

General Education Teachers' Knowledge of and Attitudes Toward Students with Attention Deficit/Hyperactivity Disorders: Are They Still Being Overlooked and Underserved?

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Abstract

This study was an investigation of general education teachers' knowledge and attitudes regarding students with Attention Deficit/Hyperactivity Disorder (AD/HD). Of interest were (a) the extent of teachers' knowledge about characteristics of AD/HD; (b) the extent of teachers' knowledge of teacher skills appropriate for educating students with AD/HD; and (c) the extent of teachers' willingness to accommodate students with AD/HD. There was an initial assessment of teachers' knowledge and attitudes (pretest) followed by a workshop designed to increase teachers' knowledge and improve their attitudes. An additional assessment of their knowledge and attitudes (posttest) was then administered. Results and implications for future research are discussed within this article.

General Education Teachers' Knowledge of and Attitudes toward Students with Attention Deficit/Hyperactivity Disorders in the General Education Classroom

Recently, educators have witnessed a remarkable growth in the number of children diagnosed with Attention Deficit/Hyperactivity Disorder (AD/HD). Several authors (Smith & Adams, 2006; Brown et al, 2008; Barkley, 2006) reported recent estimate rates and conclude AD/HD is a common disorder of childhood. This estimate is conservative; however, according to Smith and Adams, 2006, because assessment techniques are not uniform and systematic. DuPaul and Weyandt (2006) maintained many students with AD/HD remain underserved in our school systems.

Much legislation has been enacted to prompt school systems to provide adequate educational services for the underserved population of students with special needs, including those with AD/HD. Specifically, the Individuals with Disabilities Education Act (IDEA) and Section 504 of the Rehabilitation Act provide legal protection for the provision of educational accommodations for students with special needs and extend specialized educational services to students with AD/HD. However, students with AD/HD only qualify under IDEA if their AD/HD adversely affects a student's

educational performance (Heward, 2013). The inclusion of students with AD/HD under the provision of Section 504 establish not only a rationale but also a legal basis yielding an official justification for accommodating students with AD/HD in the same manner that other students with special needs are accommodated. Even though students with AD/HD are eligible for special accommodations and services under Section 504, only about 50% actually receive such services (Smith & Adams, 2006; Reid, Maag, Vasa, & Wright, 1994). Additionally, Reid, Maag, Vasa, & Wright (1994) estimated students with AD/HD spend approximately 80% of their day in the general education classroom. As a result, most of the responsibility for meeting the educational needs of students with AD/HD is shouldered by general education teachers. These same teachers have expressed feeling ill-prepared in managing the increasing numbers of students with AD/HD in their general education classrooms.

The attitudes and expectations teachers have regarding students with disabilities will ultimately impact how teachers respond to students with disabilities affecting how these students are educated and what they will achieve (Ringlaben & Griffith, 2008). Even recent studies suggest teachers have negative attitudes towards working with children with special needs (Hwang & Evans, 2011; Rae & McKenzie, 2010; Blecker & Boakes, 2010; Cook, Cameron & Tankersley, 2007).

In their 1994 study, Reid, Maag, Vasa and Wright surveyed third-grade school teachers in Nebraska to determine their perceptions of AD/HD in terms of (a) barriers to instruction and (b) confidence in attaining educational goals. Third-grade teachers were targeted because by the third grade, students are likely to have manifested AD/HD related problems and, therefore, have been identified as having AD/HD (Barkley, 2006; Brown et al, 2008; Heward, 2013). Results of the survey indicated participants rated time to administer specialized interventions, lack of training, class size, and severity of problems consistently high while also selecting them as the most important barriers to instruction. These empirical findings were validated by Ozdemir's (2006) conclusions that teachers lacked an understanding of AD/HD and what educational provisions were needed to ensure successful education outcomes for these students. To further compound the frustrations of general educators, in addition to acquiring knowledge and training about AD/HD and its associated behaviors, teachers must recognize their own reactions to students with AD/HD. Because of impulsiveness, loud presence in the classroom, and persistence of questions, comments, and demands, students with AD/HD try teachers' patience and tend to become unpopular in the general education classroom (Barkley, 2006; DuPaul & Stoner, 2003; Erk, 1997).

In light of the aforementioned survey, Reid, Maag, Vasa, and Wright (1994) found that many general education teachers expressed the need for training in techniques that would enable them to work effectively with students with AD/HD. The negative attitudes of these teachers toward students with AD/HD raise concern as to the willingness and capacity of general education teachers to deliver effective educational services to students with AD/HD.

Historically, there has been much emphasis on improving the education opportunities for all students with special needs, including those with AD/HD. This movement had its beginnings with the Supreme Court's decision in *Brown vs. The Board of Education* (1954) and set the stage for many issues which have focused on the segregation of students with special needs, the overrepresentation of ethnic minorities in special classes, the subsequent denial of equal education, and possible social and psychological damage from the segregation of students with special needs from their peers who were not disabled (Schattman & Benay, 1992). In 1968, Dunn continued to carry the torch for desegregation and adroitly addressed the issues of overrepresentation of ethnic minorities in appropriate educational placements in his now classic article, "Special Education for the Mildly Retarded-Is Much of it Justifiable?" Though Dunn stated an excellent case for desegregating students with special needs from their nondisabled peers, the status-quo of educating students with disabilities in self-contained classrooms continued to exist.

With the continued push for the civil rights for minorities, the Education for All Handicapped Children Act of 1975, and the increased public desire to educate all children in the least restrictive environment came the concept of mainstreaming. According to Heward (2013), inclusion represents the idea of serving all students, including those with disabilities, in the general education classroom with support from resource teachers while pullout programs were only available as needed. Each student is to be provided with an individual education plan (IEP), which is devised by an educational planning committee of the student's general education teacher, special education teacher, the student's parents, and other school personnel. The overarching goal of the Education for All Handicapped Children Act (1975) was to tailor make educational plans so that the individual needs of each student were addressed more effectively. In individualizing educational instruction, IEPs, or individual educational plans, were formulated for each student with special needs. Simply put, the concept of mainstreaming, the least restrictive environment, and the IEP served as an important and mandated reason to include students with special needs with their peers who were not disabled.

Over the last thirty years, the Education of All Handicapped Children Act of 1975 has been amended by companion legislation to include students with AD/HD as legitimate members of that group of students with special needs under the disability category of other health impaired (OHI). According to a number of authors (Pffifner, 2011; Barkley, 2006; Shaywitz & Shaywitz, 1992), AD/HD is now recognized as the most common neuro-behavioral disorder of childhood, affecting children from infancy through school and into adult life. Estimates as to the prevalence of children with AD/HD vary from 1% to 12% of the school-aged population (Barkley, 2006; Heward, 2013; Schiller & Hauser, 1992).

The dramatic increase in the number of students identified with AD/HD has impressed upon educators awareness that these students display significant behavior and/or learning problems (Smith et al., 2006). Typically, students with AD/HD have become conspicuous because their problems affect not only their own scholarship, but also tend to disrupt the classroom environment. For example, students with AD/HD tend to interrupt, intrude, fidget, and are also hyperactive, impulsive, and distractible (Oosterlaan, Scheres, &

Sergeant, 2005). They may also display such disruptive behaviors as making tapping noises and frequently getting out of their seats. Compounding these problems, students with AD/HD often have social skill deficits in conversation and reciprocity, and in cooperating with peers and teachers. Humphrey (2009) purported the peers of students with AD/HD often view them as annoying and speculated the lack of accommodations for students with AD/HD is due to oversight, mislabeling, and inadequate teacher knowledge regarding services for students with AD/HD, and the lack of specificity about AD/HD in special education legislation.

Even though, according to DaVila, Williams, and McDonald (1991), the Office of Special Education and Rehabilitative Services (OSERS) has affirmed that children with AD/HD receive special services under Section 504 of the Rehabilitation Act and “other health impaired” under the Individuals with Disabilities Education Act, Humphrey (2009) has noted that many students with AD/HD remain inadequately served. The failure to serve students with AD/HD adequately has alarmed advocates of equal access to education for all students. Administrators and general educators also have maintained negative attitudes toward students with AD/HD because of the students’ annoying behaviors and their own lack of knowledge regarding teaching such students and managing their behavior (Humphrey, 2009; Ozdemir, 2006). The problem of negative attitudes and lack of knowledge of AD/HD held by general educators demands a solution.

Consequently, attention should be focused on the general education teachers’ attitudes and perception of AD/HD as such attitudes and perceptions relate to the structure of the general education classroom. For beneficial education outcomes to be realized as a result of the inclusion of students with AD/HD in general education classrooms, teachers must acquire a greater understanding of AD/HD. According to Ozdemir (2006) and Smith and Adams (2006), researchers have focused on the general education classroom environment and its respective structure of educational activities. Studies of the education success of students with special needs who have been included in general education classrooms have indicated that general education teachers who taught students with disabilities have not altered the pace of instruction, and these same teachers have not altered the ways in which they covered the content of material taught (Ozdemir, 2006; Smith & Adams, 2006; Schumm & Vaughn, 1995). These authors reported that the primary mode of teaching in the general education classroom remains large group instruction, while the goals and objectives are dictated by state curriculum guidelines and the adopted textbooks. These researchers also found that any changes or adaptations made by general education teachers are those made for the whole class. Schumm & Vaughn (1995) concluded after an extensive 5-year investigation that general education teachers are not ready to teach students with special needs.

Categorically, students diagnosed with AD/HD comprise a significant portion of students with special needs. According to Clarke, Barry, Irving, McCarthy, and Selikowitz (2011), up to 12% of the school aged population is estimated to display symptoms of AD/HD. The total school aged population of students with special needs, including those with AD/HD, is being integrated into general education classrooms despite the lack of readiness of general education teachers to offer such students appropriate instruction.

Currently, educational policy dictates that inclusion into the general education classroom is the most important vehicle for achieving the goal of providing equal education experiences to all students. General education teachers must adopt positive attitudes toward students with AD/HD, and they must strengthen their knowledge of AD/HD in order to provide appropriate educational services for this population of students. Greater knowledge of AD/HD has the potential to lead general education teacher to be more willing to provide appropriate accommodation for students with AD/HD.

With the passage of No Child Left Behind (NCLB) in 2001, public education for students with special needs changed drastically. Questions began to arise regarding the attitudes and self-efficacy of general education teachers with the introduction of such a diverse population of students into their classrooms. As universities prepare pre-service teacher to meet the demands of teaching these students in their future classroom, teacher preparation professionals need to gauge how well they are preparing candidates to teach all students within the classroom. A significant number of studies from a variety of countries have discerned that pre-service teachers had concerns about working with students with disabilities (McCray & McHatton, 2011; Forlin, Loreman, Sharma, & Earle, 2009; Brackenreed & Barnett, 2006; Alghazo, Dodeen, & Algaryouti, 2003; Martin, Ireland, Johnson, & Claxton, 2003). Attitudes of pre-service teachers are a critical component to the inclusion of students with disabilities (Forlin, et al., 2009; Brownlee & Carrington, 2000). “The shaping of positive attitudes toward students with disabilities is an important aspect of the education of pre-service teachers” (Sze, 2009, p. 53). It is the credentialing agencies responsibility to ensure pre-service teachers possess a professional attitude toward inclusion students and are confident in their ability to meet the needs of all students (Brackenreed & Barnett, 2006).

According to Scruggs and Mastropieri’s (1996) meta-analysis of 28 studies conducted from 1958 to 1995, teachers overwhelmingly approve the idea of including all students in their classrooms. Imperative to note is that one third of the teachers in these studies revealed they felt ill prepared in requisite skills needed to meet the needs of students with disabilities and also felt they lacked time and resources needed for successful instruction. In other words, teacher like the idea of inclusion, but the realities of today’s education dictated otherwise (Van Reusen, Shoho, & Baker, 2001). Past studies also support this investigation by revealing teacher attitudes and the direct result it has on instructional design. Positive attitudes toward students with disabilities are an important feature in the education of pre-service teachers. Cook, Tankersley, Cook and Landrom (2000) “propose that teachers’ attitudes toward their actual included students, rather than their opinions regarding the abstract concept of inclusion represent a more potent and parsimonious predictor of quality of education for included students with disabilities” (p. 116). Teachers who lack training in appropriate strategies for working with students with disabilities often feel negatively toward students with disabilities, thereby lessening the likelihood of success for students with disabilities.

Strong legislation exists in our country that guarantees a free and appropriate education for all students, but there are students with AD/HD who are often underserved by our educational system. Students with AD/HD must be served, by law, with an educational

plan appropriate to their individual needs. Because this disability area is somewhat unclear in the field of education; many general education teachers have little formal instruction to teaching students with AD/HD. As a result, many general education teachers are not sufficiently prepared to meet the needs of these students. This lack of preparation has the potential to restrict general education teachers in their delivery of educational services to students with AD/HD. Additionally, seasoned teachers with negative attitudes toward students with AD/HD and an accompanying unwillingness to make accommodation for such students may be less likely to provide adequate and appropriate accommodations for successful inclusion of students with AD/HD. Additionally, a lack of knowledge of appropriate teaching methods for students with AD/HD is yet another barrier toward the accommodations of students with AD/HD by general education teachers.

Humphrey (2006) stressed the importance of educators needing appropriate information in order to accommodate effectively students with AD/HD. Lack of knowledge of the characteristics of AD/HD and lack of a repertoire of appropriate teaching skills necessary to teach this population is a serious shortcoming of many general education teachers. The relationship of these two phenomena to the willingness of general education teachers make accommodations and the actualization of accommodations for students with AD/HD then become a timely and salient topic for investigation. Lack of information regarding AD/HD includes not only a deficit in the knowledge of appropriate teaching skills necessary to teach effectively students with AD/HD, but also a general knowledge of the syndrome itself. Significant effects of the lack of general myth-free knowledge of AD/HD and a limited repertoire of the skills necessary to teach this population have meaningful implications for the education of pre-service teachers and the continuing education of practicing teachers. Specific implications are that the curriculum for pre-service teachers would benefit by more emphasis being placed on teaching the characteristics of AD/HD and the necessary skills to teach this population of learners. Practicing teacher would benefit from comprehensive continuing education designed to teach the characteristics of AD/HD and skills for teaching students with AD/HD. The purpose of this study was to investigate the extent of general education teachers' (a) willingness to accommodate students with AD/HD, (b) knowledge of teaching skills necessary to accommodate students with AD/HD, and (c) knowledge of AD/HD.

Methods

The investigation, which was one-group pretest-post test design, determined whether or not an intervention affected any significant changes in the knowledge and attitudes of general education teachers and their willingness to accommodate students with AD/HD. The researchers administered the *Teachers' Knowledge Of and Willingness To Make Accommodations for Student Attention Deficit/Hyperactivity Disorder Instrument* (Schumm et al., 1994) to determine teachers' knowledge of AD/HD, knowledge of teaching skills necessary to accommodate students with AD/HD, and willingness to accommodate these students. Then, teachers attended a series of workshops designed to provide information about AD/HD and encouraged them to develop and use skills that will help better accommodate students with AD/HD. After the workshops, the teachers

again completed the questionnaire. This allowed an assessment of the extent to which such workshops can be helpful. In addition, a sample of the teachers was interviewed so a more complete picture of their beliefs and attitudes regarding students with AD/HD could be developed.

Construction of the Questionnaire

A questionnaire (Appendix A), adapted from Schumm et al. (1994) entitled *Teachers' Beliefs Towards Planning and Making Adaptions for Mainstreamed Students* was used to determine the willingness of general educators to accommodate students with AD/HD in their classrooms, their knowledge of AD/HD, and their perceived skills. Permission was granted (see Appendix B) to adapt this questionnaire and change its contents so that the instrument is AD/HD specific. Most of the adaptations consisted of rewording the original questionnaire items to refer specifically to students with AD/HD rather than students with disabilities in general. In addition, one section of the original questionnaire was deleted because of its irrelevance to the research study. Finally, selected teaching activities necessary to accommodate students with AD/HD were included in the questionnaire to determine what teaching strategies were employed in general education classrooms for students with AD/HD.

Content Validation of the Revised Questionnaire

The Delphi Procedure was used to assess the content validity of the questionnaire. The Delphi technique is designed to solicit independent and anonymous feedback regarding an issue (Clayton, 1997). The Delphi procedure evolved from research efforts in the private sector (Dalkey & Helmer, 1963) in an attempt to solicit expert opinion in formulating plans to predict Russian targeting of the United States' industrial operations in a nuclear attack. The techniques was later adapted to research educational institutional planning (Forsyth, 1990) and in the investigation of future directions in education and inclusion for students with disabilities (Putnam, Spiegel, & Bruinink, 1995). In conducting this study, the primary objective of the use of the Delphi technique was to provide a measure of content validity of the questionnaire based on expert consensus of a group of heterogeneous professional coming from different social/professional stratifications. Moore (1987) suggested the employment of a panel of 5 to 10 people. For this study, the questionnaire was submitted to a panel of five experts and solicited their suggestions for changes that would improve the instrument for this study. All of the individuals chosen were interested and informed about the inclusion process.

A panel was chosen based on their understanding of questionnaire construction and/or educational outcomes of students in inclusive settings. Two professionals from the area of special education were chosen to validate the questionnaire. The third expert chosen to validate the questionnaire was from the area of school counseling and instructional support employed by a state university. These professionals were chosen due to their commitment to successful inclusion. The fourth expert from the area of curriculum and the fifth expert from the area of administration were chosen to validate the questionnaire

based on their expertise in questionnaire construction as well as knowledge of the inclusion process.

The questionnaire designed consisted of three parts relevant to inclusion and one part about participant demographics. The first part of the questionnaire was a 6-item four-point Likert-type scale assessing teacher willingness to accommodate student with AD/HD. Part two included 9 items that solicited information about the extent of teachers' knowledge of skills for accommodating students with AD/HD. This part of the questionnaire was in the format of a standard four-point Likert-type scale. Finally, the third section was a 15-question true/false test designed to measure the extent of teacher knowledge of AD/HD. Demographic data such as gender, years of teacher experience, ethnicity, teaching assignment, and types of certification were included to determine whether the sample was representative of the population selected for this research study. Internal consistency for the instrument was determined by finding an alpha coefficient or Cronbach Alpha for each of the three respective sections of the questionnaire. The first section, questions 1 through 6, had an alpha coefficient of .8648; the second section, questions 7 through 15, had a alpha of .8902; and the third section of the instrument, questions 16 through 30, had an alpha of .6224. These reliability coefficients are considered to be acceptable for research purposes, according to Fraenkel and Wallen (1996).

Workshop

A series of three workshops was presented as an intervention to provide intensive hands-on education regarding the characteristics of AD/HD and explicit teaching methods for the accommodation of students with AD/HD in the general education classroom (see Appendix B for workshop outline). The workshops were conducted on three consecutive Tuesdays from 5:00 p.m. to 8:30 p.m. Prior to the beginning of the workshop; the research questionnaire was distributed to the participants who volunteered to participate in the study. During the final workshop, the participants for the qualitative portion of this study were selected. Selection was conducted on a voluntary basis from the sample. Following the final workshop, the research questionnaire was administered again to the participants in the study to serve as the post-test.

Data Collection

Sample

Teachers from West Alabama were chosen to participate in the study. The sample included 50 teachers at the elementary, middle/junior high, and high school levels. The elementary level teachers consisted of first-, second-, third-, fourth-, fifth-, sixth-grade educators. The middle/junior high-level teachers consisted of tenth, eleventh, and twelfth grade educators. All teachers enrolled in graduate school at a local university.

Although the research questions apply to teachers throughout the country, for practical reasons this study was limited to teachers readily available for participation. Although

this limits conclusions to teacher in this region who pursued graduate degrees and was willing to take part in this research, there was no reason to suspect that the participants differed from other teachers in their responses to the sort of workshops that were provided. Therefore, the results of this study were generalizable only to teachers in west Alabama who pursued graduate degrees. There was, however, no reason to believe the findings would not have wider applicability even though that cannot be statistically ascertained.

Qualitative Interviews

Upon collection of all post-tests, the researchers asked for five volunteers to participate in the qualitative aspect of this study. These volunteers were asked five open-ended questions (see Table 2) in individual interviews so that in-depth material could be collected and analyzed to enrich the finding of the quantitative results. This type of qualitative research allows the researchers to get in touch with the perceptions and feelings of the participants studied. This portion of the study was an attempt by the researchers to obtain as complete and holistic a picture as possible of general education teachers' knowledge and willingness to accommodate students with AD/HD.

The results of the qualitative research were limited to the sample from which the volunteer participants for the qualitative interviews came. After selecting the five participants to be interviewed, the researchers arranged specific times with the selected teachers to conduct the interviews. The interviews were recorded, with the teacher's permission. The interviews were then transcribed and common themes documented by the researcher. This interviewing was conducted using Glaser and Strauss's (1967) theoretical sampling and constant comparative method of analysis. Responses from the participants were cross-checked with other subjects who participated in this portion of the study. The purpose of interviewing was not only to listen to the words, but also to derive meanings, motivation, and conflicts, often hidden by surface conversation that lay behind behavior.

Interviews were designed to discover how general education teachers perceived students with AD/HD and how these perceptions were used as the basis for their actions. Once this phase was completed, the researchers shared information collected from the interviews with each of the interview participants for confirmation of facts and accuracy in the reporting. The interview questions (see Appendix C) were developed from the categories identified from the questionnaire used in the study and from the research questions presented in this article. The researchers asked five questions related to knowledge of AD/HD, experience with students with AD/HD, and strategies and plans for students with AD/HD.

Data Analyses

Percentages were calculated to describe the participants in term of their gender, teaching assignment (elementary, middle school/junior, high school), years of experience, and ethnicity.

The original instrument created by Schumm et al. (1994), which served as a model for the instrument used in this study, was composed of three sections, each of which was treated as a coherent whole providing a single score for each participant. The instrument used in this study, likewise, consisted of three distinct sections. The researcher computed Cronbach Alpha for each set of items. The Cronbach Alpha computed for each of the three sections of the instrument was sufficiently high enough to consider each section of the questionnaire as a coherent whole.

Data gathered from the teachers' pre- and post-test surveys were analyzed using Minitabs. Research questions 1, 2, and 3 were tested using paired *t* tests.

Results

Quantitative Results

This research was conducted at the University of West Alabama in Livingston, Alabama. The participants consisted of 50 certified teachers who volunteered to take part in this study. The population was predominately female (see Table 1). In regard to ethnicity, the sample was made up of 33 African Americans and 17 Caucasians. Thirty-two participants taught in Grades 1-6, 12 participants taught in Grades 7-9, and the remaining 6 participants taught in Grades 10-12. Regarding years of experience, 30 participants had 1-5 years of teaching experience, 17 participants had between 6 and 20 years of teaching experience. Demographic data such as gender, years of teacher experience, ethnicity, teaching assignment, and types of certification were included to determine questions about whether the sample was representative of the population selected for this research study. Frequencies (*f*) and percentages (%) for the population are presented in Table 1.

Table 1
Demographic Characteristics of Participants

Characteristics	(<i>f</i>)	(%)
Gender		
Male	4	8
Female	46	92
Ethnicity		
African American	33	66
Caucasian	17	34
Grade Level		
Elementary (Grades 1-6)	32	64
Middle/Junior High (Grades 7-9)	12	24
High School (Grades 10-12)	6	12

Years of Experience

1-5 years	30	60
6-10 years	17	34
11-15 years	2	4
16-20 years	1	2

Each participant was administered the *Teachers' Knowledge Of and Willingness to Make Accommodations for Students with Attention Deficit/Hyperactivity Disorder Instrument* (Schumm et al., 1994) as a test prior to a series of workshops as an intervention and then as a post-test after the workshops. The six-item section that measured willingness to accommodate AD/HD had an alpha of .8718. The nine items, section two, that measure each participant's knowledge of skills necessary to accommodate students with AD/HD was .8902. The final section, 15 items that measured teachers' knowledge of AD/HD, had an alpha of .6424. These results are considered to be sufficiently high to conclude that the items in each section all measure the same construct and can be summed to form a score.

Limitations

The following limitations are noted. First, the population of teachers from which the sample was drawn was small. Therefore, the results of this study were generalizable only to teachers in West Alabama who pursued graduate degrees. There was, however, no reason to believe the findings would not have wider applicability. Second, assumptions were made by the researchers as to the existence of school-to-school differences in practices of inclusion and accommodating students with AD/HD in general education classrooms.

Qualitative Results

Five teachers from the sample population volunteered to participate in the qualitative phase of this study. Five multi-part, open-ended questions were asked, and responses were tape recorded so that the entire interview could be documented. Each recording was transcribed for analysis and examined for common themes. The themes were then synthesized and finalized in order to provide depth to the quantitative findings. The responses from each participant's interviews were examined to discover emerging individual themes concerning accommodations for students with AD/HD.

Themes

An analysis of the interviews for the qualitative portion of the study yielded salient themes directly related to the quantitative findings. While the qualitative results supported the quantitative findings, in part, there was one finding derived from the qualitative portion of the study that did not demonstrate support. For example, a strong sense of teacher idealism regarding the notion of helping all students learn was common to all respondents as a motivation for entering the teaching profession. This appeared to be a common underpinning of a strong sense of professional duty on behalf of the

teachers interviewed. All of the teachers were aware of a professional duty to make accommodations for students with AD/HD in their classrooms. However, in conflict with this sense of duty, was a reluctance to actually make accommodations for students with AD/HD, seemingly based on the negative assumptions these teachers held regarding students with AD/HD in general and their lack of knowledge and skills necessary to provide successful accommodations for students with AD/HD. The conflict between the professional need to make accommodations and the negative attitude toward students with AD/HD appeared to create a general sense of frustration for most of the teachers interviewed by the researchers.

Conclusions and Implications

Based on the results of this research, it might be concluded that teachers are reluctant to make accommodations for students that they feel less than capable of serving. This concept is in keeping with the findings of Salvia and Munson (1986) that general education teachers who lack knowledge of AD/HD and are not trained to manage students with AD/HD are less capable and subsequently less willing to make accommodations for these students. Pearl (1992), Wood and Lazarri (1997), and Ysseldyke et al. (1992) substantiated these findings that general education teachers have a lack of knowledge about the syndrome AD/HD, and many teachers polled in their studies jumped to the conclusion that students with AD/HD simply cannot learn. Fowler (1991) reported that general education teachers are not prepared to employ specialized techniques necessary to successfully teach students with AD/HD. The question then arises as to whether or not knowledge of the complexity of AD/HD and the extra efforts needed to accommodate students with AD/HD actually “scares teachers off” from being willing to undertake such a task.

Because of the increasing numbers of students with AD/HD in general education classrooms, as indicated by Blecker and Boakes (2010) school personnel must realize that AD/HD is very much a general education phenomenon as opposed to a special education phenomenon. How schools can best meet this challenge in practice is uncertain and is an area to be addressed by researchers in the future.

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Dr. Ravic Ringlaben is currently an Associate Professor of Special Education at the University of West Georgia. His scholarship agenda has had several main themes. Since his dissertation, he has explored the attitudes that a variety of groups have towards individuals with disabilities and the main factors that contribute to attitude development.

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APPENDIX A
QUESTIONNAIRE

**TEACHERS' KNOWLEDGE OF AND WILLINGNESS TO MAKE
ACCOMMODATIONS FOR STUDENTS WITH ATTENTION
DEFICIT/HYPERACTIVITY DISORDER INSTRUMENT**

Pre-Test

Directions: Please answer the following statements by putting an X in the blank that best describes you.

You are: _____ Male _____ Female

Your ethnic background is
_____ African American _____ Caucasian/Non-Hispanic

Your years of teaching experience range between:

_____ 1-5 years _____ 6-10 years _____ 11-15 _____ 16-20 years

Have you ever taught a student with AD/HD? _____ Yes _____ No

Type(s) of Certification _____

Grades presently teaching: _____ (1-6) Elementary _____ (7-9) Junior
High
_____ (10-12) High School

Directions: For each of the following items, please answer the following statements by circling either 1 (Never), 2 (Sometimes), 3 (Most of the time) 4 (Always)

Statement	1	2	3	4
1. I am WILLING to change my classroom policies to accommodate a student who breaks classroom rules.	1	2	3	4
2. I am Willing to change my normal teaching strategies to accommodate a student who is inattentive and distractible.	1	2	3	4
3. I am WILLING to change my normal teaching strategies to accommodate a student who blurts out answers and interrupts others.	1	2	3	4
4. I am WILLING to change my normal teaching strategies	1	2	3	4

to accommodate a student who talks excessively and often does not listen.

5. I am WILLING to change my normal teaching strategies in order to accommodate a student who consistently shifts from one activity to another. 1 2 3 4

6. I am WILLING to change my methods of assessment to accommodate a student who often does not complete his work because of an inability to stay focused on my classroom instruction. 1 2 3 4

Please answer the following items by circling the number that indicates your level of agreement (1 is equal to the **LOWEST** level of agreement).

Statement	LOW			HIGH
7. I am SKILLED at designing long-range plans that meet the needs of my students with AD/HD.	1	2	3	4
8. I am SKILLED at appropriately pacing and timing the presentation of content material for my students with AD/HD.	1	2	3	4
9. I am SKILLED at grouping for instruction so that the needs of all my students are effectively met.	1	2	3	4
10. I am SKILLED at designing tests that effectively monitor progress of students with AD/HD.	1	2	3	4
11. I am SKILLED at using individualized/different criteria when evaluating the assignments and tests of students with AD/HD.	1	2	3	4
12. I am SKILLED at designing short-range plans that meet the needs of my students with AD/HD.	1	2	3	4
13. I am SKILLED at adapting course content to meet the needs of my students with AD/HD.	1	2	3	4
14. I am SKILLED at using frequent checks to monitor the progress of my students with AD/HD.	1	2	3	4
15. I am SKILLED at providing individualized instruction for students with AD/HD.	1	2	3	4

Directions: Please answer the following statements by circling either TRUE or FALSE.

STATEMENT

16. A STUDENT WITH AD/HD HAS ONE OR MORE LEARNING DISABILITIES. TRUE
FALSE
17. A STUDENT WITH AD/HD CAN BE TAUGHT MORE SUCCESSFULLY AFTER TRUE
BEING TREATED WITH MEDICATION. FALSE
18. STUDENTS WITH AD/HD CANNOT CONTROL THEIR BEHAVIOR IN THE TRUE
GENERAL EDUCATION SETTING. FALSE
19. A STUDENT WITH AD/HD KNOWS HOW TO INTERACT SOCIALLY, BUT TRUE
CANNOT CONTROL HIS ACTIONS. FALSE
20. IF A STUDENT CAN WATCH CARTOONS ON SATURDAY MORNING AND TRUE
PAY ATTENTION, HE PROBABLY DOES NOT HAVE AD/HD. FALSE
21. STUDENTS WITH AD/HD, WHO ARE ABLE TO INTERACT WITH THEIR TRUE
TEACHER ONE ON ONE, CAN BEHAVE IN THE GENERAL EDUCATION CLASSROOM. FALSE
22. STUDENTS WITH AD/HD CANNOT DO MATH PROBLEMS AS WELL TRUE
AS STUDENTS WITHOUT AD/HD. FALSE
23. STUDENTS WITH AD/HD USUALLY ARE NOT SUCCESSFUL IN COLLEGE TRUE
PREPARATORY PROGRAMS. FALSE

24. STUDENTS WITH AD/HD BREAK RULES AND REGULATIONS BECAUSE MOST OF THEM JUST DO NOT WANT TO BE COMPLIANT.	TRUE FALSE
25. STUDENTS WITH AD/HD CAN ONLY SUCCEED IN SPECIALLY DESIGNED CLASSROOMS EQUIPPED TO ACCOMMODATE THEIR DISORDER.	TRUE FALSE
26. STUDENTS WITH AD/HD DO NOT RESPOND TO REWARDS AND PUNISHMENTS AS DO STUDENTS WITHOUT AD/HD.	TRUE FALSE
27. STUDENTS WITH AD/HD OFTEN HAVE NO PROBLEMS WITH SELF-ESTEEM.	TRUE FALSE
28. STUDENTS WITH AD/HD NEED TO BE REFERRED FOR MENTAL HEALTH COUNSELING.	TRUE FALSE
29. STUDENTS WITH AD/HD NEED TO BE REFERRED FOR MEDICAL TREATMENT.	TRUE FALSE
30. CHILDREN DIAGNOSED WITH AD/HD USUALLY OUTGROW THEIR AD/HD TENDENCIES BY LATE JUNIOR OR SENIOR HIGH SCHOOL.	TRUE FALSE

THANK YOU FOR YOUR PARTICIPATION IN THIS STUDY.

APPENDIX B

WORKSHOP OUTLINE

OUTLINE OF WORKSHOP

(3.5 Hours – Session 1)

- I. Introduction
 - A. Purpose of the workshop
 - 1. Description of the study
 - 2. Call for participants
 - 3. Distribution of questionnaire
 - 4. Directions for completing questionnaire
 - 5. Explanation of the post-test questionnaire
 - 6. Collection of pre-test questionnaire
 - B. What is AD/HD?
 - 1. Prevalence of AD/HD
 - a. gender
 - b. in the United States
 - c. mental health facilities
 - d. in general education and special education populations
 - 2. Common ideas teachers have about students with AD/HD
 - a. fact
 - b. myth
 - 3. Primary characteristics of students with AD/HD
 - a. inattention
 - b. impulsivity
 - c. hyperactivity
 - d. examples of a, b, c
 - 4. Secondary characteristics of students with AD/HD
 - a. cognitive characteristics
 - b. academic characteristics
 - c. social problems
- II. Difficulties Teachers Face in Instructing Students with AD/HD
 - A. Teacher resistance to instruct students with disruptive and/or academic difficulties.
 - 1. “Contagious behavior” effect
 - 2. Teachers’ notion of student success
 - 3. Accommodations, both academically and behaviorally
 - 4. Teachers’ view of AD/HD
 - B. Teachers’ concern regarding the use of behavior modification procedures.

1. Philosophical objections
 2. Time
 3. Ease of preparation to implement behavior modification
- C. Teacher Isolation
1. Lack of support
 - a. administration
 - b. parents
 - c. community
 2. Ill-prepared prior to the placement of students with AD/HD.
 3. Assumptions regarding teacher commitment are often erroneous
 4. “Good teachers always have orderly, quiet classroom.”

III. Conclusion

Question and answer discussion period

OUTLINE OF WORKSHOP
(3.5 Hours – Session II)

I. Introduction

A. Review previous session’s topics (major issues of discussion)

B. Legislation impacting students with disabilities

1. PL 94-142
2. IDEA PL 105-17
3. Notice of Inquiry by U. S. Department of Education regarding AD/HD
4. ADD policy memorandum
5. IDEIA
6. Section 504
7. No Child Left Behind Act
8. Application to students with AD/HD

II. Type of Interventions Appropriate for Students with AD/HD

A. Medical interventions

1. General information regarding medications for students with behavioral/emotional problems
2. Stimulants and Ad/HD
3. Ethical and legal concerns regarding the use of medication for students with AD/HD
4. Need for collaborative roles in the medication process

- B. School Based Interventions/Critical Features
 - 1. Determine extent of need
 - 2. Commitment
 - 3. Roles and responsibilities
 - 4. Commitment to continuity of intervention efforts
 - 5. Gradual transfer of intervention responsibility to general educators
 - 6. Commitment to involve parents
 - 7. Commitment and administrative support
 - 8. Positive school climate
- III. Conclusions
 - Question and answer discussion

OUTLINE OF WORKSHOP
(3.5 HOURS – SESSION III)

- I. Problematic Issues to be Considered During Intervention Process
 - A. Defining target behavior
 - B. Varying behaviors of students with Ad/HD
 - C. Prioritizing behaviors
 - D. Complexity of intervention efforts
 - 1. Illustrative case studies demonstrating dramatic differences in types of behavior that students exhibit in school setting
 - a. Allen
 - b. Mark
 - c. Tanya
 - 2. Establish an intervention model using case studies
- II. Physical Environment Intervention
 - A. Arrangements
 - 1. Grouping arrangements
 - 2. Seating arrangements
 - 3. Proximity control
 - 4. Reducing distractions
 - B. Classroom environment
 - 1. Scheduling subjects
 - 2. Established, organized, predictable schedule

- a. transition
- b. incorporating activity into class structure/lesson

C. Teacher organization

- 1. Modeling organized behavior
- 2. Using object placement routines
- 3. Teaching time estimation skills

III. Academic Interventions

A. Principles of Effective Teaching

- 1. Instructional cycle
- 2. Maximize student engagement in instruction
- 3. High rates of student success
- 4. Questioning which facilitates students learning
- 5. Managing student responses in a facilitative way
- 6. Corrective feedback
- 7. Appropriate pace
- 8. Organized content

B. Teaching considerations

- 1. Intervene academically first
- 2. Increase stimulating value of lesson
- 3. Use direct or computer-assisted instruction
- 4. Shorten length of assignments/provide more time to complete task

C. Specific academic modifications

- 1. Individual assignment sheets
- 2. Priority time sheets
- 3. Independent study
- 4. Strategy to promote student work productivity
 - a. illustrative example of cognitive-behavior theory
 - b. phases of an effective lesson structure
 - c. effective/ineffective praise
 - d. illustrate example of a content organizer
 - e. illustrate example of a content diagram
 - f. illustrate example of a study guide
- 5. Teaching and using study skills

IV. Behaviorally-based interventions

A. Overview

- 1. Power struggles
- 2. Escape/avoidance behaviors

B. Appropriate use of contingent feedback

1. Providing positive teacher attention
2. Effective and ineffective commands

- C. Group contingencies
 - D. Individual contingency contracts
 - E. Setting up a Token Economy
 - F. An overview of social skills rating
- V. Conclusion
- A. Question/answer discussion
 - B. Teacher plans for using material presented for workshops ensure teacher understanding

APPENDIX C

INTERVIEW QUESTIONS

Interview Questions

1. What made you want to be a teacher?
 - a. What do you like best about the teaching profession?
 - b. What doubts and concerns do you have as a teacher?
2. What kinds of experiences have you had with students with AD/HD?
3. What is it like having students with AD/HD in your classroom?
 - a. What are the advantages and disadvantages of having students with AD/HD in your classrooms?
4. Do your teaching strategies differ for students with AD/HD?
 - a. How? In what ways?
5. If you found out on Monday that you were going to have a student with AD/HD in your class, what would you consider as your teaching responsibility for this student?
 - a. Would there be any particular things that you would expect to do differently?
 - b. In considering your goals and career as a teacher, what particular feelings do you have about being a teacher in a classroom that has students with AD/HD?