Robertson, Chamberlain, & Kasari, 2003). Gray (1993 as cited in Swaim & Morgan,
2001) indicated that:

“…most parents perceive autism as a stigmatizing condition that is frequently
met with hostile, insensitive, and stereotypical reactions because of the general
public’s relative lack of understanding of autism, the normal physical appearance
of most children with autism, and the unusual and sometimes disruptive behavior
associated with the disorder” (p. 196).

Autism is a pervasive developmental disorder characterized by delays or
abnormal functioning with onset prior to age three in the following areas: 1) *severe
impairments in social interaction* (e.g., deficits in facial expression, eye contact, failure to
develop appropriate peer relationships, lack of emotional reciprocity); 2) *deficits in
communication* (e.g., delay or lack of spoken communication, inability to initiate or
sustain communication, use of stereotyped/repetitive language, and lack of spontaneous
make-believe or imitative play); 3) *repetitive and stereotyped behavior patterns,
interests/activities* (e.g., inflexible adherence to nonfunctional routines/rituals, repetitive
hand flapping, preoccupation with parts of objects). Mental retardation is often common
in children with autism with a co-morbidity rate estimated of 75% (DSM-IV,1994; Tasse,
Aman, Rojahn, & Kern, 1998). Other research indicates lower rates of cognitive
impairment: 40%-71% (Tidmarsh & Volkmar, 2003). Estimates for autism range from 1 in 500 children to 1 in 166 children [National Institute of Child Health and Human Development (NICHD), 2004; CDC, 2006]. Even so, the exact number of children with autism in the United States is unknown [Department of Health and Human Services Centers for Disease Control and Prevention (CDC), 2004]. However, reports regarding autism reveal higher prevalence rates greater than even diabetes, spinal bifida, or Down syndrome in the pediatric population [Fillipek, Accardo, Baranek, & Dawson, et al. (1999), as cited in Strock, 2004], prevalence studies done in Europe, Asia, and several U.S. states indicate that the incidence rate for ASD is estimated to range from 2-6 per 1,000 children (Strock, 2004). Maladaptive behaviors are also associated with the disorder (e.g., hyperactivity, aggressiveness, self-injurious behaviors) as well as odd responses to sensory input (e.g., high pain threshold or oversensitivity to light, smells, touch). Abnormalities in affect, eating, and sleeping patterns are common as well (DSM-IV-TR, 2000).

There is only one study that examines teacher efficacy in teaching students with autism (Jennett, Harris, & Mesibov, 2003). The authors of this study explored variables (i.e., self-efficacy and commitment to the underlying “philosophy” of the teaching method) that are related to burnout in special educators who used Applied Behavior Analysis or the TEACCH (Treatment and Education of Autistic and Related Communication-Related Handicapped Children) approach in teaching children with autism. Findings indicate that special educators in both groups had high personal and general efficacy. Moreover, commitment to the theoretical “philosophy” of the teaching method was found to be related to higher professional self-efficacy and lower experienced burnout (Jennett, Harris, & Mesibov, 2003). The authors infer that teachers who receive inadequate training may be less committed to their teaching approach because they only know “what” to do but lack understanding of the reasoning (i.e., the “why”) behind the theoretical approach. As the authors note, knowing the techniques in efficacious teaching alone may result in a random use of different techniques until a technique is successful, thereby prolonging student problems and decreasing teacher’s feelings of self-efficacy (Jennett, Harris, & Mesibov, 2003). Limitations of this study
revolve around choice in sample and low response rate. This study explored self-efficacy and autism only among special educators.

Research on children with autism in inclusive classrooms has indicated that these children are often subject to a form of neglect and isolation. It was found that students with autism commonly withdraw into themselves without attracting attention for extended periods of time, as teachers continue on, without notice, with classroom activities. This neglect stems from both teacher and peers’ inability to recognize and understand the symptoms of the disorder and, thus, contributes to their failure to intervene effectively (Ochs, Kremer-Sadlik, Solomon, & Sirota, 2001). To handle this problem, obtaining specific knowledge regarding the many aspects of the disorder paired with a flexible and facilitative approach in teaching is imperative in the education of children with autism (Jordan & Powell, 1995).

Misconceptions of various aspects of the disorder are common in both teachers and parents. In a study assessing teacher and parent beliefs and knowledge (in comparison to medical specialists in the field) regarding aspects of the disorder, both parents (n=47) and teachers (n=47) had misconceptions regarding cognitive, developmental, and emotional features of autism (Stone & Rosenbaum, 1988). Both parents and teachers were less likely than medical specialists to believe that children with autism are mentally retarded but more often agreed that such children possessed special talents and are more intelligent than tests indicate (Stone & Rosenbaum, 1988). The authors of this study warn that these misconceptions contribute to overly high expectations at home and school and that noncompliant behavior may be mistakenly interpreted as “stubbornness” rather than deficits in understanding or ability (Stone & Rosenbaum, 1988).

A sample of 72 educators [n= 22 from general education classrooms; and n=50 from special needs (non-autism) London schools] was assessed regarding knowledge of autism characteristics, beliefs about etiology (in comparison to medical specialist in the field), effective teaching practices, and teacher training needs (Helps, Newsom-Davis, & Callias, 1999). Findings revealed that teachers in mainstream schools had generally poorer knowledge of autism and had less training than the special educators group. Teachers of both groups harbored misconceptions about the disorder including the
tendency not to view children with autism as having learning difficulties which may contribute to a teacher overestimating the cognitive abilities of children with the diagnosis (Helps, Newsom-Davis, & Callias, 1999).

Mavroupoulou and Padeliadu (2000) conducted one of the few studies that examined general educators’ (n=35) and special educators’ (n=29) general knowledge of the disorder and views of the instructional goals for these children. Both groups of teachers rated several problematic features of autism (i.e., sleep, eating problems) as the least significant features of autism. As the authors pointed out, although these behaviors are not autism specific, they are very common and can exacerbate already serious management problems. Additionally, a significant number of teachers in both groups (57% of general education teachers; 83% of special education teachers) felt that psychotherapy is an effective form of treatment for the disorder. As the authors asserted, this finding has direct educational implications for teaching this population. Teachers that believe that autism is due in part to deficits in a “parent-child” relationship may feel that their instructional priorities should be focused upon the promotion of “emotional health” and social play (Mavroupoulou & Padeliadu, 2000). General education teachers reported being more concerned with the psychological health of the child with autism and felt that their role/focus of school for these children should be making a comfortable, warm, and social environment. Although the intent of these findings is positive, such a focus may undervalue the academic needs of children with autism by underestimating their capabilities to learn if given appropriate instruction (Mavroupoulou & Padeliadu, 2000). In general, special educators in this study reported more thorough knowledge of autism and promoted instruction in all major deficit areas.

In summary, recent research suggests that general educators feel inadequately prepared to teach children who have disabilities (Sprague & Pennell, 2000). Research indicates that teachers are generally more receptive toward including students with mild or high incidence disabilities (e.g., learning disabilities) and less receptive toward including children with severe disabilities (e.g., specifically, autism) in their general education classrooms (Diebold & VonEschenbach, 1991, as cited in Martinez, 2004). Additionally, general educators receive limited preparation to meet the academic needs of students with disabilities (Mastropieri & Scruggs, 2000, as cited in Martinez, 2004) and
few believed that they have sufficient time, skills, training, or resources necessary for successful inclusion (Scruggs & Mastropieri, 1996). Given the increase in children being diagnosed with autism and included in regular education classrooms (U.S. Department of Education, 2000) and the link between teacher self-efficacy, knowledge, and effective teaching (Bandura, 1986, 1997; Brownell & Pajares, 1999; Herbert et al., 1998; Soto & Goetz, 1998), more research is necessary to determine the relationship between knowledge/skill level and self-efficacy in teaching children with severe disabilities. Specifically, a study that examines the relationship between knowledge of symptoms of autism, teacher self-efficacy, and concerns in teaching children with autism will provide useful knowledge for both educators and parents.

Purpose of Proposed Research

The purpose of this study was to examine five areas of interest with general and special educators. These areas of interest included: 1) knowledge of the characteristics of autism; 2) concern in teaching children with autism, 3) personal teaching self-efficacy; 4) general teaching self-efficacy; 5) self-efficacy for specifically teaching this population, and 6) perceptions of instructional objectives for children with autism.

Hypotheses

Given the notable findings of previous research, hypotheses of this study were:

Knowledge of Autism’s Characteristics

Hypothesis #1 There is a positive relationship between teachers’ knowledge of the characteristics of autism, “exposure” to teaching a child with autism, and years of teaching experience.

Hypothesis #2 Special education teachers have higher scores than general education teachers regarding knowledge of autism.

Concern in Teaching Students with Autism

Hypothesis #3 General education teachers show higher ratings of concern than special education teachers about having a student with autism in their class.
Hypothesis #4  Both general education and special education teachers rate autism as a high concern in teaching in comparison to teaching other special needs populations.

Self-Efficacy

Hypothesis #5  Both general education and special education teachers have similar levels of personal self-efficacy and teaching self-efficacy.

Hypothesis #6  Special education teachers have higher self-efficacy in teaching children with autism.

Perceptions of Instructional Objectives

Hypothesis #7 :  General education teachers, when compared to special education teachers, rate social and psychological well-being objectives as the main objective of teaching; whereas, special education teachers, when compared to the other groups rate higher the main objective to be academics.
Chapter 3
Method

Participants

The sample of 166 preschool-12th grade general education teachers \((n=105)\), special education teachers \((n=29)\), and other educational specialist professionals (e.g., aides, speech pathologists, occupational therapists, and Title teachers) \((n=32)\) from eleven elementary schools were selected from four school districts in the Midwest. All participating schools were selected based on the availability of the sample. Percentage of male/female participants, as well as age and racial background depended upon the individual school’s employed teachers. Verbal assent for a school-wide teacher assessment request was obtained from the school principal as well as informed consent from individual participating teachers (Appendix A).

Protection of Human Subjects

In accordance with the “Protection of Human Subjects Code of Ethics”, a signed consent was obtained from participants. Additionally, the consent form clearly explained the purpose of the study as well as the fact that there were no known potential risks to participation. The signed copy of the consent form was collected while a copy of the consent form was retained by the participants for their own records. To ensure confidentiality, all demographical/identifying information and data responses was protected by a teacher-chosen five digit number. These forms were stored separately from all experimental data. All participants had the right to withdraw from the study at any time. The study’s proposal was approved by Miami University’s institutional review board (IRB) before data collection.

Materials/Instruments

After two copies of consent forms were distributed (i.e., one to be collected and one for participant’s records), questionnaire packet forms were handed out and stapled in the following order: 1) Demographics Form (Appendix B), 2) Teacher Self-Efficacy
Questionnaire (Appendix F), 3) Teacher Concern Questionnaire (Appendix E), 4) Autism Questionnaire (Appendix D), 5) Concern Scenario Questionnaire (Appendix E).

*Protocol.* To ensure standardization of results, a study protocol was used (see Appendix C). This protocol included standardized participant instructions and appropriate responses to participants’ questions and requests to withdraw early from the study.

*Demographics Form.* The demographical/information sheet used in this study (see Appendix B) included the following information: teacher-selected five digit ID number, grade currently teaching, general or special education identifier, gender, ethnicity, age, number of years teaching, exposure to children with autism and amount of specialized autism (i.e., number of children they have personally taught with autism, number of courses/credit hours taken specifically targeting autism, and number of workshops taken on autism).

*Teacher Self-Efficacy.* Teacher sense of efficacy was measured by a 16-item, six-point Likert scale (“1” = strongly disagree to “6” = strongly agree) scale developed by Gibson and Dembo (1984) (see Appendix F). This scale is a modified version of the original 30-item scale and assesses two dimensions of teacher efficacy: general self-efficacy (i.e., a general belief in the relationship between teaching and learning) and personal self-efficacy (i.e., a belief in their own abilities to execute actions that impact a student) (Gibson & Dembo, 1984; Hebert, Lee, & Williamson, 1998). This shorter version of the scale has been reported to have sufficient reliability: $\alpha = .78$ for personal efficacy, $\alpha = .75$ for teaching efficacy and $\alpha = .79$ for combined factors. Permission by the authors to use this scale was obtained.

*Teacher Concern.* Teacher concerns in teaching a child with autism were assessed by two methods. The first method focused on teachers’ concern in teaching a child with autism in comparison to other children with special needs (i.e., ADD/ADHD, learning disability, mental retardation, oppositional/behavioral issues, emotional disorder (e.g.,
bipolar disorder, depression, anxiety), severe academic deficits, physical disability, vision impairment, hearing impairment, speech/language impairment) were assessed using a 6-point Likert scale (“1”= not concerned at all to “6”= extremely concerned).

A second method was used to better differentiate educators’ concerns in relation to the child’s cognitive level of functioning. Since concern level may differ depending on a teacher’s experience/knowledge of a “low” functioning vs. a “high” functioning child with autism, two brief scenarios were used (i.e., scenario #1 and scenario #2, respectively). Each scenario was preceded by the following question: “How concerned would you be to learn that the following child will be in your class this year?” followed by a 6-point Likert scale (“1”=not concerned at all to “6” extremely concerned). Scenario descriptors were based upon characteristics that are most commonly indicated by the literature as either a severe form of the disorder (scenario #1) or more mild form (scenario #2, e.g., Aspergers/high-functioning autism) (DSM-IV-TR, 2000; Tucker, 2005; National Institute of Neurological Disorders and Stroke, 2005) (Appendix H).

Autism Knowledge, Self-Efficacy, and Teaching Objectives. Teacher knowledge of autism and priorities in teaching objectives were assessed using an adapted questionnaire (Mavropoulou & Padeliadu, 2000). The original questionnaire was based on existing autism literature and previous research (Stone & Rosenbaum, 1988; Szatmari et al, 1994). Nine out of the original 13 questionnaire questions were used for this study (see Appendix D). The following is a listing of items and intended measured focus:

- Item 1 (autism’s etiology); Items 2-5 (general autism knowledge); Items 6 and 7 (treatment/teaching objectives): Participants were asked to rate opinions of the following statements on a 5-point Likert scale (ranging from “1”=Strongly Disagree to “5” Strongly Agree).
- Item 8 (behavioral characteristics of autism): Participants were asked to select as many of the 22 statements as they wish that they feel describe the characteristics of autism.
- Item 9 (teaching objectives): Participants were asked to circle as many objectives as they wish from a list of 10 instructional objectives.
Additionally, teachers’ general knowledge regarding 11 treatment options was assessed using the following statement: “Please rate how much you know about the following treatment options for children with autism” followed by a 5-point Likert scale (ranging from “1”= I know nothing about this topic to “5”= I know a lot about this topic.)

Furthermore, a 5-point Likert scale (ranging from “1”= I do not feel at all confident in my skills/ability in teaching a child with autism to “5”= I am extremely confident in my skills/ability in teaching a child with autism) was used in order to assess teachers’ self-efficacy in specifically teaching a child with autism (Appendix D).

Design and Procedure

Principals of 11 elementary schools (preschool-12th grade) in the Talawanda, Northwest/Colerain, Finneytown, and Milford school districts were approached to ask permission for the teachers to be involved in the study. Upon agreement of school involvement, a date was scheduled to collect data. One week before the school’s scheduled in-service, both an email and letter (Appendix G) was sent to the principal as a reminder of the school’s participation in this study. A listing of the current employed teachers at each school was obtained from school personnel. In order to increase response rates, the questionnaires were administered to all teachers (general and special education) attending an in-service training or teacher meeting at that time. Absent teachers from this meeting were noted. Collection of questionnaires was attempted to be obtained from teachers in absence of this meeting (i.e., placed in teacher mailbox and then the PI checked back with them). An envelope with the study’s purpose and contact information noted on it was given to the school’s receptionist for the purpose of collecting these absent teachers’ questionnaire forms. School principals were asked if they were willing to make a school-wide announcement to address those individuals not present at the in-service as a reminder to fill out questionnaire forms found in their mailbox and to return to the receptionist.

The primary investigator is a graduate student previously trained in the protection of human subjects. Participants were given a short explanation of the study, the right to withdraw anytime and confidentiality was guaranteed. After consent was obtained from individual participants, a two page double-sided response questionnaire form was
distributed during the teacher meeting (see Appendix B, D, E, F, I). The questionnaire forms took approximately 15-20 minutes to complete. Participants were offered cookies/candy for their participation and were treated in accordance with the “Ethical Principles of Psychologists and Code of Conduct” (American Psychological Association, 1992). Questionnaires were then collected at the end of the meeting.

Data Analysis

In accordance with previous research (Ghaith & Shaaban, 1999), two composite scores for personal and general self-efficacy were computed for each participant by adding the scores on the nine and seven items in the teaching efficacy scale, measuring personal and general teaching efficacy respectively. The coding of the items that are stated in the negative was reversed scored in order to ensure high scores mean high efficacy on all scale items. Additionally, descriptive statistics were used to assess Likert-based items and Pearson product moment correlations and an analysis of variance (ANOVA) was used to examine the relationship among teachers’ (general educators vs. special educators) gender, experiences, efficacy, concern, and autism knowledge. Probability for correlations was set at p<.05 significance level.
Chapter 4

Results

Participants

The following groups of educators participated in this study (N = 166): general education teachers (n = 105; 63.3%); special education teachers (n = 29; 17.5%); and other specialized educational professionals [i.e., 22 aides, 2 occupational therapists, 7 speech therapists, and 1 Title teachers] (n = 32; 19.3%). Out of 282 possible surveys, 164 teachers responded for an overall response rate of 58%. Ethnicity and gender of these groups included the following: Caucasian (94.5%), African American (2.4%), Other (3.0%); male (n = 11; 6.7%); female (n = 154; 93.3%). Ages of teachers ranged from 21-65 years of age (M = 42 years; SD = 11.8). Average years spent teaching ranged from 1-40 years for general educators (M_{general} = 10.2 years; SD = 10.6) and 1-33 years for special educators (M_{special} = 3.8 years; SD = 6.6). Almost half of all educators indicated they had no more than one student with autism they personally taught (i.e., 47.8%). Specifically, the number of children with autism personally taught ranged from 0-400 (M = 8.4; Mdn = 2; SD = 35.4) and number of courses educators had taken on autism ranged from 0-12 courses (M = 0.7; SD = 1.6). Although the participant who rated “400 students taught” and “12 workshops on autism” was a veteran teacher of more than 20 years at a special education school, given the unlikelihood of the accuracy of this self-report, the median is also reported. As a whole, educators indicated they had not attended more than one workshop during their teaching career (i.e, 75.3% of sample). Approximately 15% of the participants also noted other specialized instruction of children with autism came primarily from the following sources: director of special education (6.8%), on the job training (4.3%), internet (1.9%), pediatric hospitals (0.6%), and in-services (0.6%). Eighty-six percent of the participants did not indicate any other amount of specialized instruction in teaching this population. Yet, when prompted with the question regarding specific examples of information location, teachers reported they mainly got information from the parent of a child with autism (56.6 %) followed by special education teachers (54.8 %), workshops ( 37.3 %), and newspapers/magazines (34.3 %) (Table 1).
Table 1.

Teachers’ Indications of Where They Find Information on Autism: Frequency and Percentages

<table>
<thead>
<tr>
<th>Source of Information</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents of child with autism</td>
<td>94</td>
<td>56.6%</td>
</tr>
<tr>
<td>Special education teacher</td>
<td>91</td>
<td>54.8%</td>
</tr>
<tr>
<td>Workshops on autism</td>
<td>62</td>
<td>37.3%</td>
</tr>
<tr>
<td>Newspapers/magazines</td>
<td>57</td>
<td>34.3%</td>
</tr>
<tr>
<td>Parent/teacher autism websites</td>
<td>47</td>
<td>28.3%</td>
</tr>
<tr>
<td>Televised news programs</td>
<td>41</td>
<td>24.7%</td>
</tr>
<tr>
<td>Other</td>
<td>35</td>
<td>21.1%</td>
</tr>
<tr>
<td>Coursework on autism</td>
<td>29</td>
<td>17.5%</td>
</tr>
<tr>
<td>University/hospital/government autism websites</td>
<td>10</td>
<td>7.9%</td>
</tr>
</tbody>
</table>

Knowledge of Autism’s Characteristics

**Hypothesis #1:** There is a positive relationship between teachers’ knowledge of the characteristics of autism, “exposure” to teaching a child with autism, and years of teaching experience.

The basic knowledge score was derived solely from items 2-5 on the Autism Questionnaire and was reversed scored such that a higher score indicated a higher score of knowledge on these questions (e.g., a rating of “1” = a score of 5, a rating of “2” = a score of 4, a rating of “3” = a score of 3). This hypothesis was partially supported. There was a relationship between number of children with autism personally taught and knowledge that autism is usually accompanied by mental retardation ($r=.16, p<.05$). However, a relationship did not exist between basic knowledge of autism of these four questions, number of children with autism taught, and years in special education or general education.
Hypothesis #2: Special education teachers have higher scores than general education teachers regarding knowledge of autism.

This hypothesis was partially supported. There was a difference between groups regarding knowledge of autism for questions 1 \([F(2,158)=5.69, p<.01]\) and question 2 \((F(2,156)=11.66, p<.01)\) (Table 2). Tukey Post Hoc Tests indicate that ratings statistically differed between general education and special education teachers and between general education and other educational professionals for question 1 \((p<.02; p<.03\) respectively). Specifically, special education teachers and other educational professionals were more likely than general education teachers to correctly understand that autism occurs more often in boys than girls. For question 2, ratings statistically differed between all three groups (i.e., between special educators and general educators: \(p< .01\); other educational professional: \(p<.00\)) although all educators did not correctly assert that autism is usually accompanied by mental retardation (Table 2).

Table 2.

<table>
<thead>
<tr>
<th>Educators’ Basic Knowledge of Autism: Means/Standard Deviations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>General Ed. Teachers</td>
</tr>
<tr>
<td>--------------------</td>
</tr>
<tr>
<td>1. Autism occurs more often in boys</td>
</tr>
<tr>
<td>2. Autism is usually accompanied by mental retardation</td>
</tr>
<tr>
<td>3. Autism is an early form of Schizophrenia</td>
</tr>
<tr>
<td>4. Persons with autism have a greater tendency to die as a result of their disorder</td>
</tr>
</tbody>
</table>

Note: Based on Likert scale: 1=Strongly Disagree to 5=Strongly Agree
Although not factored into the “basic knowledge score” to determine group differences of autism knowledge as related to the study’s hypotheses, other knowledge factors were also examined including knowledge of the possible etiology of autism as well as knowledge of common characteristics of children with autism.

Knowledge of Possible Etiology of Autism

As a whole, the percentage of educators rated either “agree or strongly agree” as factoring elements to the cause of autism: Brain Damage (33.4%); Lack of Mother’s Emotional Response the Child’s Needs (2.8%; 8.5% rated as neither agree/nor disagree); Social Causes (e.g., poverty, lack of resources at home) (5%); Heredity (40.1%); Immunization Side Effects (25.5%); Vitamin Deficiency (17.8%); and Other Factors (35.6%).

Knowledge of Characteristics of Children with Autism

Participants were asked to circle statements (i.e., they circled statements they agreed with) from a given list in which they felt were characteristics that defined autism (Table 3).
Table 3.

Educators’ Rated Characteristics of Autism: Frequency/Percentages

“According to your view, which are the characteristics of a child with autism”:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has hearing problems</td>
<td>15</td>
<td>(9.4%)</td>
</tr>
<tr>
<td>Has temper tantrums</td>
<td>98</td>
<td>(60.9%)</td>
</tr>
<tr>
<td>Does not seek the company of others</td>
<td>12</td>
<td>(69.6%)</td>
</tr>
<tr>
<td>Does not seek physical contact with others</td>
<td>98</td>
<td>(60.9%)</td>
</tr>
<tr>
<td>Does not play with objects</td>
<td>12</td>
<td>(7.5%)</td>
</tr>
<tr>
<td>Has sleeping problems</td>
<td>59</td>
<td>(36.6%)</td>
</tr>
<tr>
<td>Has problems in his/her eating routine</td>
<td>56</td>
<td>(34.8%)</td>
</tr>
<tr>
<td>Makes clumsy movements</td>
<td>54</td>
<td>(33.5%)</td>
</tr>
<tr>
<td>Does not get attached to a person</td>
<td>51</td>
<td>(31.7%)</td>
</tr>
<tr>
<td>Does not understand the feelings of others</td>
<td>80</td>
<td>(49.7%)</td>
</tr>
<tr>
<td>Does not develop speech</td>
<td>49</td>
<td>(30.4%)</td>
</tr>
<tr>
<td>Overreacts to noise</td>
<td>130</td>
<td>(80.7%)</td>
</tr>
<tr>
<td>Does not have self-care skills</td>
<td>27</td>
<td>(16.8%)</td>
</tr>
<tr>
<td>Has hallucinations</td>
<td>16</td>
<td>(9.9%)</td>
</tr>
<tr>
<td>Presents problems in his physical appearance and health</td>
<td>15</td>
<td>(9.3%)</td>
</tr>
<tr>
<td>Wants to keep his environment the same</td>
<td>125</td>
<td>(77.6%)</td>
</tr>
<tr>
<td>Avoids changes in his daily routine</td>
<td>140</td>
<td>(87%)</td>
</tr>
<tr>
<td>Seems distant</td>
<td>109</td>
<td>(67.7%)</td>
</tr>
<tr>
<td>Does not have feelings</td>
<td>4</td>
<td>(2.5%)</td>
</tr>
<tr>
<td>Has obsessions</td>
<td>117</td>
<td>(72.7%)</td>
</tr>
<tr>
<td>Engages in stereotypical activity</td>
<td>43</td>
<td>(26.7%)</td>
</tr>
<tr>
<td>Does not make eye contact</td>
<td>102</td>
<td>(63.4%)</td>
</tr>
</tbody>
</table>
There were many incorrect assertions such that children with autism have hearing problems and hallucinations (9.4%, 9.9% respectively rated as a characteristic). Four educators (2.5%) indicated they felt that children with autism don’t have feelings. Fifty-one educators (31.7%) reported that a characteristic of autism includes “does not get attached to a person”. Additionally, very few educators correctly asserted that children with autism commonly have sleeping problems or problems in eating routine (36.6%; 34.8% rated as a characteristic, respectively).

Knowledge of Treatment Options

Teachers per subgroup also rated and differed in their knowledge of 11 different treatment options (Table 4). Tukey Post Hoc tests indicate that special education teachers and other educational professionals’ indicate that they know more than general education teachers regarding all these options.
<table>
<thead>
<tr>
<th>Treatment Option</th>
<th>General Ed.</th>
<th>Special Ed.</th>
<th>Other Professionals</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEACCH program</td>
<td>1.2 (0.5)</td>
<td>2.9 (1.7)</td>
<td>3.2 (1.4)</td>
</tr>
<tr>
<td>Applied Behavior Analysis (ABA)</td>
<td>1.3 (0.8)</td>
<td>2.9 (1.7)</td>
<td>3.3 (1.4)</td>
</tr>
<tr>
<td>Picture Exchange Communication System (PECS)</td>
<td>1.6 (1.1)</td>
<td>3.3 (1.7)</td>
<td>4.2 (1.4)</td>
</tr>
<tr>
<td>Floor Time (Greenspan)</td>
<td>1.3 (0.8)</td>
<td>1.9 (1.3)</td>
<td>1.6 (0.9)</td>
</tr>
<tr>
<td>Social Stories (Carol Gray)</td>
<td>1.5 (1.0)</td>
<td>3.2 (1.6)</td>
<td>3.3 (1.4)</td>
</tr>
<tr>
<td>Sensory Integration Therapy</td>
<td>1.8 (1.2)</td>
<td>3.6 (1.3)</td>
<td>3.8 (1.3)</td>
</tr>
<tr>
<td>Facilitated Communication</td>
<td>1.5 (0.9)</td>
<td>3.2 (1.5)</td>
<td>3.2 (1.5)</td>
</tr>
<tr>
<td>Medications</td>
<td>1.6 (0.9)</td>
<td>2.9 (1.4)</td>
<td>3.2 (1.2)</td>
</tr>
<tr>
<td>Vitamin/Mineral Therapy</td>
<td>1.3 (0.6)</td>
<td>2.1 (1.2)</td>
<td>2.3 (1.0)</td>
</tr>
<tr>
<td>Dietary Intervention</td>
<td>1.5 (1.0)</td>
<td>2.2 (1.1)</td>
<td>2.7 (1.0)</td>
</tr>
<tr>
<td>Chelation</td>
<td>1.2 (0.5)</td>
<td>1.8 (1.2)</td>
<td>1.7 (1.0)</td>
</tr>
</tbody>
</table>

Note: Based on Likert scale: 1=“I know nothing” to 5= “I know a lot”

* There were significant difference between groups at the p<.01 level for each treatment option.
As a group, educators reported they had the most knowledge regarding the following: Picture Exchange Communication System (PECS), social stories, sensory integration, and facilitated communication. General educators rated themselves as knowing next to nothing about treatment options (i.e., mean scores ranged from 1.2-1.8: where a mean score of 1- “I know nothing about this treatment”).

Concern in Teaching Students with Autism

**Hypothesis #3: General education teachers show higher ratings of concern than special education teachers about having a student with autism in their class.**

This hypothesis was supported. General educator teachers and special education teachers differed in their ratings of concern for having the following students in their class: child with mental retardation \( (M_{\text{general}} = 3.90, M_{\text{special}} = 2.55) \) \( F(2,163) = 8.26, p<.00 \); a child with oppositional/behavioral issues \( (M_{\text{general}} = 4.41, M_{\text{special}} = 3.55) \) \( F(2,161) = 3.60, p<.03 \); and a child with autism \( (M_{\text{general}} = 4.04; M_{\text{special}} = 3.03 \) \( F(2,163) = 5.0, p<.01 \) (Table 5).
### Table 5

Educators’ Concerns in Teaching Special Needs Populations: Means and Standard Deviations

<table>
<thead>
<tr>
<th>Condition</th>
<th>General Education Teachers</th>
<th>Special Education Teachers</th>
<th>Other Professionals (e.g. OT/PT/Speech)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADD/ADHD</td>
<td>3.25 (1.63)</td>
<td>2.93 (1.78)</td>
<td>3.39 (1.69)</td>
</tr>
<tr>
<td>Learning Disability</td>
<td>3.22 (1.56)</td>
<td>2.55 (1.74)</td>
<td>3.00 (1.87)</td>
</tr>
<tr>
<td>Mental Retardation</td>
<td>3.90 (1.55)</td>
<td>2.55 (1.76)</td>
<td>3.22 (1.85)</td>
</tr>
<tr>
<td>Oppositional/Behavior Issues</td>
<td>4.31 (1.39)</td>
<td>3.55 (1.68)</td>
<td>3.88 (1.34)</td>
</tr>
<tr>
<td>Autism</td>
<td>4.04 (1.49)</td>
<td>3.03 (1.72)</td>
<td>3.47 (1.88)</td>
</tr>
<tr>
<td>Emotional Disorder (e.g., bipolar disorder, depression, anxiety)</td>
<td>4.18 (1.37)</td>
<td>3.62 (1.70)</td>
<td>3.94 (1.59)</td>
</tr>
<tr>
<td>Severe academic deficits</td>
<td>3.37 (1.52)</td>
<td>2.66 (1.65)</td>
<td>3.07 (1.84)</td>
</tr>
<tr>
<td>Physical Disability</td>
<td>2.74 (1.47)</td>
<td>2.34 (1.63)</td>
<td>2.77 (1.88)</td>
</tr>
<tr>
<td>Vision Impairment</td>
<td>2.90 (1.48)</td>
<td>3.03 (1.59)</td>
<td>2.66 (1.70)</td>
</tr>
<tr>
<td>Hearing Impairment</td>
<td>3.05 (1.53)</td>
<td>3.00 (1.56)</td>
<td>2.66 (1.54)</td>
</tr>
<tr>
<td>Speech/Language Impairment</td>
<td>2.75 (1.50)</td>
<td>2.21 (1.57)</td>
<td>2.61 (1.801)</td>
</tr>
</tbody>
</table>

Note: Based on a 6 point Likert scale: 1="Not at all concerned" to 6="Extremely Concerned"
Hypothesis #4: Both general education and special education teachers rate autism as a high concern in teaching in comparison to teaching other special needs populations.

This hypothesis was supported. Out of the 11 disabilities given, teachers rated the following as their 3 top concerns in teaching:

<table>
<thead>
<tr>
<th></th>
<th>#1 pick</th>
<th>#2 pick</th>
<th>#3 pick</th>
</tr>
</thead>
<tbody>
<tr>
<td>General ed.</td>
<td>Oppositional/behavior disorders</td>
<td>ED</td>
<td>Autism</td>
</tr>
<tr>
<td>Special ed.</td>
<td>ED</td>
<td>ODD</td>
<td>Autism</td>
</tr>
<tr>
<td>Others</td>
<td>ED</td>
<td>ODD</td>
<td>Autism</td>
</tr>
</tbody>
</table>

(e.g., OT/PT/Speech/Aides)

Specifically based on the 6 point Likert scenario questions (1=“not concerned at all” to 6=“extremely concerned), general education teachers feel more concerned than special education teachers or other professional educational teachers (e.g., OT/PT/Speech pathologists/aides) in teaching both high and low functioning children with autism (Low functioning: \( M_{\text{general}} = 4.60; M_{\text{special}} = 3.00, M_{\text{others}} = 2.36 \); \( F(2,150) = 32.58, p < .00 \); High functioning: \( M_{\text{general}} = 3.69; M_{\text{special}} = 2.35; M_{\text{others}} = 2.04 \); \( F(2,150) = 23.45, p < .01 \).

Self-Efficacy

Hypothesis #5: Both general education and special education teachers have similar levels of personal self-efficacy and teaching self-efficacy.

This hypothesis was not supported. Both general education and special education teachers had similar levels of general teaching efficacy, but there was a significant difference between groups with regards to personal self-efficacy (PSE) \( F(2,161) = 3.422, p < .05 \). Tukey post hoc tests indicate that special education teachers (\( M = 4.61 \)) had the greatest PSE followed by other specialized teachers (\( M = 4.45 \)) and general education teachers (\( M = 4.29 \)) [significance between general educators and special educators = \( p < .03 \); between general educators and other professional educators = \( p < .35 \)].
Hypothesis #6: Special education teachers will have higher self-efficacy in teaching children with autism.

This hypothesis was supported. There was also a statistical difference among groups such that special education teachers and other specialized teachers (OT/PT/Speech pathologists /aides) reported more confidence in teaching children with autism than general educators ($M_{\text{special}}= 3.65; M_{\text{others}}= 3.85; M_{\text{general}}= 2.47$) [$F (2,156) = 28.73$, $p<.01$].

Perceptions of Instructional Objectives

Hypothesis #7: General education teachers, when compared to special education teachers will more likely rate social and psychological well-being objectives as the main objectives of teaching; whereas, special education teachers, when compared to the other groups, will rate higher the main objective to be academics.

In response to the question: “I believe that it is possible to integrate a child with autism in a class with typically developing children”, educators reported the following: 56% ($n= 93$) “agree/strongly agree”; 25% ($n= 41$) are unsure whether they agree or disagree; and 16.9% ($n= 28$) “disagree/strongly disagree”. With regard to instructional priorities for children with autism, general education teachers promoted mostly ‘development of relationships’, ‘anxiety relief’, ‘expressing desires using speech’, and ‘social play with other children’. The special education teachers placed emphasis also on ‘expressing desires using speech’, ‘development of relationships’, ‘anxiety relief’, and ‘self-care skills’. Other specialized teachers rated the top two most important teaching objectives to be: ‘expressing desires using speech’ and ‘self-care skills’ followed by “anxiety relief” and ‘reduction of self-injury’. The highest significance was for ‘reduction of self-injury’ which was seemingly more valued by the other specialized teachers group (i.e, OT/PT/Speech pathologists) [$\chi^2 = 7.8$, $p< .05$]. Groups also significantly differed in ratings of the following educational objectives: ‘social play’ ($\chi^2 = 6.09$, $p< .05$), ‘self-care skills’ ($\chi^2 = 6.70$, $p = .05$), ‘read and write’ ($\chi^2 = 7.21$, $p < .05$), and ‘development of relationships’ ($\chi^2 = 7.78$, $p< .05$) (Table 6).
### Table 6.

Educators’ Ratings of Main Teaching Objectives for Teaching Children with Autism:
Frequency/Percentages

<table>
<thead>
<tr>
<th>Objective</th>
<th>General Education Teachers (n=97)</th>
<th>Special Education Teachers (n=29)</th>
<th>Other (e.g. OT/Speech) (n=31)</th>
<th>Chi-square&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Read and write</td>
<td>52 (53.4 %)</td>
<td>9 (31 %)</td>
<td>10 (32.2 %)</td>
<td>7.21, p&lt; .05</td>
</tr>
<tr>
<td>2. Develop relationships</td>
<td>70 (72.2 %)</td>
<td>20 (70.0 %)</td>
<td>14 (45.2 %)</td>
<td>7.78, p&lt; .05</td>
</tr>
<tr>
<td>3. Express desires</td>
<td>61 (62.9 %)</td>
<td>23 (79.3 %)</td>
<td>25 (80.6 %)</td>
<td></td>
</tr>
<tr>
<td>4. Emotional understanding</td>
<td>40 (41.2 %)</td>
<td>6 (20.7 %)</td>
<td>9 (29.0 %)</td>
<td></td>
</tr>
<tr>
<td>5. Social Play</td>
<td>59 (60.8 %)</td>
<td>16 (55.2 %)</td>
<td>11 (35.5 %)</td>
<td>6.09, p&lt; .05</td>
</tr>
<tr>
<td>6. Reduce stereotypies</td>
<td>34 (35.1 %)</td>
<td>6 (20.7 %)</td>
<td>14 (45.2 %)</td>
<td></td>
</tr>
<tr>
<td>7. Reduce self-injury</td>
<td>41 (42.3 %)</td>
<td>15 (51.7 %)</td>
<td>22 (71.0 %)</td>
<td>7.80, p&lt;.05</td>
</tr>
<tr>
<td>8. Complete activity</td>
<td>45 (46.4 %)</td>
<td>11 (37.9 %)</td>
<td>19 (61.3 %)</td>
<td></td>
</tr>
<tr>
<td>9. Self-care skills</td>
<td>53 (54.6 %)</td>
<td>17 (58.6 %)</td>
<td>25 (80.6 %)</td>
<td>6.70, p&lt; .05</td>
</tr>
<tr>
<td>10. Anxiety relief</td>
<td>62 (63.9 %)</td>
<td>17 (58.6 %)</td>
<td>23 (74.2 %)</td>
<td></td>
</tr>
</tbody>
</table>

Note: Participants were able to circle more than one statement. Percentages reflect frequency per subgroup of teachers (9 missing cases); hence, percentages do not add up to 100% per subgroup.

<sup>a</sup>Chi-square and p-values are given only for significant group differences.
Chapter 5
Discussion and Implications

The combined results of this study confirm previous research findings which indicate that general educators feel ill-prepared to teach children with autism, have misconceptions of many aspects of the disorder (Stone & Rosenbaum, 1988), and have received limited preparation to meet both academic and behavioral needs of this population (Ochs, et al., 2001; Diebold & VonEschenbach, 1991 as cited in Martinez, 2004).

Knowledge of Autism’s Characteristics

Although no relationship was found between teachers’ knowledge of the characteristics of autism, number of children with autism taught, and years of teaching experience, this is likely due to how “knowledge” was defined. In this study, only a sampling of very basic knowledge of autism was surveyed (i.e., questions 2-5 on the Autism Questionnaire). A very weak relationship did exist between all educators who personally taught a child with autism and knowledge that autism is usually accompanied by mental retardation.

Sources of Information on Autism

Educators were asked where they find information on autism. The most frequent listed choices in order were: parents of child with autism, special education teacher, workshops on autism, and newspapers/magazines. Given that workshops were listed as a primary resource, over three fourths of all educators surveyed indicated they had not attended more than one workshop during their teaching career. Educators may be receiving a good portion of unreliable or sensationalized material from mass media as well rather than factual, empirically researched government/hospital affiliated websites or coursework (which were the two least chosen sources).

Special educators and other educational professionals (i.e., OT/PT/speech pathologists, aides) had more knowledge regarding the surveyed four basic knowledge questions. However, all educators had very low ratings on question two which indicated
that they did not realize that autism is usually accompanied by mental retardation. In fact, comorbidity of mental retardation and autism occurs in over 75% of cases (DSM-IV, 2000; Tasse et al., 1998). Not understanding the comorbidity of mental retardation with autism may also be due to a lack of understanding of the characteristics defining mental retardation. This lack of knowledge could have profound implications on both teaching strategies and patience in working with this population such that expectations may be set initially too high for the student which could cause frustration and misunderstandings on the part of the educator.

Knowledge of Possible Etiology of Autism

Seemingly, other false beliefs are held regarding the possible etiology of autism. Although the cause of autism has not been unidentified (DSM-IV, 2004), research has found that that the disorder transcends socioeconomic level. Earlier conceptions that the disorder was caused by poor parenting skills/neglect have also been long discredited. Notable was the fact that so many participants agreed with the statement that social causes such as poverty is a possible cause. More frightening was the number of participants who believed autism can be caused by a lack of a mother’s emotional response to a child’s needs. This “blame the mother” belief can also have far reaching implications that may affect not only teaching strategies but also parent and educator home/school collaboration. Future studies as to why these myths still persist would be beneficial.

Knowledge of Characteristics of Children with Autism

Participants also chose from a list any characteristics they thought pertained to a child with autism. Confirming previous research (Stone & Rosenbaum, 1998; Mavroupoulou & Padeliadu, 2000), teachers have misconceptions regarding many of the main characteristics of autism which may contribute to both overly high expectations or underestimation of their abilities. Interestingly, there were many incorrect assertions such that children with autism have hearing problems and hallucinations. Surprisingly, some educators even indicated they felt that children with autism don’t have feelings. Hopefully, those educators interpreted the question as “difficulty expressing feelings”
rather than being void of feeling at all. A relatively large number of educators reported that a characteristic of autism includes “does not get attached to a person” which could greatly affect their own social interactions with the child and their promotion of teaching socialization/language skills. Very few educators correctly asserted that children with autism commonly have sleeping problems or problems in eating routine. Not having this knowledge could lead teachers to mistakenly not consider hunger or sleep deprivation as a contributing factor to why a student with autism may not be consistent in his behavior or skill acquisition. This confirms previous research that failure to understand the symptoms of autism can contribute to failure in effectively intervening (Ochs, et al., 2001).

Knowledge of Treatment Options

Other specialized educational professionals surveyed (i.e., OT/PT/Speech pathologists, and aides) had the most knowledge of treatment options than both special education teachers and general education teachers. Overall, all educators knew little about treatment options, with general education teachers knowing the least. This lack of knowledge indicates that most educators, but specifically general educators, really don’t know what options/teaching strategies are out there. General educators are even more at a disadvantage than special educators since they don’t have as much specialized coursework in their initial training teaching characteristics, management, and efficacious instruction of children with special needs (Stoler, 1992). Without having any knowledge about these treatment options combined with the fact that educators indicate they are not getting their information from empirically based/research based sources, may cause a snowball effect of choosing strategies randomly or choosing treatment options with very little evidence or damaging research evidence proving ineffectiveness.

This confirms previous stated research, that general education teachers perceive their efforts to be more successful in teaching children with special needs after taking additional training through special education in-service programs (Brownell & Pajares, 1999). To that end, in-services must address not only the needs of such students, but instructional adaptations and behavioral management techniques (Brownell & Pajares, 1999). Yet again, knowledge of characteristics of autism or new intervention skills is
simply not enough without the understanding the why behind that new knowledge and the knowledge of when to use certain strategies over others. As Jordan and Powell (1995) stated: “To teach a child without attempting to understand his/her particular way of learning is a contradiction in terms; teaching necessarily involves such understanding, without it, the exercise becomes a matter of training”. Therefore, going to in-services on autism alone won’t be truly effective unless those educators have the opportunity to learn the why behind each strategy being taught along with how the child with autism is processing information. Without this information in combination with the actual practice of these skills, preferably with actual children and with constructive feedback that in-service’s information would just become another thing to file away in the cabinet.

Concern in Teaching Students with Autism

As hypothesized, there was a statistical difference between general educators and special educators (but not other educational professionals) with regard to concern of having a child with autism in their class. It is interesting to note that autism was the top 3rd choice of causing concern (out of 11 listed special needs populations) for all three groups. Oppositional/behavioral disorders and emotional disorders were rated as either first or second picks for all educators. Given the overall lack of experience of reported teachers having a child with autism in their class, perhaps educators had more concerns of those students with special needs that they have taught more frequently. General education teachers that do have children with autism in their class may still interact infrequently or on a different level of interaction than others in the class due to the fact that many students with autism are accompanied by an aide during a good portion of the day. It is also notable that the top three picks for all groups are known for having some severe behavioral characteristics at times. It could be argued that educators don’t have concern for teaching any specific special needs sub group over another; rather, they just have concern in teaching a child with behavioral needs and feel lacking in behavioral management strategies.
Given that all the educators rated autism as their third top pick regarding the question about concern in teaching a high functioning student with autism (e.g., Aspergers) as opposed to a student with more severe characteristics of autism is deemed an important one to consider. For both the high functioning child scenario and low functioning child scenario, general educators feel more concern as having such a child in their class when compared to special educators and other educational professionals. This fact reiterates the need of future research of influencing factors of concern in teaching children with autism.

**Self-Efficacy**

As with all things, some self-doubt is needed since commonly it acts as the driving force to move us forward in accomplishing bigger and better things. As Bandura (1997, ch. 2) summarized: “self-doubt creates the impetus for acquiring knowledge and skills, but it hinders proficient use of developed skills.” In contrast to what was expected, personal self-efficacy did differ between groups with special education teachers as having the highest, followed by specialized other educational professionals, and general education teachers. This result is more aligned with some studies that have found that personal teaching efficacy (the belief that one has the ability to affect change in students) and general teaching efficacy (the belief that the profession of teaching itself can influence student outcomes) has been shown to only to be moderately correlated with each other (Gibson and Dembo, 1984; Tschannen-Moran & Hoy, 2001) and lends credence to the belief that a teacher can be comfortable with teaching in general but not with certain populations of students (Bandura, 1997; Tschannen-Moran & How, 2001).

Special education and other specialized educational teachers also had higher self-efficacy for teaching a child with autism. Having such high self-efficacy is imperative since teachers with high sense of efficacy use praise more often, persevere more with difficult to manage students, spend more time monitoring, and are more creative in their lessons and management skills- all attributes that are needed for teaching this population (Givson & Dembo, 1984). One explanation as to why special education teachers and other specialized educational teachers have higher self-efficacy in teaching this population is that they typically have smaller class size and in most cases for the
specialized teachers (i.e., aides, OT/PT/Title teachers), they teach these students on a 1:1 basis which is clearly not as overwhelming as being a creative and effective teacher of a child with special needs in a typical class of 25+ students. Therefore, a possible implication of this would be to incorporate success stories of how other general education teachers managed and taught their inclusive classrooms.

Perceptions of Instructional Objectives

Similar to previous research (Mavroupoulou & Padeliadu, 2000), ‘development of affective relationships with others’ was the highest significance between groups with general educators as valuing this teaching objective the most. Also similar to this research, more purely academic tasks such as reading and writing were rated as relatively low on the list of teaching objectives by all groups. As noted by previous research, such ratings may indicate that educators “…may underestimate the capabilities of children and the skills they can acquire” (Mavroupoulou & Padeliadu, 2000, p. 179). It would be interesting to see if this sample would rate their teaching objectives for language, social, and academic development similarly for a student without a diagnosis of autism.

Study Limitations

Limitation of Sample Size: There are several noteworthy limitations of this study. First, there were some limiting factors inherit to the study itself. Sample size was limited to only a handful of very similar districts with very little diversity in gender, race, or ethnicity. One school was a specialized school only for children with special needs; thus, special education teachers may have had more experience or opportunities for collaboration and resources that could positively affect scores of self-efficacy or concern in teaching. Additionally, although sample size in this study was larger for general education teachers than several similar studies regarding knowledge of autism, sample for special educators were similar if one doesn’t factor in the “other specialized educational professionals” grouping.

Limitation of Response Rate: Response rate when compared to previous studies did improve. Although response rate increased, it was expected to be higher due to the fact the questionnaires were collected from an all school teacher in-service. Meetings
were held before school and ran late so that explanation of the study and data collection needed to be placed low on the meetings agenda in order for the rest of the meeting could be held in time before the teachers needed to return to class. Therefore, response rates were due to such time restraints and conflicts in scheduling. Given these factors, additional data needed to be collected from willing schools which increased the overall number of schools/districts needed for this project.

**Limitation of questionnaire measures:** As with usage of all self report measures, the validity may be questionable in some cases. The majority of the questionnaires were completed at the school’s teacher in-service among their fellow colleagues so some participants may have felt pressured to not be fully truthful with their responses. (Helps, Newsom-Davis, & Callias, 1999; Mavroupoulou & Padeliadu, 2000).

**Future Research**

In many ways, this study can be used as a springboard for future studies regarding the role of knowledge of autism, concern in teaching, and self-efficacy in teaching children with autism. As was mentioned, good in-services for general education teachers would consist of explanation of not only the symptoms and characteristics of autism but also the why behind the teaching strategies, the chance to watch a model using those strategies, and then being able to try out the teaching strategies with immediate constructive feedback (Jordan & Powell, 1995). Workshop “field experiences” may be necessary to offer the chance to general educators to actually practice what they learn and to gain confidence in the learned teaching strategies first-hand.

Tauber (1998) summarized succinctly teacher expectancy effect. Teachers have lower self-efficacy in teaching students labeled “low ability” (Guskfy, 1987). Unfortunately, this label is both wrongly yet still commonly used to describe children with autism. Many times the media either portrays children with autism as either a combination of deficits: a walking behavioral problem of sorts or as a bewildering savant. In-services could be more beneficial by listing not only the deficits but also the success cases in using differing teaching approaches. Using modeling of interventions, specific case examples, or videos to depict how to actually implement strategies in the classroom.
would aid effectiveness as well (Ross, 1994, as cited in Soto & Goetz, 1998; Lerman, Vonrndran, Addison, & Kuhn, 2004).

According to Bandura (1997, p. 105):

“Simply telling people they are much more capable than they believe themselves to be will not necessarily make it so. Efficacy beliefs are best instilled by presenting the pursuit as relying on acquirable skills, raising performers’ beliefs in their abilities to acquire the skills, modeling the requisite skills, structuring activities in masterable steps that ensure a high level of initial success, and providing explicit feedback of continued progress” (p. 105).

Therefore, pre and post research examining self-efficacy after numerous in-services on autism would be interesting. However, as is well known, financial backing to such programs is necessary. Additional research is needed to survey educational administrators in order to gather information regarding their opinion of value of such workshops. Another factor to consider is the fact that teachers’ have many time constraints. Research on effective length and topics covered in such in-services would provide valuable information as would follow-up studies on generalization of learned skills during in-services to actual classroom teaching and management.

General education teacher programs are sorely in need of more special education classes regarding children with exceptionalities as its focus. As previous researchers hypothesized: “regular educator’s self-efficacy is not commensurate with the task of mainstreaming due to the lack of training in numerous areas that all prospective special educators receive in their teacher preparation programs” (Sachs, 1988, as cited in Sachs, 1990). More research on the general education teacher’s skill and knowledge level of teaching the special needs population as well as additional research on the benefits of special education/general education co-teaching of classes would aid in the development of effective mainstreaming practices (Stoler, 1992; Brownell & Pajares, 1999).
Conclusion

Autism spectrum disorder (ASD) is the fastest growing developmental disability in the U.S. (Autism Society of America, 2003). The United States Department of Education indicates that between 1991-2001, children served with the disorder under the Individuals with Disabilities Education Act (IDEA) has increased by 1,354% (in comparison to an increase of 28.4% for all other disabilities) (USDOE, 2003a, as reported in Sansosti & Sansosti, 2004). The role of teacher efficacy in teaching children with autism has only been researched in one other study (Jennett, Harris, & Mesibov, 2003) and this was only done with special education teachers. There are few studies that examine teachers’ general knowledge of the disorder and instructional goals (Mavroupoulou and Padeliadu, 2000). Self-efficacy has been noted as the catalyst that sparks one’s own known knowledge repertoire to the actual usage of that knowledge (Bandura, 1997). No known study has examined the important ingredient of self-efficacy among both special educators and general educators in teaching this population. The results obtained in the present study provide a solid foundation for future research in efficacious teaching, perceptions, and practices of teaching children with autism.
References


Appendix A

Consent

Teachers:

Hello, my name is Laura Schwarber and I am a graduate student in the school psychology program at Miami University in Oxford, Ohio. I am writing to inform you of an exciting research study and ask for your assistance in this important research.

Purpose of the Study:

The purpose of the study is to compare general education and special education teachers’ knowledge, concerns, and confidence in teaching students with special needs. Although there are studies examining these factors in special education teachers, little is known regarding how a student with special needs affects the general education teacher. There are no known risks to your participation in this study and you have the right to withdraw from the study at any time. Confidentiality will be assured through the use of identification numbers on all response forms. There are no foreseeable risks to your participation. Your participation is voluntary meaning you can refuse to participate without any repercussions. Once beginning the questionnaires, you have the right to refuse to participate at any time. The study questions are easy, fun, and will take no longer than 20 minutes of your time.

Given the rise in inclusion practices, this is an extremely overlooked topic. Your opinions and assistance in this study would provide valuable information to the research community which will help in the formation of both better teaching practices as well as better student/teacher relationships. Please seriously consider your participation in this study. Simply fill out the bottom of this form and the study’s questions will be provided. Your help will be much appreciated!
Thank you in advance for your time and help! Please contact me at (513) 529-0851 or at schwarla@muohio.edu or Dr. Doris Bergen, Ph.D. at Miami University (513) 529-0851 or the Office for the Advancement of Research and Scholarship (513-529-3734) if you have any questions.

Sincerely,

Laura A. Schwarber, M.S.
School Psychology
Department of Educational Psychology
Miami University
Oxford, Ohio

************************************************************************

Name:_____________________________
School:___________________________
Grade Taught:_____________________
Date:_____________________________
Appendix B

Demographic/Information Form

1. Identification Number__________________
   (Please choose a 5 digit number. This number rather than your name will appear on all response forms).

2. Grade Currently Teaching:___________
   (Please circle):

3. Gender:        Male        Female

                              General Education  Special Education
                              Teacher             Teacher

4. Ethnicity:       Caucasian  African-American  Asian
                   Other: please specify_____________

5. Age: __________

6. Total number of years teaching:
   General Education_______________
   Special Education_______________

7. Approximate number of children with autism that you personally have taught
   __________
8. Approximate number of courses you have had on autism ____________
   Approximate number of credit hours of these courses on autism__________

9. Approximate number of workshops you have had on autism ____________
   Approximate number of hours of workshops taken on autism____________

10. Other amount of specialized instruction of children with autism
    __________________________________________________________________

11. Please check where you get most of your information on autism:

   (Check all that apply)
   Parent/Teacher autism websites____  Workshops on autism___
   University/Hospital/Government autism websites__  Coursework on autism___
   Televised news programs ___  Parents of child with autism___
   Newspapers/Magazines____  Special ed. Teacher___
   Other___  Other___  Turn →
Appendix C

Protocol

*Introduce self to principal. Ask for list of teachers expected to be at the meeting. Ask for permission to place questionnaires in absent teachers’ mailboxes for completion.

1. Introduce self and read consent form. Inform that you were given permission to use about 15 minutes of the in-service for teachers who are willing to participate to fill out the questionnaires while you wait.
2. Pass out 2 copies of consent (and extra pens/pencils).
3. Collect signed copy of consent and leave other copy for participants’ own records.
4. Pass out questionnaires: Remind there is no “right” or “wrong” answers. Also remind to answer each question.
5. Pass out cookies and napkins.
6. Collect questionnaires when finished. Check to see if each question is completed. Personally thank each participant.
7. Using consent forms, check off each teacher who participated. Place questionnaires in absent teachers’ mailboxes for completion. Leave large envelope with receptionist for collection.
8. Remind principal I will be back in a week to collect these absent teachers’ forms.
9. Remind principal to make an announcement during the week to those not present at the meeting to fill out forms they found in their mailbox and to return to receptionist.
10. Thank principal and leave contact information (consent form).
Appendix D

Autism Questionnaire

The following questions are aimed to explore teachers’ perceptions and attitudes towards individual’s with autism. The answers are not evaluated as right or wrong. Circle letters or numbers as appropriate. Please complete all questions.
Thank you very much for responding!

1. Which of the following factors do you think are the main causes of autism?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Brain Damage</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>b. lack of mother’s emotional response to the child’s needs</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>c. social causes (e.g., poverty, lack of resources at home)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>d. heredity</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>e. immunization side effects</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>f. vitamin deficiency</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>g. other factors (specify)</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Please rate your opinion of the following statements:

2. Autism occurs more often in boys

3. Autism is usually accompanied by mental retardation

4. Autism is an early form of schizophrenia:

5. Persons with autism have a greater tendency to die as a result of their disorder

6. Autism is a condition that can be fully cured

7. I believe that it is possible to integrate a child with autism in a class with typically developing children

8. According to your view, which are the characteristics of a child with autism?

   (You can circle more than one statement)

   1. Has hearing problems
   2. Has temper tantrums
   3. Does not seek the company of others
   4. Does not seek physical contact with others
   5. Does not play with objects
   6. Has sleeping problems
   7. Has problems in his/her eating routine appearance and health
   8. Makes clumsy movements
   9. Does not get attached to a person
   10. Does not understand the feelings of others
   11. Does not have self-care skills
   12. Does not develop speech
   13. Overreacts to noise
   14. Shows hallucinations
   15. Presents problems in his physical appearance and health
   16. Wants to keep his environment the same
   17. Avoids changes in his daily routine
   18. Seems distant
   19. Does not have feelings
   20. Has obsessions
22. Engages in stereotypical activity
23. Does not make eye contact

9. Please rate how much you know about the following treatment options for children with autism.

<table>
<thead>
<tr>
<th>Treatment Options</th>
<th>I know nothing</th>
<th>I know a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. TEACCH program</td>
<td>1   2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>2. Applied Behavior Analysis (ABA)</td>
<td>1   2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>3. Picture Exchange Communication System (PECS)</td>
<td>1   2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>4. Floor Time (Greenspan)</td>
<td>1   2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>5. Social Stories (Carol Gray)</td>
<td>1   2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>6. Sensory Integration Therapy</td>
<td>1   2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>7. Facilitated Communication</td>
<td>1   2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>8. Medications</td>
<td>1   2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>9. Vitamin/Mineral Therapy</td>
<td>1   2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>10. Dietary Intervention</td>
<td>1   2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>11. Chelation (removing lead/toxic metals from blood)</td>
<td>1   2  3  4  5</td>
<td></td>
</tr>
</tbody>
</table>

Turn →
9. What do you see as the main instructional objective(s) for teaching a child with autism? (You can circle more than one statement)

1. read and write
2. develop affective relationships with others
3. express his/her desires using speech
4. understand the feelings of others
5. play with other children
6. reduce his/her repetitive activities
7. reduce his/her tendency to self-injury
8. complete an activity independently
9. develop basic self-care skills
10. get relief from anxiety and emotional tension

10. How confident do you feel in your skills/abilities to teach a child with autism?

Not at all confident | Extremely confident
---|---
1 | 4 | 5
2 | 3 | 4
3 | 2 | 1

Turn ➔
## Concern Index

Please circle the number that describes your concern in teaching the following populations:

<table>
<thead>
<tr>
<th>Concern</th>
<th>Not at all Concerned</th>
<th>Extremely Concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>A child with.....</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. ADD/ADHD</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>2. Learning disability</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>3. Mental Retardation</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>4. Oppositional/Behavioral Issues</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>5. Autism</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>6. Emotional Disorder</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>(e.g., bipolar disorder, depression, anxiety)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Severe academic deficits</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>8. Physical Disability</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>9. Vision Impairment</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>10. Hearing Impairment</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>11. Speech/Language Impairment</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
</tbody>
</table>

Turn →
Appendix F
Self-Efficacy Index (Gibson & Dembo, 1984)

1. When a student does better than usual, many times it is because I exerted a little extra effort.

2. The hours in my class have little influence on students compared to the influence of the home environment.

3. The amount that a student can learn is primarily related to family background.

4. If students aren’t disciplined at home, they aren’t likely to accept any discipline.

5. When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level.

6. When a student gets a better grade than he usually gets, it is usually because I found better ways of teaching that student.

7. When I really try, I can get through to the most difficult students.

8. A teacher is very limited in what he/she can achieve because a student’s home environment is a large influence on his/her achievements.

9. When the grades of my students improve, it is usually because I have found more effective teaching approaches.

10. If a student masters a new concept quickly, this might be because I knew the necessary steps in teaching that concept.
11. If parents would do more with their children, I could do more.

12. If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson.

13. If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him quickly.

14. The influences of a student’s home experiences can be overcome by good teaching.

15. If one of my students couldn’t do a class assignment I would be able to accurately assess whether the assignment was at the correct level of difficulty.

16. Even a teacher with good teaching abilities may not reach many students.
Dear __________________________,

Hello, my name is Laura Schwarber and I am a graduate student in the school psychology program at Miami University in Oxford, Ohio. This is a reminder of your schools’ involvement in my research comparing general education and special education teachers’ knowledge, concerns, and confidence in teaching students with special needs. As discussed, questionnaires will be completed at your next teacher meeting on:

___________________________, 2004 at _________________ am/pm.

The study questions are easy, fun, and will take no longer than 20 minutes of your teachers’ time to complete. Please contact me at schwarla@muohio.edu if you have any questions. I am looking forward to meeting you and thank you again for all your help!

Sincerely,

Laura A. Schwarber, M.S.
schwarla@muohio.edu
School Psychology
Department of Educational Psychology
Miami University
Oxford, Ohio
Appendix H

How concerned would you be to learn that you will be teaching the following child in your class next year?

Scenario #1

A third grade student has the following characteristics: is seemingly aloof, rarely smiles, poor eye contact, tantrums frequently over no apparent reason, resistant to change in the environment, has eccentric routines in play, seems more interested in objects or parts of objects rather than social interaction, waves his hands in front of his face repeatedly, uses pointing to pictures as the primary form of communication, commonly unresponsive to typical teaching methods or verbal/nonverbal social cues.

Not at all Concerned                 Extremely Concerned
1                       2                   3                      4                      5                            6

Scenario #2

A third grade student has the following characteristics: poor eye contact, obsesses on the same topic to the exclusion of any other, verbal but has language peculiarities, resistant to change, problems with making and keeping friends, socially awkward, tends to be a bit uncoordinated or clumsy, has a difficult time transitioning to new activities, seems to want to make friends, but not always sure how to go about it, can read and write, but has difficulty with comprehension.

Not at all Concerned                 Extremely Concerned
1                       2                   3                      4                      5                            6