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Teaching Elementary Children with Autism: Addressing Teacher Challenges and Preparation Needs

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Teachers' perception of self-efficacy may have a significant impact on their ability to accept the challenges inherent in including children with autism in their classrooms. The Nominal Group Technique (NGT) was used to identify perceived challenges and needs of 31 graduate students in a university course of which 14 of the 23 students were actively teaching in rural schools located in southeast Alabama. Five faculty members used the resulting NGT data to draft six recommendations for improving the teacher preparation program at Troy University.

Keywords: autism, pre-service teachers, teacher education, general education, special education, teacher preparation

With the prevalence of autism increasing exponentially in today's classrooms (Leech, 2008), general education teachers face a broad range of challenges within inclusive settings. Like the little steam engine in *The Little Engine That Could* (Piper, 1930) overcoming such challenges may seem daunting to teachers who feel unprepared to deal with this complex disorder. This is problematic because teachers' perceptions and attitudes regarding inclusion are fundamental to their acceptance of and willingness to address the challenges with which they are charged (Avramidis, Bayliss, & Burden, 2000; Carrington, 1999; Hastings & Oakford, 2003; Norwich, 2002). These issues may be of particular challenge to teachers in rural areas where the low incidence of autism results in lower student numbers exhibiting this trait and teachers who have little experience working with students with autism and also limited access to training, funding and resources.

Due to the prevalence of autism at state, national, and international levels, it is likely that most elementary education graduates will teach children with autism and should be prepared to include them in general education classes (Goodman & Williams, 2007; Mitchem & Richards, 2003).

At Troy University, the elementary certification programs include (a) Elementary Education, K-6, (b) Collaborative Teacher, K-6, and (c) Interdisciplinary Education (P-12). All the teacher education programs comply with the Alabama Model of Identifying Highly Qualified Teachers in accordance with the *No Child Left Behind Act* (NCLB, 2001). Therefore, the purpose of this study was to gather information to develop and/or revise curricula at Troy University in Troy, Alabama to prepare our elementary education teacher graduates to educate all children, including those with autism, in general education classrooms. The research question that guided this study was: How adequate is the current teacher preparation program for preparing general education teachers for teaching children with autism?

Background

The level of specialization needed by educators who teach students with autism is not readily available throughout Alabama ("Final report to," 2009). Leech (2008) reports, "In 1991, just three students in Alabama's public schools were diagnosed with autism. During the 2007-08 school year, the number was 2,737 and that number is expected to climb" (p. 1). Despite this exponential increase, teachers and schools are

unprepared to address the needs of children with autism. Joel Smith, director of the autism program at Councill Elementary School in Birmingham, observed:

> People tell me I do a great job, but I don't think I do. I know these kids are intelligent and I would love to know how to unlock that potential, but I just don't have the training or research to do it. (Leech, 2008, p.1)

In the state of Alabama, educators report feeling inadequately prepared to teach children with autism in inclusive settings (Campbell, Ellis, Baxter, & Nicholls, 2007.). Many general educators have only taken survey courses in exceptionalities and therefore, have little specialized training in the field of autism. A statewide random sample of the general population indicated that 63% of respondents felt that more support is needed for schools serving children with autism and approximately70% of the general public reported no knowledge of community services for people with autism (Campbell et al., 2007). While the survey did not address rural areas in Alabama specifically, it is important to note that 55 of Alabama's 67 counties are rural.

Theoretical Framework

Lack of motivation and self-efficacy in teachers are often root causes of ineffective teaching of children with autism (Avramidis et al., 2000). *Effectance Motivation Theory*, sometimes referred to as mastery motivation (White, 1959), suggests that there is a link between motivation to engage in a difficult task and perceived confidence in one's ability to perform that task. White posits that people have an inborn motivation to feel competent and succeed with tasks. When people do not feel they can succeed at what they attempt to do, they are less likely to try. Harter (1978) built on this theory by hypothesizing that people with high levels of self-efficacy tend to enjoy tasks more, which leads to increased intrinsic motivation; a cyclical effect is then produced. In essence, the intrinsic motivation to attempt and persist with a task is related to perceptions of competence.

Mastery motivation theory is especially applicable to teachers of children with autism. General educators have consistently expressed misgivings about teaching children with autism due to feelings of inadequate preparation (Lambe, 2007). In addition, some studies show that teachers believe teaching children with autism should be the job of the special educator (Booth & Ainscow, 2002). Providing adequate training and diverse clinical experiences to serve children with autism may help increase teachers' sense of self-efficacy. When teachers begin to feel competent in their abilities to teach children with autism, they may be more motivated to address the challenges and accept their responsibilities for teaching these children. Once this cyclical effect has evolved, teachers may begin to view teaching children with autism as equivalent to facing any other challenge they may encounter in their classroom. Like the little steam engine, teachers can be expected to experience a change in their belief system from "I don't know how" or "It is not my job" to "I think I can."

Regardless of teachers' feelings or beliefs, teaching children with disabilities in the least restrictive environment is a requirement as outlined by the federal legislation, *Individual with Disabilities Education Act* (IDEA, 2004). IDEA states:

> Each state must establish procedures to assure that, to the maximum extent appropriate, children with disabilities…are educated with children who are not disabled, and that special education, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability is such that education services cannot be achieved satisfactorily. (IDEA, 20 U.S.C. 1412 (5) (B)

The least restrictive environment is often referred to as inclusion. Moore and Keefe (2004) lament that commendable attempts to seek equal and appropriate education for students with disabilities have become politically charged and have changed the focus from *how to* educate these students to *where to* educate them. The mandates of IDEA (2004) are clear: Teaching children with autism is no longer the sole responsibility of the special educator. This paradigm shift requires all educators to focus on how best to address the needs of all of the children in their classrooms rather than on where this responsibility lies – with general educators, or with special educators. Therefore, general educators need adequate knowledge and training, including clinical experiences, for teaching children with autism.

Autism is especially challenging for teachers because it is a spectrum disorder that affects individuals differently and in varying degrees. In

its *School Community Tool Kit*, the Autism Society of America (2008) states, "If you've seen one person with autism, you've seen one person with autism" (p. 3). The word autism is a generic term that describes a complex group of disorders that are known as Pervasive Developmental Disorders (PDD) or Autism Spectrum Disorders (ASD). The PDDs include autistic disorder, Asperger's, PDD not otherwise specified, Rett's, and Childhood Disintegrative Disorder. Autism is a neurological disorder that affects the normal functioning of the brain and symptoms typically appear during the first three years of life.

According to the Center for Disease Control and Prevention (2007), one in every 150 children has an autism spectrum disorder, with males outnumbering females by four to one. Autism is growing exponentially at a rate of 10-17% per year (Autism Society of America, 2008), and the overall incidence is consistent on an international level. Autism affects individuals of all racial, ethnic, and social categories, including families of varying income levels, lifestyle choices, and educational levels. However, the difficulties associated with children with autism are especially pronounced in rural areas where resources are generally sparse.

Children with autism are educated on a continuum of educational services, with the most popular placement being in self-contained classrooms taught by teachers with specialized preparation and licensure. However, increasing numbers of children with autism are being fully included in general education classrooms where general educators teach them (Goodman & Williams, 2007). Frequently general educators do not have special preparation and may feel unprepared to resolve the perceived challenges of teaching children with autism (Rosenweig, 2009). Therefore, there is a compelling need to improve the preparation of teachers required to serve these students.

Personnel Needs in Rural Areas

Federal legislation calls for evidence-based intervention strategies to be used in teaching children with autism by highly qualified staff (Individuals with Disabilities Education Act, 2004; No Child Left Behind, 2001). In rural areas with small schools with low enrollment, this may be a challenge, as educators are sometimes required to serve students with disabilities for which they are not certified (Cates & Smiley, 2000). Special education licensure varies from state to state. Some states require certification in discrete categories (e.g., intellectual disabilities, emotional disturbance), whereas other states require non-categorical or cross-categorical certification (e.g., mild/moderate, moderate/severe disabilities, severe/profound) (Cates & Smiley, 2000; Scheuermann, Webber, Boutot, & Goodwin, 2003).

Rosenkoetter, Irwin and Saceda (2004) report there is a chronic shortage of special educators in rural areas, including too few teachers, related personnel, and professionals who are sufficiently prepared to work with special needs students. In addition, the mandate of *No Child Left Behind Act* (NCLB) 2001 requires highly qualified teachers for every subject area, which includes special education. Scheuermann et al. (2003) reported that little formal data exist about personnel preparation in autism. If a teacher meets state standards for certification, but has no coursework in or experience with autism, is that teacher highly qualified to teach students with autism? Teachers need specialized instructional techniques, unique curriculum, and coordinated services to successfully serve these students in inclusive settings.

Method

The purpose of this study is to evaluate a program of study at Troy University in an effort to prepare highly effective teachers to work with not only with regular education students but also with students with disabilities, and in particular students with autism. Data will be used to structure a hypothesis about the effectiveness of the elementary education graduate program in preparing teachers for inclusive classrooms.

Context

Troy University, a medium-sized rural university in southeast Alabama, is located in Pike County. The city of Troy has 14,000 residents and is approximately 53 miles from the nearest airport. Residents living in rural areas like those in Pike County, often experience analogous problems such as lack of telecommunications, residents with few technology skills, gap between traditional and progressive political views, lack of unification among governmental entities, and lack of legislative support for rural initiatives (The Regional Economy of Upstate New York, 2001). According to the Alabama Rural Health Association (ARHA), all sixty-seven counties in

Alabama have rural areas. Therefore, the ARHA determines "rural" or "urban" status at the county level based upon criteria established by the White House's Office of Management and Budget (OMB). The ARHA classifies 55 of Alabama's 67 counties as "rural."

Participants

Purposive sampling was used in this study because of the participants' employment and/or clinical field experiences in rural schools. Students enrolled in the graduate courses *EDU 6629 Master Teacher* and *SPE 6630 Collaboration for Inclusion* were invited to participate in the study on a voluntary basis. Thirty-one students accepted the invitation to participate. Of these, 23were employed as teachers: Twenty-one of these teachers were general educators and one was special educator. The remaining 9 participants are not regularly employed in a teaching capacity. Based on the responses from the participants in this study, 14 taught in "rural" schools, 7 in "urban" schools, and 2 taught in "suburban" schools. Of the eight Southeast Alabama counties represented (Barbour, Coffee, Covington, Dale, Geneva, Henry, Houston, Pike) only one, Houston County is part of a metropolitan area as classified by ARHA. Work experience varied from 1 to 20 years. The race, and gender of the students were representative of the average College of Education (COE) graduate, i.e., white, female All participants reported minimal or no training or experience regarding teaching children with autism. Table 1 shows the percentage of children with autism in the counties in which the participants were located compared with the total population of students for all counties in southeast Alabama.

Table 1

Frequencies for Autistic Population Compared to Total Population in Southeast Alabama Counties

County	*Children with autism aged 3-21*	*Total Public School General Population*	*Percentage*
Pike	*3*	*4429*	*.06*
Barbour	*4*	*3802*	*.10*
Coffee	*4*	*9122*	*.04*
Covington	*15*	*6156*	*.24*
Dale	*8*	*6592*	*.12*
Geneva	*6*	*3960*	*.15*
Henry	*10*	*2780*	*.35*
Houston	*32*	*15515*	*.20*

The data show that there are 82 children with autism in a total public school population of 52,356 students. With the prevalence of being approximately 1% of the total population, teacher education candidates have few opportunities for experiences teaching children with autism.

Procedures

The Nominal Group Technique (NGT) was used to facilitate identification of potential areas for improvement in the education curriculum at Troy University. The need for improvement was based on recognition that students might not feel empowered while working with students who have autism if they are not provided with curricular input that specifically addresses this population. NGT is a supervised, consensus-building, process. Groups use this process to reach agreement as they identify and define problems and generate solutions. It assures that all group members participate freely and are not influenced by other members. Davis, Rhodes and Baker (1998) used this tool to facilitate curriculum revision in a nursing program. These authors noted that NGT has been "employed by educational, industrial, health, social services, and governmental organizations to enhance problem solving by groups" (p. 327).

The participating students were enrolled in the Collaboration in Education and/or The Master Teacher classes. They had been introduced to the NGT process as they explored brainstorming. A classroom exercise had been conducted that included the use of this process. Therefore, the students were familiar with the procedures. Prior to the implementation of the NGT process, students were presented with a brief (1 hour) lecture on the characteristics of children with autism, common features of "best practice" education for these children, and a brief video-clip of a child with autism engaged in educational activities. They were then given the question / topic of concern to be addressed. The question was "What challenges can you expect when teaching children with autism?" This question was written as an issue and no solutions were offered. The students were assured that there was no single correct answer. After the introduction of the first question, the students engaged in silent problem generation. The problem generation phase lasted about 10 minutes. This was done to enhance individual input into the process. Each student shared one idea at a time from his or her list in a round-robin format. The faculty facilitator recorded their responses on a smart board. Each item was listed separately with no combining of similar ideas or discussion of the items. This procedure continued until all items were displayed. At this time, each idea was fully discussed with students being encouraged to share their negative and positive thoughts about the items. An effort was made to ensure that everyone fully understood the meaning of each item. Further explanation was elicited as necessary. When the students agreed that some ideas were the same, the duplicate items were combined. Each alternative was given a number and the students were asked to rank order their top 5 alternatives with 5 being the most important. This was done by listing the ideas on take out index cards and writing their rank in the bottom right hand corner of the card. The facilitator gathered the cards and assistants recorded the rankings beside the alternative. This assured that all rankings were confidential. The ranks for each alternative were averaged with higher totals indicating higher rank.

Data Analysis

The data collected were analyzed holistically for the purpose of hypotheses generation and explanation building. The outcomes of the group process were recorded, summarized and reviewed for recurring themes. The researchers sought multiple interpretations by reducing the data both individually and collaboratively. After reading the data initially and recording general themes individually, the researchers met collaboratively to discuss analysis. Consensus of major themes was reached during discussion. The goal of this collaborative process was to clarify understandings of what might be important to examine in subsequent case studies. The researchers determined that more comprehensive data sources would contribute to the goal of holistic understanding as well as provide more rigor to the results of the study.

Results

Five challenges evolved in response to the question, "What challenges can you expect when teaching children with autism?" Participants were also asked, "What information/support would help you meet these challenges?" Responses were categorized into three areas of perceived needs.

Perceived Challenges

The first challenge is rooted in the belief that teaching children with autism is a highly individualized and specialized process that requires highly specialized skills and personal attributes. The participants felt that to effectively teach the autistic child, the teacher required to be highly trained in that particular area. They did not feel that a regular classroom teacher would have the specialized skills needed to address this disability. The participants also indicated teachers would need specific qualities to successfully meet the needs of children with autism. These personal attributes were deemed specific to special education pre-

service teachers. For example, a special education pre-service teacher would need to be flexible and willing to adapt curriculum or modify an activity that is not working for his or her students. At the same time, though, the special education teacher needs to maintain structure within the classroom, knowing that too much variation in routine will frustrate students with autism. They have to balance between being flexible and yet structured.

The second challenge concerned collaboration with other teachers and parents of children with autism and the respondents noted that such collaboration is time-consuming and difficult. Realizing the complexity of the autism disorder, participants were concerned about the amount of time that would be required to collaborate with other teachers and professionals, including special educators. In addition, partnership with parents was discussed as vital to adequate education of children with autism, yet enormously time-consuming. With the demands in today's schools for meeting NCLB mandates, participants were concerned about how they would fit in all that is required of them.

An assumption that behaviors of children with autism are atypical, complex, and potentially very disruptive of general education classrooms was the third perceived challenge. The participants reported their views of children with autism as being outside the norm. They perceived children with autism may exhibit abnormal or aberrant behavior that would not be seen in the average or "normal" classroom student. They also believed that autistic students would disrupt the routine of the classroom with special needs for misbehavior, time constraints, and extra assistance needed for work.

The fourth perceived challenge involved a belief that required Individualized Education Plan (IEP) procedures, data collection, and record keeping for children with autism are extensive and redundant. Most of the participants were not confident in their abilities to write an effective IEP for a student with special needs. Although they appeared to understand the purpose of an IEP and how it was to be used, they fell short in their projected confidence in writing an IEP and the actual implementation of it.

The fifth challenge was participants' assumption that most general education teachers lack the basic knowledge and skills needed to fully include children with autism in their classrooms. Because early intervention is key to assisting children with autism, teachers–general and special educators alike—need adequate training in identification at early ages. Jennifer Sellers, assistant director of the Auburn University Autism Center, says, "In many places in rural Alabama, teachers may dismiss an autistic child as 'Oh, he's just a geek,' or 'that child is odd,' not knowing that child is on autism the spectrum. With proper training, teachers will be able to see that something is not right, and that can lead to an earlier diagnosis (Leech, 2008, pp. 3-4). The participants generally spoke of autistic students as children who "couldn't communicate" so they would be difficult to teach.

After the participants explored the challenges they thought they would face when teaching children with autism, they were asked to discuss what they would need to meet these challenges.

Perceived Needs

Participants perceived that the curriculum in teacher training programs was still too segregated and had not evolved to reflect the current needs of today's students and classrooms, especially in rural areas where many participants had limited encounters with children with autism.

The first perceived need was that more information was needed regarding the process, procedures, and practices for teacher and family collaboration for effective inclusion. This indicates recognition of the critical nature of engaging in goal-oriented activities that facilitate this process. This might be attributed to the fact that many of the participants had already taken a required university course on collaboration. It might also be due to the fact that many are working professionals and parents and recognize the importance of these individuals in that process.

The second perceived need was that more case and field-based experiences were required for pre-service teachers. This need is difficult to address especially in rural areas due to the availability of quality experiences in inclusive settings. As autism is being more efficiently and effectively identified, this restriction to pre-service learning may be one that can be lifted soon. Presently, the rural school systems within our geographic range do not have enough numbers of identified autism students (Table 1). to accommodate the number of pre-service candidates who need field or clinical experiences in this area. Diverse field experiences in both general education and special education settings are necessary to meet this important need (Lambe, 2007). The participants from both collaborative or special education settings as regular classroom educators expressed the need to work with and observe autistic students within the special education setting and within the regular classroom setting.

The third perceived need was increased access to current research and best practice teaching strategies needed for teaching children with autism. Alabama's Department of Education is implementing an inexpensive method of training general educators in effective teaching practices for children with autism. Distance learning technologies are being utilized in an effort to

provide teachers with professional development opportunities, including a three-month course on autism taught by national experts in the field of autism (Leech, 2008). The participants stated a need for more research and investigation within their own graduate courses to provide more effective understanding of the most current teaching practices for children with autism. The findings of this study represent considerable attitudinal barriers to inclusion of children with autism.

Implications

Prior research suggests that the quality of teacher preparation programs is the most important factor influencing pre-service teachers' motivation for teaching children with autism (Douglas, Forlin, & Hattie, 1996; Harvey, 1985; Lambe & Bones, 2006). Outcomes of this study confirm and extend those findings and suggest that existing teacher education programs often do not adequately prepare educators to resolve challenges associated with teaching children with autism in inclusive classrooms. The findings of this study suggest that the current teacher preparation program at Troy University is inadequately preparing teacher education graduates to deal effectively with the inclusion of children with autism. The five Troy University faculty members involved in the NGT considered these results, critiqued the existing curricula and formulated the following six recommendations to overcome the gaps in the current teacher preparation program for elementary education graduates. These recommendations are offered as partial remediation of the challenges identified by the graduate student group and are intended to promote teacher self-efficacy for including children with autism in general education classrooms.

Recommendation #1

Introductory coursework for teachers in preparation programs should be reconfigured to present inclusion of children with significant disabilities (such as autism) as a common and achievable educational practice. Jones (1996) reflected on the challenges teachers face in dispelling traditional myths about how individuals with disabilities are integrated into society. Reconfiguration should begin with an introductory course regarding children with disabilities that is commonly offered for all pre-service educators. This is course is typically presented as a survey of various disabilities and resulting educational limitations. Autism is presented as a severe disability resulting in significant (and potentially segregating) limitations. Reconfigured introductory coursework should present inclusion of children with autism as a preferred norm and a readily achievable educational outcome.

Recommendation #2

Empirically validated and best practice procedures that promote inclusive outcomes and benefit all children should be routinely incorporated into teacher preparation programs and competency assessments. Inclusive education should be presented as resulting from routine instructional adaptations implemented by all educators in the context of classrooms for all children, for example, co-teaching, peer tutoring, cooperative learning, and positive behavior support planning. Presentation of best practices should include case-based instruction and examples of successful applications leading to inclusive outcomes for children with autism. Study participants suggested that professors in the general and special education areas in teacher preparation programs should collaborate and co-teach more to provide (a) a model for teachers in training as K-12 general educators frequently co-teach with special educators and learn from each other's expertise as they work toward the goal of providing the best educational experiences for their students; (b) a more seamless curriculum. Curriculum committees from all disciplines should be tasked with developing objectives and competencies for general and special educator collaboration and co-teaching for inclusive outcomes. These opportunities build on the curriculum expertise of general educators and the accommodations expertise of special educators.

Recommendation #3

The faculty in pre-service programs should identify and/or prepare and consistently present case-based tutorials using DVDs of actual classrooms and teachers to model best practice instruction for including children with autism in general education classes. By observing effective teaching of autistic students through modeling, pre-service teachers vicariously experience competencies on how to teach these students in their own classrooms.

Recommendation #4

Teachers in preparation should have multiple opportunities to observe and engage in successful inclusive education for children with disabilities. School-based features of teacher preparation programs commonly include observations, field based assignments, and supervised teaching internships. To this end, we recommend identifying best practice community classrooms and schools serving children with autism, whose teachers and administrators are willing to partner with the university in providing opportunities for pre-service teachers to work with children with autism.

Recommendation #5

Teachers in training should have multiple

opportunities to meet and interact with parents and family members of children with disabilities with the goal of promoting partnerships for maximum student success. Whenever possible this experience should be in the context of routine and successful educational planning and documentation (such IEP meetings) regarding education of children with autism.

Recommendation #6

Additionally, as area schools do not necessarily include a large enough pool of identified autistic students to provide clinical and field experiences for all pre-service teachers, participants suggested initiating an autism center on campus at Troy University that would allow pre-service teachers to interact regularly not only with students with autism, but also with staff who teach and work with them. Such a center would also serve as a resource for parents of children with autism.

Limitations

The findings in this study may only be representative of Troy University. The population at Troy University, however, is diverse and the curriculum is accredited. It is important to note that a convenience sample was used in this study, which may further limit its applicability. In addition, as noted by Skibbe (1986), the following limitations are inherent with the NGT: (a) the generation of ideas is limited to the actual time spent at the meeting, (b) the lack of anonymous authorship can make participants play it safe, and (c) ideas may be evaluated on their source, rather than their merit. Further studies are needed to provide more comprehensive information on the preparedness of teachers of children with autism. Although some case studies use only one method of data collection, having multiple sources increases the rigor of the study (Tellis, 1997).

Conclusion

Successful teacher preparation programs assess the needs of their graduates and use these data to make needed changes to the current curricula, delivery methods, and focus of study so that graduates are adequately prepared to deal with the realities of a classroom. Teacher preparation programs must evolve to meet the current needs of today's students, classrooms, and schools. The results of this study provide insights into teacher perceptions of their abilities regarding teaching children with autism. As White (1959) suggested in his *Effectance Theory* of motivation, to be motivated, individuals must believe they are being effective: Perceptions often dictate reality. If teachers have superior training, preparation and experiences, and are provided the tools to facilitate success, they will begin to feel more confident in their abilities to teach children with autism and other disabilities. Teachers will feel empowered and the challenges that they face will become less daunting. Like The Little Engine, they will be able to persist in the face of difficulties. Our goal is to prepare graduates effectively so that they see teaching children with autism as no more of a challenge than teaching any other child in the classroom; it just requires different instructional approaches. With proper training and experiences, it is our hope that our teachers will be empowered to the point that they will go beyond saying 'I think I can' to 'I knew I could.'

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