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A study to determine the effects of the distribution of informational facts concerning attention deficit/hyperactivity disordered (ADHD) children on teachers’ knowledge and attitudes towards these students

Germayne, Karen, Ed.D.
Wayne State University, 1994
A STUDY TO DETERMINE THE EFFECTS OF THE DISTRIBUTION OF INFORMATIONAL FACTS CONCERNING ATTENTION DEFICIT/HYPERACTIVITY DISORDERED (ADHD) CHILDREN ON TEACHERS' KNOWLEDGE AND ATTITUDES TOWARDS THESE STUDENTS

by

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DISSERTATION

Submitted to the Graduate School

Wayne State University

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

DOCTOR OF EDUCATION

1994

MAJOR: CURRICULUM AND INSTRUCTION

Approved by:

[Signatures and dates]

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Dedication

To the memory of my mother, Ardenne Germayne.  
To my friend, Charles Parrish.  
To my friend and colleague, Heather MacLeese Gunderson.  
To my aunt, Normajean Anderson.
Acknowledgement

I would like to acknowledge the people who have devoted their time and support to my effort to complete this dissertation.

To my friend, Charles Parrish, who cared enough to support my efforts and knew enough not to crowd me.

To Heather MacLeese Gunderson who has been the backbone of support in my efforts. Without her friendship and companionship I may have never completed this dissertation.

To Dr. Don Marcotte who taught me that "statistics" is not a dirty word.

To Dr. Mark Smith for serving on my committee.

To Dr. Wendell Hough for serving on my committee during a very busy time in his life.

To my aunt, Normajean Anderson, who taught me that university professors are human beings and for editing my work.

To Hal Hooks who has supported and encouraged my efforts; and whose understanding and concern will never be forgotten.

To Arretta Jickling who was, and is always, there for me.

To Superintendent, Gary Moore, and Special Education Director, Wally Gunderson, for authorizing this research.

To the staff of Imlay City Schools for all of their support.

To my mother, who did not live to see the completion of my work, but who taught me that honor, loyalty, and hard work do pay off.
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CHAPTER I
INTRODUCTION

This study examines the impact of the distribution of information regarding Attention Deficit/Hyperactivity Disorder (ADHD) on teachers in three rural school districts in southeastern Lapeer County.

The term Attention Deficit/Hyperactivity Disorder has evolved through time. The names have gone from Defect in Moral Control, Restlessness Syndrome, Post-Encephalitic Behavior Disorder, Minimal Brain Dysfunction, to Hyperkinetic. The second edition of the Diagnostic and Statistical Manual of the American Psychiatric Association (DSM II) called the disorder "The Hyperkinetic Reaction of Childhood" since the symptoms often seem to disappear once puberty begins. Hyperactivity was thought to be the major problem of this syndrome. By the time DSM III was published in 1980, hyperactivity gradually came to be seen as only part of the problem. Since hyperactivity was not present in all children with attention difficulties, the term Attention Deficit Disorder (ADD) was created. The accepted distinction between the two types of children became ADD with Hyperactivity and ADD without Hyperactivity. The DSM-III-R was published in 1987 and yet another term was introduced. Attention disorders without hyperactivity were categorized as Undifferentiated Attention Deficit Disorder (UADD). Dr. Russell Barkley (1993), who is on the DSM-IV committee, reports that these terms may once again be changed when the
next manual is published.

The terms are confusing and even experts in the area interchange ADHD and ADD. Some take no chances and address the syndrome as ADHD/ADD. However, "Children of either subtype share a common bond. They are at the mercy of their ADD characteristics which are anything but user friendly. Left unrecognized as disabled or left untreated, they generally experience devastating consequences." (Fowler, 1992 p. 7)

There are several ways of diagnosing ADHD. The DSM-III-R (1987) lists 14 symptoms, of which children should demonstrate at least eight for diagnosis. DSM-IV may change these criteria. (Barkley, 1993, Fowler, 1992) Many practitioners use the DSM criteria but most also rely heavily on various behavioral rating scales such as: the Academic Performance Rating Scale by DuPaul, Rapport & Perriello; School and Home Situations Questionnaire by DuPaul and Barkley; and the Connor’s Parent and Teacher Rating Scales. The consensus of core symptoms of ADHD are a) poor sustained attention, b) impulsivity and c) hyperactivity. A commonality of ADHD children is that they exhibit immature behavior. There are no definitive medical tests to determine if a child has ADHD. The diagnosis is made on the basis of information gathered about the child’s behavior from a variety of sources. One of the most important sources for this information is the child’s teacher. In fact, the child’s elementary teacher is usually the first person to accept the child’s behavior as a problem.
To make diagnosis even more difficult, educational disabilities are not mutually exclusive. (Silver, 1990, Fowler, 1992) Usually the most severely affected children with ADHD will have coexisting disorders. Approximately 25% of children with ADHD are also diagnosed as learning disabled (LD). Between 40-60% of elementary age children with ADHD have Oppositional Defiant Disorders and roughly 20-30% develop Conduct Disorder. (Fowler 1992)

Teachers often find it difficult to work with ADHD children. The trend in the past seemed to be to place the very severe ADHD children into Special Education programs as either learning disabled or emotionally impaired students. ADHD children who did not meet the strict criteria to qualify for these programs were placed in the general education classroom with no requirements for a specialized program. General education teachers may or may not understand, or have sympathy for, these hard to work with children. This is a crucial issue since not only are teachers now required to make provisions for these children in their classrooms but elementary teachers are usually the first people to have the opportunity to identify the symptoms (Barkley, 1990, Fowler 1992), and teachers are the best source of information regarding the child's response to drug therapy. (Barkley, 1993, Garfinkel & August 1992, Klein 1987) It is the intent of this study to determine if the distribution of the basic facts of ADHD could change the pattern of teacher attitudes and knowledge towards ADHD children by promoting a better
understanding of these children.

**Problem**

The question that now stands before most school districts is whether or not the general education teacher is equipped to serve these children or if they even understand the condition. It is believed by many that the average general education teacher does not understand the problems these children face. (Barkley 1993)

While articles appear regularly in newspapers, magazines and on television news shows, leading college textbooks do not often mention the condition. (Biehler and Snowman, 1990; Cole and Cole 1989) Despite this, "problems occurring at school generally prove to be the catalyst for diagnosis and treatment." (Fowler 1992 p. 11) Not only do teachers play an extremely important role in the identification and assessment of children with ADHD, they are expected to use interventions with the children. (Education for the Handicapped Law Report, 1990) Teachers also play a key role in the evaluation of the effects of drug therapy used with ADHD (Trockman 1987, Klein 1987, Fowler 1992)

Although ADHD does not appear in many college textbooks, many of the various interventions needed to teach ADHD children are generally taught in teaching methods courses. These techniques can be used with all children. The various behavior modification techniques are taught to be used for all children as good classroom management. (Silver, 1990) Cognitive therapies are taught in methods classes as a way to
deal with other topics. (Biehler and Snowman 1990, Silver 1990) Since in the past most teacher training programs did not significantly address ADHD, many teachers may not know how important these techniques are to ADHD children.

There have been a wide variety of workshops, conferences, and enrichment classes offered for teachers wanting to learn more about ADHD. Many teachers have taken time to learn more about ADHD but many have not. It is imperative to train teachers who have not received inservice on this subject.

In an article refuting the need to place ADHD children into learning disabilities classrooms, Silver (1990, p. 297) states that "The educational interventions needed for a child or adolescent with ADHD but without learning disabilities are not unique. That is, there are no unique teacher training, curriculum, or classroom accommodations or adaptations needed for individuals with ADHD." This implies that expensive training for teaching ADHD children is not necessary. What is needed is better understanding by teachers of ADHD children.

With the unavailability of funds it appears to be unlikely that a small school district could afford to send all of its teachers to an in-depth workshop dealing with ADHD. Yet research shows a need for teachers to acknowledge, understand and adapt their programs for ADHD children. (Braswell, 1988; Robins, 1990; Fowler, 1992) The problem which faces most school districts is how to deliver critical basic information to teachers in the most cost and time efficient way. It is the intent of this study to measure
whether information delivered to teachers through short, condensed information sheets given to them on a daily basis is enough to impact on the teachers' attitudes and knowledge as it relates to the education of an ADHD student in their classrooms.

**Purpose of Study**

The purpose of this investigation is to determine if a prescribed intervention strategy makes a difference in teachers attitudes and knowledge towards ADHD children.

**The Need for This Study**

Teachers have been dealing with children with Attention Deficit Disorder (ADD) and Attention Deficit/Hyperactive Disorder (ADHD) since the beginning of public education, although they may not have known the terms nor did they credit the child's behavior to a disability. New interpretation of legislation has made it necessary to address this problem more directly. This may put a greater burden on the General Education teacher.

This new interpretation is really a complicated evolution of two earlier laws. In 1975 the Education for All Handicapped Children Act (P.L. 94-142), now called Individuals with Disabilities Education Act (I.D.E.A.), was passed by the Federal government. This Act specified that all children were entitled to a "free and appropriate education" (FAPE). This Act changed Special Education laws in all of the states. It mandated programs to be set up that were appropriate for handicapped persons. The State of Michigan took great care
to set up specific rules and regulations insuring that handicapped children were given their mandated "free and appropriate education." At this time ADHD children were not deemed "handicapped" and were not addressed in the rules and regulations for Special Education. (Revised Administrative Rules for Special Education, 1991)

On April 28, 1977 the Vocational Rehabilitation Act of 1973 was finally signed into law. Section 504 of the Rehabilitation Act of 1973 is civil rights legislation which prohibits discrimination against handicapped individuals. "In late 1978 most of us had our school boards approve an Assurance of Compliance with Section 504 of the Rehabilitation Act of 1973 as amended, but I believe most of us were thinking in terms of section: Employment Practices." (Ryan, 1992, p. 2)

This was to change when in 1989 the Office of Civil Rights interpreted Section 504. Unlike the limited eligibility definitions addressed in I.D.E.A. and the Michigan mandatory special education legislation, the Section 504 definition is very broad and not only includes persons handicapped under I.D.E.A., but any individual who "(i) has a physical or mental impairment which substantially limits one or more major life activities; or (ii) has a record of such impairment; or (iii) is regarded as having such an impairment." (1989, p. 3) Since education is considered as being a major life activity and since ADHD inhibits learning, ADHD is now considered a potential handicap. Regulation 104.31 through 104.39 of Subpart D specifically addresses
Preschool, Elementary, and Secondary Education. This forces schools to create individual programs to provide free and appropriate education to "handicapped" individuals who do not qualify for special education programs.

Public schools that have just come to terms with the regulations required by I.D.E.A. now must address additional policies and procedures developed specifically for Section 504. This means that the public schools can no longer ignore or simply tolerate ADHD children. They must now address these children's particular needs or face court action. Several advocate groups, the largest of which is Children with Attention Deficit Disorders (Ch.A.D.D.), have sprung up and have become politically active in protecting the rights of the ADHD children. If schools do not provide for an appropriate education for ADHD children, and if the teachers are not willing to adapt their lessons to provide this education, it is very likely the school will face litigation. It would benefit the schools to assess their teachers and determine what sort of inservice measures could be provided for the least amount of cost and time. The information gained from this study should aid school districts in providing this inservice training.

Null Hypotheses

I. There will be no significant difference between teachers' attitudes towards ADHD children due to the distribution of information about ADHD children.

II. There will be no significant difference between
teachers' knowledge of ADHD due to the distribution of information about ADHD children.

Limitations

1. The study will be limited to three rural school districts in Lapeer County.
2. The study will not attempt to disaggregate teachers by previous inservice experience with ADHD.
3. The survey assesses the knowledge that the teacher thinks they have and not necessarily what they do have.
4. The teachers in this study are aware that they are participating in a research project, which may affect the way they respond.
5. The study will not identify who actually read the information sheets. The teachers will simply be provided with the sheets.

Assumptions

1. General Education teachers will have access to their mailboxes to receive their information sheets.
2. General Education teachers are caring, dedicated professionals who strive to give their students the best education they are capable of providing.
3. General Education teachers are given enough time and resources to plan individual lessons for their students.
4. The ADHD children the teachers have come into contact with have been accurately diagnosed.
5. The teachers will have time to read the ADHD information sheets.
Definition of Terms

For the purposes of this study, the terms listed below will be defined as followed:

1. **Special Education** - Those programs required by the State of Michigan under the rules and regulations for Special Education.

2. **Attention Deficit/Hyperactivity Disorder (ADHD)** - The term now recognized to include both children with Attention Deficit Disorder and children with Attention Deficit Disorder with Hyperactivity. ADHD is the most common neurobehavioral disorder of childhood. It includes the symptoms of inattention, impulsivity and hyperactivity.

3. **Attention Deficit Disorder (ADD)** - A term that at one time meant Attention Deficit/Hyperactivity Disorder. Many people still use this term to indicate ADHD, including the United States Department of Education.

4. **Undifferentiated Attention Deficit Disorder (UADD)** - Children and adults having problems focusing attention but does not exhibit the disinhibited/hyperactive behavior characteristic of ADHD.

5. **Cognitive Training** - A number of procedures and approaches including self-instructional training, cognitive modeling, self-monitoring, self-reinforcement and cognitive and interpersonal problem solving. The goal of cognitive training is to develop self-control skills and reflective problem-solving strategies.
6. **Behavioral Training** - A number of procedures and approaches including positive reinforcement, planned ignoring of mildly inappropriate behavior, use of a token system, planned punishments and the use of a "time-out" system (where the child is isolated for a short period of time).

7. **Diagnostic and Statistical Manual of the American Psychiatric Association (DSM)** - A manual used by medical and mental health professionals to facilitate the identification of psychiatric, learning and emotional disorders.

8. **Methylphenidate** - A psychostimulant drug used in the treatment of ADHD. (Ritalin)

9. **Dextroamphetamine** - A psychostimulant drug used in the treatment of ADHD. (Dexadrine)

10. **Special Education Student** - Any student from birth to age 26 who qualifies for special education services within the Rules for Special Education (1987), Rule 340.1721a.

11. **Handicapped Student** - Any student who: 1) has a physical or mental impairment which substantially limits one or more life activities; 2) has a record of such an impairment; 3) or is regarded as having such an impairment. These students qualify as handicapped through Section 504 of the Vocational Rehabilitation Act of 1973.
CHAPTER II
REVIEW OF LITERATURE

INTRODUCTION

Section 504 of the Rehabilitation Act of 1973 is civil rights legislation that prohibits the discrimination of handicapped individuals. When the Act was first signed into law it was treated as a law to prohibit discrimination in employment. At that time many local school districts changed their employment practices and developed barrier free buildings. Although Subpart D of Section 504 addressed the identification and placement of handicapped students in preschool, elementary and secondary schools, it did not impact the educational process until 1989 when the Office of Civil Rights interpreted the section to include, among many other things, the developmental disability of Attention Deficit/Hyperactivity Disorder.

Before 1989 children with Attention Deficit-Hyperactivity Disorder were not considered disabled under the special education laws. ADHD children did not qualify for special programs or even special consideration. Under the new ruling, ADHD children may still not qualify for special education programs but regular education is obligated to identify, evaluate and provide appropriate education for them.

This not only places a burden on the school district, it puts into question the education and training of the regular education teacher. Do they have the knowledge and positive attitudes necessary to provide individualized programs for
these children within their regular education classroom?

A review of the literature related to 504 and the education of ADHD children is presented in this chapter. The focus is on six issues: (a) diagnosis limitations, (b) ADHD characteristics, (c) interventions, (d) prognosis, (e) teacher roles and, (f) teacher attitudes.

**Diagnosis Limitations**

Although the DSM has changed its criteria for diagnosis repeatedly and is reportedly going to change it yet again, the current criteria should be listed. The DSM-III-R (1987) diagnosis criteria for 314.01 Attention-Deficit Hyperactivity Disorder includes a disturbance of at least six months during which at least eight of the following are present at a level considerably more frequent than most people at the same mental age:

1. Often fidgets with hands or feet (in adolescents, may be limited to subjective feelings of restlessness).
2. Has difficulty remaining seated when required to do so.
3. Is easily distracted by extraneous stimuli.
4. Has difficulty awaiting turn in games or group situations.
5. Often blurts out answers to questions before they have been completed.
6. Has difficulty following through on instructions from others (not due to oppositional behavior or failure of comprehension), e.g., fails to finish chores.
7. Has difficulty sustaining attention in tasks or play activities.
8. Often shifts from one uncompleted activity to another.
9. Has difficulty playing quietly.
10. Often talks excessively.
11. Often interrupts or intrudes on others, e.g. butts into other children’s games.
12. Often does not seem to listen to what is being said.
to him or her.

13. Often loses things necessary for tasks or activities at school or at home (e.g., toys, pencils, books, assignments).

14. Often engages in physically dangerous activities without considering consequences (impulsive).

DSM-III-R further states that the onset of these symptoms should occur before age seven. The children should not meet the criteria for a Pervasive Developmental Disorder.

The DSM-III-R continues by giving criteria for the severity of the disorder. It describes the disorder as either mild, moderate or severe. Barkley (1992) states that ADHD really runs on a continuum. Many successful people could be found to have ADHD. It only becomes a problem when it is severe enough to impair functioning during daily activities.

Not only has the name for ADHD been changed frequently, the criteria for diagnosis has continually changed.

Currently, the diagnosis of Attention Deficit Disorder with or without hyperactivity indicates a refocusing of the primary symptoms away from an emphasis on high levels of non-goal directed motor activity. The primary syndrome today is the child's inability to orient, focus and organize his or her attention on a specific task and to sustain one's concentration span. (Garfinkel, 1986, p. 11)

Loney (1988) seems to agree with Garfinkel on this issue. She states, "Under whatever name hyperactive children have been studied, there has been a problem of establishing definitive diagnostic criteria, and thus of studying a homogeneous group of children." (p. 16) She further points out that the definitions of ADHD vary across studies and
across time which makes summarization of the literature almost impossible. Diagnostic tools also vary across studies. Most researchers agree that the DSM-III-R should only serve as a beginning screening criteria. (Barkley 1993) Researchers often have their own favorite survey tools or evaluation procedure. (Barkley, 1993, Garfinkel, 1992, Loney, 1988, Woods 1986) To add to the confusion, Edelbrock (1986) evaluated many of the major rating scales used to help diagnose ADHD such as the Conners’ Parent and Teacher Rating Scales and the Werry-Weiss-Peters Activity Rating Scale. He found, "...many scales appear to tap behaviors relevant to ADD, but the relationship between such ratings and the diagnosis of ADD has not been demonstrated empirically." (p. 37) Garfinkel and Klee (1984) restate this by saying, "The limitations of the rating scales are their unproven reliability and validity." (p 10)

When it was found that medication, which was a stimulus in normal people, could control the symptoms of ADHD, it was thought to be the ultimate diagnostic tool. If the stimulant calmed the child down it was felt that the diagnosis was correct. Now even medication cannot be used as validation for a diagnosis of ADHD since medication is believed to be effective with only 70% of ADHD children. To further rule out medication as a validation of diagnosis, it has been found that children who clearly do not meet the criteria for ADHD do respond to medication similarly to diagnosed ADHD children. (Loney, 1988, Woods, 1986)
Garfinkel (1986) also questions the actual existence of the syndrome. He cites that the United States has identified ten times the cases as Great Britain. He suggests that Attention Deficit Disorder may be a subtype of Conduct Disorder. He states:

Recent research has resulted in significant questions about the validity of the syndrome of Attention Deficit Disorder and whether it is currently being misused or diagnosed when other psychiatric diagnosis are also possible. The actual prevalence of this syndrome has also been questioned. (p. 11)

Unlike Garfinkel, Ciaramello (1993) believes that ADHD is a valid disorder by itself. He suggests that ADHD children may develop conduct disorders, which usually do not appear until adolescence, because of years of frustration, isolation, stigmatization and loss of self-esteem.

Shapiro and Garfinkel (1986) found that, "There were no symptoms or characteristics that differentiated the inattentive-overactive (ADHD) from the aggressive/oppositional (CD) child." (p. 809) The authors questioned whether or not an independent ADHD syndrome exists. A nonreferred elementary school population of 315 children took part in the study which was extremely thorough. Shapiro and Garfinkel found that the children with ADHD frequently came from broken homes and from a lower socioeconomic class.

The physical causes of ADHD are still being debated. No definitive causes have been found. There have been several interesting studies that show promise.
Technically it is believed that ADHD children may have too little dopamine and noradrenaline. These brain chemicals or neurotransmitters normally control behavior, learning and the expression of emotions. (Garfinkel & August, 1992) Studies with immature rat pups and genetically stable hybrid beagles support this belief. Selective destruction of dopaminergic pathways in these animals resulted in behaviors analogous to those seen in children with ADHD. The motor activity diminished following amphetamine administration. These studies also show a lower level of dopamine without the amphetamine. (Garfinkel 1986)

ADHD also seems to run in families which supports the idea of a genetic pre-disposition to these chemical deficiencies. Other causes may be birth injuries, infections and pollutants. Several years ago it was believed that dietary factors might have been a cause. The Feingold Diet, which deleted food additive and sugars from the diet, was thought to control the hyperactive condition of the syndrome. Studies have failed to support the link between any foods and ADHD.

Hynd, Semrud-Clikeman, Lorys, Novey, Eliopoulos, and Lyytinen (1991) found that magnetic resonance imaging (MRI) studies suggest that, compared to nondisabled children, ADHD children may have a smaller right frontal region.

The most recent studies indicate that ADHD might be related to a thyroid disorder. (Ciaranello 1993, Hauser, P., Zametkin, A., Martinex, P., Vitiello, B., Matochik, J.,
Mixson, J. & Weintraub, B. (1993) It was noted that patients with a disease caused by a mutated thyroid gene met the criteria for ADHD. A thorough study was conducted and it was found that ADHD is strongly associated with generalized resistance to a thyroid hormone. Hauser et al. stated that:

We have identified linkage between a well-recognized psychiatric disorder and a specific, defined genetic abnormality....This study and future studies of neurobiologic correlates of generalized resistance to thyroid hormone may provide new insights into the basic pathogenesis and treatment of attention deficit-hyperactivity disorder." (p 1001)

**Characteristics**

Silver (1986) describes the ADHD child as able to learn but their difficulties with inattention and impulsivity often make them unavailable for learning. Under certain situations these children's behavior become less problematic. One good example is playground activities. ADHD children are often undetectable while actively playing.

McCarney and Bauer (1990) point out that under certain circumstances ADHD children might appear to exhibit the correct behavior when in reality the behavior is a manifestation of their ADHD. Impulsive behavior and enthusiasm can be easily confused in an ADHD child. Impulsive behavior should be controlled while enthusiasm should be encouraged.

Garfinkel (1986) found the cognitive symptoms of ADHD or what he termed ADD, were: (a) impaired concentration, (b) a high rate of impulsive responses, (c) decreased reflection,
(d) poorly organized responses (e) decreased alertness, (f) failure to learn appropriate reward contingencies, (g) various visual motor integration problems, and (h) increased restlessness or purposeless motor activity. He also indicates findings that support psychological deficits involving, (a) short-term memory, (b) impaired learning using positive or negative reinforcement and, (c) decreased periods of reflection prior to responding.

There are several other lists of characteristics of ADHD. They are all rather similar with some variations. Ruth Robin, Director of the Attention Deficit Center in Michigan, has become a very active lecturer and writer within the state of Michigan. Her list, which looks at ADHD in somewhat more human terms, is as follows:

1. Inattention and poor concentration, resulting in poor school performance and chronic academic underachievement.
2. Motor restlessness and overactivity.
3. Social immaturity interfering with peer relations.
4. Inability to sustain goal oriented performance.
5. Impulsivity leading to acting out in school, home, and community.
6. Chronic poor self-esteem due to cumulative history of failure, sometimes leading to depression and/or delinquency.
7. Conduct problems and aggressive behavior.
8. Learning disabilities.
9. Low frustration tolerance.

(p. 7)

Arthur Robin (1990), Chief of Psychology at Children’s Hospital of Michigan describes salient features of ADHD in adolescents who have not outgrown ADHD as including: (a) impulsivity, which is still the major problem for adolescents, (b) overactivity diminishes, but inattention remains, (c)
severe conflict with parents, (d) greater mood swings than normal adolescents, (e) delinquency and promiscuity are common, (f) depression and low self-esteem, (g) frequent car accidents due to impulsivity, (h) often cannot hold down a job and, (i) is often too immature to live on their own.

Interventions

Cognitive Therapy

During the 1980s the cognitive methods dominated the literature featuring ADHD interventions. Cognitive methods, sometimes called cognitive-behavioral or cognitive therapy were used with a variety of childhood disorders. It was recommended for use with the ADHD in many journal articles.

Cognitive-Behavioral Methods are used with a variety of different childhood disorders including ADHD children. It is believed by its proponents that many behavioral problems are the result of distorted cognitive processing. These children need to learn techniques for dealing with problems that other children seem to grasp more easily. While cognitive-behavioral therapies include a variety of strategies and procedures, the methods all include, "emphasis on (a) both the learning process and the influence of the contingencies and models in the environment while (b) underscor[ing] the centrality of mediating/information-processing factors in both the development and remediation of childhood disorders." (Kendall, 1985, p. 359)

Common Cognitive-Behavioral treatment approaches include problem-solving training and verbal self-instructional
training. These therapies are designed to facilitate the child’s ability to regulate their own behavior and emotions. The goal is to teach the child to use systematic steps when dealing with problem situations to regulate their own behavior and emotions. Braswell and Kendall (1988) put it more simply by describing the therapy as creating more "self-control" in the child.

Advocates of cognitive therapies advise that these therapies should be used with children who have reached the cognitive age of eight or nine. More behavioral methods should be used with children younger than eight or nine since the procedures are complex and need a degree of cognitive sophistication. A variety of self-questions or self-statements can be used in the problem-solving techniques. Bloomquist and Braswell (1988) recommend these typical questions or steps as: a) What is the problem? b) What are some plans? c) What is the best plan? d) Do the plan. e) Did the plan work? The self-statements serve as guides for the child to follow while working through the process of problem solving. It is a thinking strategy that is supposed to help the child learn how to think and not what to think.

Another cognitive therapy is to train the children to identify stressful situations. Once the situation is assessed the child would use relaxing techniques such as muscle-tension relaxation procedures to reduce their arousal level.

There are several different ways to train children in cognitive-behavioral methods. It is recommended to have one
on one training sessions. Modeling, role play, and behavioral contingencies such as rewards and punishments are the most widely used methods of training. (Braswell & Kendall 1988)

While many advocates of using the cognitive-behavioral methods with ADHD children cite Lauren Braswell and Philip Kendall, who are leading authors in the field, Braswell and Kendall (1988) point out that cognitive-behavioral methods have not been proven entirely successful in ADHD children. They conducted well-organized, critical studies on the use of cognitive-behavioral methods with a variety of disabilities and in a variety of subject matters. They found different results with the different variables. Their articles are often confusing and need very careful reading. It is misleading to say that cognitive-behavioral methods are successful with ADHD children. ADHD children receiving cognitive-behavioral treatment alone do show signs of improvement in attention but they do not show improvement in measures of behavior, the technique proved more successful with other disabilities. Braswell and Kendall (1988) report:

While Kendall and others have been successful in achieving some behavior change with disruptive/impulsive teacher-referred children from regular schools, the results of self-instruction training with children meeting the full DSM-III criteria for attention deficit disorder with hyperactivity have been much more equivocal. (p. 187)

Lloyd, Hallahan, Koslewicz, and Kneedler (1982) conducted two experiments on another cognitive intervention measuring
the effects of self-monitoring. The experiments dealt with
the teaching of the concept of self-recording. "A self-
control technique, self-recording of attention to task,
appears to be a promising technique for directly improving
attention to task and hence indirectly improving academic
productivity." (p. 216) The experiments measured the
effectiveness of teaching the child to access their attention
rates as they worked and to record how much work they had
completed during certain intervals of time. Lloyd et al.
reported that the introduction of self-recording after a
period of self-assessment resulted in increased on task
behavior, but not increased academic productivity. Although
this study is cited in other articles dealing with using
cognitive therapy with ADHD children, there are major flaws in
the study. A few flaws are: (a) there were only three
subjects, (b) the three children in the study were said to
have attention problems but it did not specify if the children
where ADHD, (c) the children were diagnosed as Learning
Disabled which might in itself cause interference in
completing work which is unrelated to ADHD. Another important
point to remember is that despite the the fact that the
children appeared to be attending to their work their
productivity did not increase.

Abilkoff (1991) found that cognitive training not only
did not improve the symptoms of ADHD, he reports that,
"compared to a medicated attention control group, children who
received cognitive training plus medication were slower in
their performance in timed situations." (p 206)

Abikoff and Klein (1992) state, "The lack of efficacy for CBT (Cognitive-behavioral Therapy), particularly cognitive training alone in diagnosed children with ADHD, is an argument for excluding it from first-line intervention." (p 888)

**Behavioral Therapy**

Behrmann (1993) found that behavior therapy was the best approach to intervention when it was carried out correctly. There are various ways to use behavior modification but researchers found that simple positive reinforcement worked well. The most promising behavioral therapy mixes group and individual rewards. Its has also been found that mild punishment that is immediate and appears appropriate is successful. "Response cost" worked well. This is a strategy where teachers reinforce positive behavior by rewarding children with tokens. Unlike some behavior modification strategies, tokens can be taken away when the child exhibits undesirable behaviors. Behrmann’s article did not explain how the study was conducted. She did report that it took place at a federally funded ADHD research center.

Abikoff and Klein (1992) found that behavioral treatments such as (a) operant conditioning, (b) contingency management, (c) behavior modification, (d) time-out, (e) response cost, and (f) parent management training, alone, demonstrated little utility. "BT (Behavioral Training) alone is significantly less effective than medication alone in ADHD youths." (p 885) They did find that there was minimal
evidence of additional improvement in ADHD children who were already receiving medication.

Parent/Family Therapy

In recent years parents and families have been included in cognitive-behavioral therapies. It is believed that family support and reinforcement is necessary if the therapies are to work. Parents need to be educated about ADHD and treatment programs in order to employ procedures to encourage the child to change their behaviors at home. Besides reinforcing the child when they use their own cognitive plan, the family could use a "family plan." This would encourage the family to work together to solve family problems often dealing with the child’s ADHD. Parents are taught techniques such as: (a) time out, (b) the use of Child Observation Charts, (c) stop, think and use a plan charts and, (d) reward systems. (Bloomquist & Braswell, 1993)

Anastopoulos, DuPaul and Barkley (1991) found that parent training for dealing with ADHD proved to be effective when coupled with medication. They found little empirical basis for choosing one format of parent training over another and suggested that the decision should be based on preference of the parents and the clinical judgment of the therapist.

Woods (1986) found that psychotherapy without drug management is essentially a waste of time. With drug therapy or after the symptoms have subsided with age, psychotherapy could be helpful because of a number of problems the ADHD
adult may have encountered or created when the symptoms were current.

**Pharmacotherapy**

The expectations of pharmacotherapy for ADHD include: a) an increased ability to concentrate for an appropriate length of time when compared to peers; b) an increased ability to pay attention for a brief encounter and to sustain this attention, which is necessary for good listening skills; c) an increased ability to tolerate the normal distractions of the classroom such as other students moving about or talking; and d) a decrease in impulsive behavior such as blurting out comments or grabbing things and people. (ADHD Task Force Report, 1993, p. 43)

Parents often are opposed to giving their children medication for ADHD. They cite early research that the medication leads to later drug addiction and inhibits physical growth. Current research shows that is not true. Klein (1987) found that:

> Parents can be reassured that medication is not associated with an increase risk for drug abuse. What is a concern is that the child will develop other behavior problems that will expose him or her to deviant peer groups in which opportunity for drug abuse is high. Drug abuse is a direct consequence of childhood ADDH {sic} and certainly not related to previous drug treatment. (p. 218)

Klein also found that although over extended periods of time, there is a reduction in growth velocity in children using high doses of drug therapy, the ultimate height of these
children was not compromised. This problem is easily solved by watching the child's growth by using growth charts. Ciaranello (1993) suggests that children should not be given ritalin during weekends or vacation periods to help restore the secretion of growth hormone, which is inhibited by treatment with stimulants. It has been found that these "drug holidays" are enough to prevent stunted growth.

Although many of the early fears of giving children stimulants have proven unfounded, these drugs can have side effects. Some side effects to both Ritalin and Dextedrine are (a) loss of appetite, (b) weight loss (c) trouble falling asleep, (d) headaches and, nervous tics. Most of these side effects are minor and will usually disappear. One of the side effects that is potentially dangerous is that of nervous tics. For some children, Tourette Syndrome, a neurological disorder, emerges in response to Ritalin. Children who exhibits these tics should be taken off of ritalin immediately. In some homes parents may not notice these tics or understand the implications so the teacher should be aware of these side effects and alert the parents as soon as they are noticed.

Cylert is a third type of drug that is used to treat ADHD. It is usually not the first choice because it has a slower onset and behavioral improvement might not be seen for a few weeks. Because of this, it is harder to monitor.

Besides stimulant drugs some antidepressants are used with ADHD children. Antidepressants have been effective with
older children and adolescents. With the antidepressant Parnate, children must follow special diets to avoid foods that might react to the drug.

Some common drugs can actually cause ADHD symptoms. Antihistamines and decongestants used for colds and allergies may cause these symptoms.

There have been many studies indicating the effectiveness of drug therapy for ADHD children. Garfinkel, Wender, Sloman and O’Neill (1983) conducted a well-organized and thorough study testing the effectiveness of drug therapy. They found that methylphenidate (Ritalin) had the greatest effectiveness of the drugs studied.

Abikoff and Klein (1992) found that pharmacological treatments for ADHD children were by far superior to any other method of treatment to date. They found that behavioral treatments added to the drug therapy enhanced the medication’s effectiveness minimally.

Medication, while extremely beneficial, does not cure all of the problems of ADHD. Garfinkel (1986) found that the majority of ADHD children respond positively with drug therapy. The normal response to stimulants is heightened attention span and decreased non-goal directed motor behavior. Visual, perceptual and cognitive deficits are not responsive to the drug. Garfinkel and Klee (1984) also found that:

...Drugs have never been shown to improve full or subscale scores on the Wechsler Intelligence Scale for Children-Revised (WISC-R). Achievement testing may also delineate specific deficits in ADD
children, yet it does not reflect improvement secondary to drug administration. (p 11)

Hinshaw, Heller and McHale (1992) conducted an interesting study under laboratory conditions. Working with a group of 44 boys they studied the effects of Methylphenidate on stealing and cheating. They found that unmedicated ADHD boys displayed greater rates of stealing and property destruction than children without ADHD. Boys given Methylphenidate, "...reduced these covert actions, with medicated levels not different from those of the comparison boys." (p 279) Surprisingly, although the level of stealing and destruction reduced, the opposite pattern occurred for cheating. The boys given methylphenidate increased the behavior of cheating significantly. The researchers felt that this occurrence might be due to an enhancement of task involvement.

Swanson, Cantwell, Lerner, McBurnett and Hanna (1991) also found that stimulant medication improved classroom manageability and attention spans as measured by time on task. The authors suggest that although there is no clear evidence that medication improves learning or academic achievement, they suggest that this might be misleading. They address the method of determining dosage which is usually determined by behavior improvement and not cognitive improvement.

Classroom Techniques

Mary Fowler (1992) lists characteristics in a classroom where the ADHD child seems to function well. These classroom
characteristics include: a) predictability, b) structure, c) shorter work periods, d) small teacher to pupil ratio, e) more individual instruction, f) motivating and interesting curricula, and g) use of positive reinforcers. ADHD Children will function less effectively under these conditions: a) when the work is difficult, b) when work is required for an extended time, and c) when there is little supervision.

Beyond using effective teaching techniques used for all children, teachers must be willing to modify their lessons, seating charts and assignments for ADHD children. Erickson (1992) suggests that: (a) a class should have few disruptions and a limited number of physical relocations, (b) the day must show a high level of consistency, (c) although all time limits should not be eliminated, ADHD children should be given extra time to complete their lessons, (d) the length of their assignments should be shortened, (e) teachers should be aware of cognitive-behavioral methods and behavioral modification therapies, (f) classroom rules and rules for social interaction should be reviewed with the entire class frequently, (g) appropriate and consistent reinforcers should be used and (h) the teacher should group the ADHD child with good role models when assigning groups.

**Teacher Roles**

Cantwell (1992), Barkley (1990), and Fowler (1992) stress the role of the teacher in the schools in identifying, treating and monitoring the progress of ADHD children. There are many instances where the teacher is the most important
person in the child's life in regards to his coping with ADHD.

Teachers often play the key role in the evaluation process. Although parents may notice that their child has a short attention span, is restless and fidgets; it is usually in the school setting where the child must pay attention for extended periods that the condition becomes truly apparent. Teachers may be the first to attribute a child's behavior to ADHD and may play a key role in referring the child for evaluation. (Garfinkel & August, 1992, Fowler, 1992)

Fowler (1992) points out that medical procedures, such as blood and urine tests, EEGs, MRIs and PET scans do not diagnose ADHD. ADHD may not be observed in the physician's office. (Barkley 1993 & Garfinkel 1992) Dr. Garfinkel, one of the leading physicians in the area of ADHD, points out, "Physician evaluation in the office is the least effective way of spotting ADD." (p. 20) Often the physician relies on the teacher's evaluation of the child to determine diagnosis.

Trockman (1987), points out the need for teachers and other school professionals to understand and be able to evaluate the effects of drug treatment. She defines the roles of the teachers to include: a) aid in the optimal utilization of the medication (b) minimize the need for such drug use by using additional behavior and academic management and (c) imparting certain attitudes about the child and about the use of such a drug that is beneficial.

The dosage and administration schedule of medication is determined by trial and error. A particular strength of the
medication may be effective for one child but be too strong or too weak in another child of similar age or weight. The physician who prescribes the medication must rely on the parents or teachers to observe the drug's effectiveness. Since the environment where ADHD seems to be most apparent is in the classroom, the teacher is often more effective in this evaluation than the parents. (Garfinkel 1992)

Ritalin and Dexadrine, two of the most frequently used medications, act quickly with an onset of between 20 and 30 minutes. They are also eliminated fairly quickly from the body so the effects usually last about four hours with the usual dosage. With the short action effects of these drugs and the fact that they are often given only during school hours and not at all during the weekend, the teacher is instrumental in planning the optimal use of the medication. Teachers need to understand the effects and side effects of medication in order to properly report to the physician.

Garfinkel (1992) and Klein (1987) suggest a "drug holiday" when the child is sent to school in a normal fashion but is not given the drug. During this time the teacher is used to assess the difference in behavior. It is also recommended that teachers contact parents once a week to maintain consistency in treatment.

Effective Teaching

Research on effective teaching techniques created for use with all children are especially effective with ADHD children. These techniques include such things as (a) systematic
presentation of material in small steps, (b) pausing to check for student understanding and eliciting active and successful participation from all students, (c) beginning a lesson with a short statement of goals, (d) include a short review of previous lessons that might impact on the new lesson, (e) give clear instructions, (f) provide active practice, (g) check for student understanding, (h) guide students through initial practice, (i) provide systematic feedback and corrections, (j) provide explicit instruction and practice for seatwork exercises (k) monitor the seatwork, and (l) continue practice until students are independent and confident. (Erickson, 1992)

Ruth Robin (1990 & 1993) lists classroom management techniques that she feels are effective such as: (a) a highly structured environment, (b) establish a daily home/school report card system, (c) utilize response cost and timeout and (d) emphasize immediate and frequent consequences. She further states that the school has the responsibility to (a) teach the child self-control, (b) provide group social skills training, (c) teach the child to use their strengths and to cope with their weaknesses, (d) provide realistic vocational guidance, (e) provide appropriate educational placement, (f) academic classes should be held in the mornings, (g) provide frequent breaks, (h) a seat close to the teacher but with the rest of the class, (i) test with untimed tests or orally.

Other teacher techniques that could help ADHD children in school include: the careful adjustments of lessons to assure
repetition of directions and key items; and the elimination of extraneous visual and auditory stimuli.

DeMers (1992) advises that the child’s daily schedule be closely examined. She feels that there should be a limited number of transitions for the child and the child should not have an excessive number of teachers. The teacher should search for good role models and group the ADHD child with these role models whenever possible.

Most of the research suggests that environmental classroom alteration may help the ADHD child in the learning environment. It is suggested that the child be placed in the least distracting location in the classroom. Structure and routine is necessary. The teacher should make frequent contact with the child by either speaking the child’s name or by touching the child on the shoulder. Extra time should be given to the ADHD child to complete classwork. If a child has trouble completing their work with the added time, a reduced amount of homework or seatwork should be considered. The teacher should use multiple modalities when instructing and use visual stimuli when possible. Work sheets may have to be adapted with less material on each page. The teacher may have to break the assignments into smaller components. If note taking is a problem, the child should be allowed to share the notes of another student or be given a study guide. Praise should be given often for successes. (Zentall 1992)

ADHD parent groups are now encouraging parents to take an active part in their child’s education. In a book endorsed by
Ch. A.D.D., it is recommended that while parents provide time for homework, they should not help their child with their work. The parents are told that it is the teacher’s job. (McCarney & Bauer 1990) This might mean that ADHD children might receive even less help at home than non-ADHD children. Teachers should be aware of these conditions.

Techniques to change disruptive behavior could include a strict behavior modification plan that would include rewards and penalties. "Time out" has been proven successful for disruptive children. This technique is used in several different ways. A popular basic time out concept is to set aside a stimulus free area in the classroom which is designated as "time out." When a child is out of control he/she is sent to the "time out" to literally give the child a time out to calm down. Planned ignoring is also a successful device. Disruptive children are often seeking attention. When attention is denied, the behavior may disappear. Rules should be basic and repeated often.

**Prognosis**

One of the biggest changes in understanding ADHD is that it was outgrown during puberty. Since one of the major symptoms of ADHD is immaturity it was thought that the condition corrected itself once a child reached adolescence. Since dextroamphetamine and methylphenidate work as psychostimulants in non-ADHD adults it was thought that they would cease to work as an antihyperactivity drug and begin their typical stimulating effects when a child reached
adolescence. As a stimulant the drug was thought to be potentially dangerous to children when they reached adolescence. (Fowler, 1992, Barkley, 1990, Klein, 1987)

Some children do seem to outgrow ADHD. Klein (1987) found, "A proportion of affected children do improve, some to the point of being free of significant behavior problems, but many do not." (p. 216)

Barkley (1993) points out some sobering statistics about ADHD children. Approximately 50% had been retained in a grade at least once. About 46% had been suspended, 11% had been expelled, and 35% had dropped out of school. Only 5% had completed college.

Klein (1987) and Weiss (1983) conducted similar but independent follow-up studies of ADHD students and came up with more positive results. In Klein’s study adolescence was defined as between 16 to 23 years of age with an average age of 18. Among the students who still had ADHD at the average age of 18, 48% exhibited antisocial disorders wherein only 13% of those without ADHD had such behaviors. It should be pointed out that Klein found that not all children with ADHD exhibit antisocial behaviors and that some children outgrow the impairment. In fact Klein reports, "There is a diminution of pathologic findings during late adolescence, with about 35% still having the diagnosis of ADDH {sic} at approximately 18 years of age." Klein continues to paint a brighter picture by saying, "Essentially, antisocial disorders developed almost exclusively among youngsters who had retained the symptoms of
hyperactivity {after the average age of 18}....Therefore, there are two distinct types of outcome. About a third are in serious difficulty; the rest are managing well." (p. 217)

The predictor of this antisocial behavior in adolescence is calculated, mean, deliberate aggression in childhood. This should not be confused with the milder aggression ADHD children often show as a response to their impulsivity.

Garfinkel and Klee (1985) found similar results in their study. Subjects were obtained by reviewing charts in an outpatient and day hospital program in Rhode Island. Fifty-four adolescent and young male adults who were formerly diagnosed as "hyperactive-impulsive" and mainly from the middle class agreed to be in the study. It was found that 37% of the subjects met the criteria for ADHD as adults. Garfinkel and Klee named this residual type Attention Deficit Disorder (RADD).

Garfinkel, Brown, Klee, Braden, Beauchesne & Shapiro (1986) further examined the residual type of ADHD. This study looked at the cognitive and neuroendocrine response to amphetamine in 22 adolescents with a history of ADHD and 22 adolescents without a history of ADHD. This well constructed study found that the adolescents that had a history of ADHD approximately eight years earlier scored significantly lower on a continuous performance task compared to the controls before being given medication. The index group improved with a small amount of amphetamine which also produced a significant growth in hormone release. This study further
demonstrated residual ADHD past puberty. Klee, Garfinkel and Beauchesne (1986) found very similar results from a study of 24 males.

Woods (1986) also found that ADHD continued into adulthood in many of his subjects. Woods called this disability ADD-RT. He found that adults with ADD-RT had similar manifestations as children with ADHD.

ADD-RT can severely limit one's intellectual and vocational activities. Woods cites seven criteria which constitute the core symptoms of ADD-RT. These include: (a) attention difficulties, (b) abnormal motor behavior, (c) quick or excessive temper, (d) poor impulse control, (e) mood abnormalities, (f) poor organization with inability to complete tasks and (g) low stress tolerance and overactivity.

College students with ADHD may have difficulty studying texts. Business men or women might find it difficult to concentrate on reports or proceedings in meetings. All workers with ADHD may find their minds wandering during tasks or during conversations. They may fidget or find it difficult to relax. Like their child counterparts, adults with ADHD tend to have quick or excessive tempers, they have difficulty delaying gratification, they do not anticipate consequences and may have difficulty sustaining long term relationships. As with children, adults with ADHD will not have difficulties doing things that they find exciting or interesting.

Although Woods' (1986) studies only lasted up to six years, he found that the symptoms gradually disappear as the
individual ages. Most of his patients are in their twenties and early thirties and he seldom sees cases over the age of 50.

A more recent study finds that these ages were much higher. Ciaranello (1993) found that three quarters of a group of children identified as hyperactive as preschoolers continued to have the disorder until late adolescence. In about half the cases the disorder appeared to continue into adulthood. These numbers may be higher than most studies because of the subjects. These children were diagnosed at preschool age and their disorders were described as severe.

The Michigan Department of Education’s ADHD Task Force (1993) also cite a higher level of ADHD in adults. They state that approximately two-thirds of the ADHD children will carry the syndrome into adulthood. They, however, do not cite how they arrived at this figure.

Although drug therapy is effective with adults with ADHD, the negative effects of long term drug therapy on adults are unknown. (Woods 1986)

**Teacher Attitudes**

The research on teacher attitudes is limited. I found no articles concerning ADHD children and teacher attitudes. There are a few articles that indicate the importance of teacher attitudes and a few articles about teacher’s attitudes and other disabilities.

Cantwell (1992) describes school personnel as one of the barriers for ADHD children. He reports that teachers often
have little training with ADHD. They are often overloaded and have little extra time to individualize programs for these children. Garfinkel (1992) points out, "To a teacher faced with such a wide range of problems, the task of providing effective education for the ADD student may be formidable." (p 21)

It is important for teachers to understand and be supportive of children with ADHD. As reported before, medication does not solve all of the problems of the ADHD child. In fact, in some cases it might cause extra problems. It was shown that boys on medication for ADHD at times blame themselves when they are unable to control their behavior but will give credit to the medication when their behavior is acceptable. Pelham, Murphy, Vannatta, Milich, and Licht (1992) observed this behavior in a study of 38 ADHD boys in a summer day-treatment camp. They termed this condition "depressive realism."

Trockman (1987) points out the need that positive attitudes be conveyed by the teacher to the student receiving medication for ADHD. ADHD children tend to have very poor self-concepts. Trockman believes that there is a danger that the children might come to believe that they are taking a "smartness" or "goodness" pill, that the drugs are responsible for the change in behavior and that they themselves are not good or smart. She believes that the teacher is crucial in conveying a more desirable attitude. The teacher should convey the attitude that the child has many good abilities and
that the medication is helping the student to be a better listener or to stay on task for a longer period of time.

Some recommendations for teachers in regards to conveying their attitudes towards ADHD children in drug therapy are: (a) never make the administration of a drug contingent on how well the child is behaving or how well the child is preforming, (b) never ask the child if he or she has taken their medication since this might imply that the child cannot behave without the medication and, (c) be very discreet about the child’s medication. The other children in the room should not be aware of the medication.

Fonosch and Schwab (1981) conducted a study to determine the attitudes of university faculty towards the physically handicapped student. The faculty members expressed positive attitudes towards including the physically disabled into their classroom. They were willing to adjust testing procedures, modify classroom operation, and work with students to solve accessibility problems. The study indicated that females were more positive towards classroom management issues and were more likely to view themselves as similar to a disabled person. It was found that faculty teaching in a university with disabled student services were more positive about providing a resource person to assist the instructors, allowing auxiliary services into programs, and to modifying university requirements. Faculty members in education and social sciences had more positive attitudes towards having disabled students in their classrooms than other disciplines.
In an article about learning disabled college students, Aksamit, Morris and Leuenberger (1987) state that teachers who work with learning disabled (LD) students may not recognize the need for modifications in the LD students' program because the disability is not visible. They felt it was necessary to assess the college faculty of their attitudes and knowledge relative to LD students in order to provide better services for them. ADHD is similar to LD because it may not be visually noticeable and teachers may or may not understand how to intervene to help the child.
CHAPTER III

METHODS AND PROCEDURES

Purpose

The purpose of this study was to compare the attitudes and knowledge of general education teachers before being presented with basic information concerning ADHD children, with their attitudes and knowledge of ADHD children after being presented with this information. The specific variables that were investigated were: the teachers' knowledge before the presentation of material, the teachers' attitudes before the presentation of information, the teachers' knowledge after the presentation of material and the teachers' attitudes after the presentation of informative facts.

Description of Subjects

The subjects of this study were the general education teachers from three rural school districts in Lapeer County, Michigan. The total student population of the three school districts is 4,289. These schools make up the southeastern portion of Lapeer County which is a rural farming area. There are 170 teachers employed in the districts.

Research Design and Procedures

The design of this research was an analytical survey method. The first survey instrument was placed in the teachers' mailboxes in their school buildings during the second week of school. All general education teachers were presented with a survey. The cover letter instructed the
teachers to return the survey to one contact person in each building on the following day. The surveys were number coded and a follow-up survey was provided to the people who had not turned in their surveys on the designated day. After seven days, the surveys were collected from the buildings.

On September 15 the first information sheet was put into the teacher’s building mailboxes. These information sheets were copied on various shades of colored paper to catch the teachers’ attention. They included the basic facts about ADHD (See Appendix B). The teachers received at least one ADHD Information Sheet every day until they had received a total of 13 sheets. Two days after all of the sheets had been distributed, the survey was readministered to assess the impact of the Information Sheets.

**Null Hypotheses**

I. There will be no significant difference between teachers' attitudes towards ADHD children due to the distribution of information about ADHD children.

II. There will be no significant difference between teachers' knowledge of ADHD children due to the distribution of information about ADHD children.

The data were analyzed using the computer program SPSS+ Studentware.

**Description of Instrument**

The survey instrument consisted of 30 questions. The first eight questions consisted of demographic information, the next 11 questions addressed teachers' attitudes towards
ADHD, and the last 11 questions were designed to measure teachers' knowledge about ADHD.

The original survey was first used at the Center for Education of Nontraditional Students at Augsburg College in Minnesota in 1984. The items were written to examine the attitudes toward and knowledge about the learning disabled college student. The survey was also used in 1985 by Special Education personnel at the University of Nebraska where they again assessed college faculty's knowledge and attitudes towards the learning disabled.

The original survey was changed for this study by substituting the term ADHD for "learning disability." Since both disabilities are similar in nature, the syntax and implied meaning remains intact.

The original Likert-type rating scale was incorporated in this study. The rating scale of 1 to 6 reflected: strongly disagree (1), disagree (2), tend to disagree (3), tend to agree (4), agree (5), and strongly agree (6). The questions were stated in both positive and negative statements to avoid acquiescence to the positive.

The survey was piloted on October 9, 1993, when surveys were placed in 10 teachers' building mailboxes. The surveys were returned the following Monday without revealing problems in its readability.

Variables
1. Teacher attitude towards ADHD children (Dependent).
2. Teacher knowledge about ADHD children (Dependent).
3. Information sheets given to the teachers (Independent variable).
CHAPTER IV
RESULTS AND DISCUSSION

The purpose of the study was to determine the impact of basic written information concerning ADHD on the attitudes and knowledge of general education teachers.

The survey instrument used in this study was originally used at the Center for Education of Nontraditional Students at Augsburg College in Minnesota in 1984. It consisted of 30 questions. The first eight questions related to demographic information, the next 11 questions addressed teachers' attitude towards ADHD, and the last 11 questions were designed to measure teachers' knowledge about ADHD. The original survey was designed to be used to measure attitudes toward and knowledge about the learning disabled college student. It was later used for the same purpose at the University of Nebraska. The original survey was changed slightly to reflect attitudes and knowledge towards the ADHD individual. Since these two disabilities are very similar very few changes, other than replacing the term "learning disabilities" with ADHD, were necessary.

The subjects of this study were all the general education teachers from three school districts in Lapeer County. There are 170 teachers employed in these districts. The first survey was placed in the teachers' mailboxes in their school buildings during the second week of school. The cover letter instructed the teachers to return the survey to one contact person in each building on the following day. A total of 115
completed surveys were collected. This survey acted as the pre-test for this study.

On September 15 the first information sheet was put into each teacher's building mailbox. These information sheets were copied on various shades of colored paper to set them apart from teacher bulletins and to catch the teachers' attention. They included the basic facts about ADHD (See Appendix B). The teachers received at least one ADHD Information Sheet every day until they received a total of 13 sheets. Two days after all of the sheets had been distributed, the survey was readministered to assess the impact of the Information Sheets. The second survey was administered using the same procedure as the first survey. A total of 105 surveys were collected for the post-test.

Both the pre-test and the post-test were number coded so that the respondents pre-test and post-test could be matched. A total of 91 pre-test and post-tests were successfully matched. This indicates a 54% return rate for both surveys. Forty-seven of the respondents were teachers from the primary grades, which includes grades kindergarten through sixth grade. Forty-four of the respondents were teachers from the secondary level, which includes seventh through twelfth grade.

The first statistical analysis employed to analyze this data was the development of a frequency distribution. A paired t-Test was performed using the SPSS statistical computer program. A statistical significance level of .05 was established for rejection of the null hypothesis.
Results

Demographic information is presented in Tables 1 through 8. The staff surveyed consisted of 24% men and 76% women. The highest proportion of teachers surveyed, 20%, had 11-15 years of experience while only 11% of the teachers had over 25 years of experience. Fifty percent of the teachers held at least a Master’s Degree. Only 14% held a Bachelor’s Degree. Fifty-two percent of the respondents were teaching in the elementary school; 48% were teaching at the secondary level. Of the teachers who responded to both questionnaires; 93% stated that they were familiar with the ADHD disability, 6% stated that they were not familiar with it, leaving one teacher who did not respond to the question. Ninety-eight percent of the respondents stated that they have taught students who they suspected as having ADHD and 2% of the respondents maintained that they had not suspected ADHD in their students. The majority (87%) of the respondents stated that they had taught students who were diagnosed as ADHD while 12% responded that they had not taught students who were diagnosed ADHD. One respondent did not respond to this question.
TABLE 1
GENDER OF RESPONDENTS
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>GENDER</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>MALE</td>
<td>22</td>
<td>24.2</td>
</tr>
<tr>
<td>FEMALE</td>
<td>69</td>
<td>75.8</td>
</tr>
</tbody>
</table>

TABLE 2
YEARS OF TEACHING EXPERIENCE
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>YEARS OF EXPERIENCE</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5</td>
<td>15</td>
<td>16.5</td>
</tr>
<tr>
<td>5-10</td>
<td>13</td>
<td>14.3</td>
</tr>
<tr>
<td>11-15</td>
<td>19</td>
<td>20.9</td>
</tr>
<tr>
<td>16-20</td>
<td>17</td>
<td>18.7</td>
</tr>
<tr>
<td>21-25</td>
<td>17</td>
<td>18.7</td>
</tr>
<tr>
<td>&gt; 25</td>
<td>10</td>
<td>11.0</td>
</tr>
</tbody>
</table>
### TABLE 3
**Educational Level of Respondents**

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA</td>
<td>13</td>
<td>14.3</td>
</tr>
<tr>
<td>BA+18 Credits</td>
<td>33</td>
<td>36.3</td>
</tr>
<tr>
<td>MA</td>
<td>24</td>
<td>26.4</td>
</tr>
<tr>
<td>MA+15 Credits</td>
<td>21</td>
<td>23.1</td>
</tr>
</tbody>
</table>

### TABLE 4
**Teaching Level of Respondents**

<table>
<thead>
<tr>
<th>Teaching Level</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary (Grades K-6)</td>
<td>47</td>
<td>51.6</td>
</tr>
<tr>
<td>Secondary (Grades 7-12)</td>
<td>44</td>
<td>48.4</td>
</tr>
</tbody>
</table>
### TABLE 5
FAMILIARITY OF RESPONDENT WITH ADHD
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>FAMILIARITY</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOT FAMILIAR WITH ADHD</td>
<td>5</td>
<td>5.5</td>
</tr>
<tr>
<td>FAMILIAR WITH ADHD</td>
<td>85</td>
<td>93.4</td>
</tr>
</tbody>
</table>

### TABLE 6
TEACHERS WHO TAUGHT STUDENTS
SUSPECTED OF ADHD
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>TEACHERS WHO:</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOT SUSPECTED</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>TAUGHT SUSPECTED CHILDREN</td>
<td>89</td>
<td>97.8</td>
</tr>
</tbody>
</table>
TABLE 7

TEACHERS WHO TAUGHT DIAGNOSED ADHD STUDENTS
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>TEACHERS WHO:</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAVE NOT TAUGHT</td>
<td>11</td>
<td>12.2</td>
</tr>
<tr>
<td>HAVE TAUGHT</td>
<td>79</td>
<td>86.8</td>
</tr>
</tbody>
</table>

TABLE 8

SCHOOLS WHERE RESPONDENT TAUGHT
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>SCHOOL</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCHOOL A</td>
<td>15</td>
<td>16.5</td>
</tr>
<tr>
<td>SCHOOL B</td>
<td>13</td>
<td>14.3</td>
</tr>
<tr>
<td>SCHOOL C</td>
<td>6</td>
<td>6.6</td>
</tr>
<tr>
<td>SCHOOL D</td>
<td>9</td>
<td>9.9</td>
</tr>
<tr>
<td>SCHOOL E</td>
<td>9</td>
<td>9.9</td>
</tr>
<tr>
<td>SCHOOL F</td>
<td>18</td>
<td>19.8</td>
</tr>
<tr>
<td>SCHOOL G</td>
<td>21</td>
<td>23.1</td>
</tr>
</tbody>
</table>
Respondents to Only the Pre-test

A total of 115 teachers responded to the pre-test. Ninety one of those teachers also responded to the post-test. Twenty-four respondents to the pre-test did not respond to the post-test. Table 9 reveals that 20.8% of the original respondents who failed to respond to the post-test were male. Nearly 71% were female and 8.3% failed to identify their gender on the questionnaire.

Table 10 reveals that of the respondents of the pre-test who failed to respond to the post-test; 25% had less than 5 years of teaching experience, 20.8% had between five and ten years of teaching experience, 16.7% had between 11 to 15 years of experience, 16.7% had between 16 and 20 years of experience, 16.7% had between 21 and 25 years of experience, and 4.2% had over 25 years of teaching experience.

Table 11 reveals that of the respondents of the pre-test who failed to respond to the post-test; 8.3% held BA degrees, 37.5% held BA+18 credits, 29% had MA degrees, 4.2% held MA+15 credits, 16.7% had MA+30 credits, and 4.2% failed to respond to this question.

Table 12 reveals that of the respondents of the pre-test who failed to respond to the post-test; 70% taught in the primary grades while 29.2% taught in the elementary school.

Table 13 reveals that of the respondents of the pre-test who failed to respond to the post-test; 16.6% indicated that they were not familiar with ADHD while 83.3% indicated that they were familiar with the disability.
Table 14 reveals that of the respondents of the pre-test who failed to respond to the post-test; 12.5% indicated that they had not taught children they suspected as being ADHD while 87.5% indicated they had taught children that they suspected as being ADHD.

Table 15 reveals that of the respondents of the pre-test who failed to respond to the post-test; 12.5% indicated that they had not taught children who had already been diagnosed as ADHD while 87.5% indicated that they had taught children diagnosed as ADHD.

Table 16 reveals that of the respondents of the pre-test who failed to respond to the post-test; 20.8% taught in School A, 16.6% taught in School B, 8.3% taught in School C, no one responded to just the pre-test in School D, 20.8% taught in School E, 8.3% taught in School F, and 25% responded from School G.
<table>
<thead>
<tr>
<th>GENDER</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>MALE</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>FEMALE</td>
<td>17</td>
<td>70.8</td>
</tr>
<tr>
<td>MISSING</td>
<td>2</td>
<td>8.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>YEARS OF EXPERIENCE</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5</td>
<td>6</td>
<td>25.0</td>
</tr>
<tr>
<td>5-10</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>11-15</td>
<td>4</td>
<td>16.7</td>
</tr>
<tr>
<td>16-20</td>
<td>4</td>
<td>16.7</td>
</tr>
<tr>
<td>21-25</td>
<td>4</td>
<td>16.7</td>
</tr>
<tr>
<td>&gt; 25</td>
<td>1</td>
<td>4.2</td>
</tr>
</tbody>
</table>
**TABLE 11**
EDUCATIONAL LEVEL OF RESPONDENTS
OF PRE-TEST BUT NOT POST-TEST
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>LEVEL OF EDUCATION</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>BA+18 CREDITS</td>
<td>9</td>
<td>37.5</td>
</tr>
<tr>
<td>MA</td>
<td>7</td>
<td>29.2</td>
</tr>
<tr>
<td>MA+15 CREDITS</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>MA+30 CREDITS</td>
<td>4</td>
<td>16.7</td>
</tr>
<tr>
<td>MISSING</td>
<td>1</td>
<td>4.2</td>
</tr>
</tbody>
</table>

**TABLE 12**
TEACHING LEVEL OF RESPONDENTS
TO PRE-TEST BUT NOT POST-TEST
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>TEACHING LEVEL (GRADES)</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRIMARY (GRADES K-6)</td>
<td>17</td>
<td>70.8</td>
</tr>
<tr>
<td>SECONDARY (GRADES 7-12)</td>
<td>7</td>
<td>29.2</td>
</tr>
</tbody>
</table>
TABLE 13
FAMILIARITY WITH ADHD OF TEACHERS
RESPONDING TO PRE-TEST BUT NOT POST TEST
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>FAMILIARITY</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOT FAMILIAR WITH ADHD</td>
<td>20</td>
<td>16.6</td>
</tr>
<tr>
<td>FAMILIAR WITH ADHD</td>
<td>4</td>
<td>83.3</td>
</tr>
</tbody>
</table>

TABLE 14
TEACHERS WHO TAUGHT STUDENTS SUSPECTED OF ADHD
RESPONDING TO PRE-TEST BUT NOT POST-TEST
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>TEACHERS WHO:</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOT SUSPECTED</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>TAUGHT SUSPECTED CHILDREN</td>
<td>21</td>
<td>87.5</td>
</tr>
</tbody>
</table>
### TABLE 15
TEACHERS WHO TAUGHT DIAGNOSED ADHD
RESPONDING TO PRE-TEST BUT NOT POST-TEST
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>TEACHERS WHO:</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAVE NOT TAUGHT</td>
<td>11</td>
<td>12.5</td>
</tr>
<tr>
<td>HAVE TAUGHT</td>
<td>21</td>
<td>87.5</td>
</tr>
</tbody>
</table>

### TABLE 16
SCHOOLS OF TEACHERS RESPONDING
TO PRE-TEST BUT NOT POST-TEST
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>SCHOOL</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCHOOL A</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>SCHOOL B</td>
<td>4</td>
<td>16.6</td>
</tr>
<tr>
<td>SCHOOL C</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>SCHOOL D</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>SCHOOL E</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>SCHOOL F</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>SCHOOL G</td>
<td>6</td>
<td>25.0</td>
</tr>
</tbody>
</table>
Respondents to Only the Post-Test

A total of 105 teachers responded to the post-test. Ninety one of those teachers had also responded to the pre-test. Fourteen respondents to the post-test did not respond to the pre-test. Table 17 reveals that 28.6% of the respondents, who failed to respond to the pre-test were male while 71.4% were female.

Table 18 reveals that of the respondents of the post-test who failed to respond to the pre-test; 35.7% had less than five years of teaching experience, 7.1% had between five and ten years of teaching experience, 14.3% had between 11 to 15 years of experience, 14.3% had between 16 and 20 years of experience, 14.3% had between 21 and 25 years of experience, and 14.3% had over 25 years of teaching experience.

Table 19 reveals that of the respondents of the post-test who failed to respond to the pre-test; 35.7% held BA degrees, 42.8% held BA+18 credits, 21.4% had MA degrees, and no one held MA+15 or MA+30 credits.

Table 20 reveals that of the respondents of the post-test who failed to respond to the pre-test; 64.3% taught in the primary grades while 35.7% taught in the elementary school.

Table 21 reveals that of the respondents of the post-test who failed to respond to the pre-test; 14.2% indicated that they were not familiar with ADHD while 85.7% indicated that they were familiar with the disability.

Table 22 reveals that of the respondents of the post-test who failed to respond to the pre-test; 85.7% indicated that
they had not taught children they suspected as being ADHD while 14.3% indicated they had taught children that they suspected as being ADHD.

Table 23 reveals that of the respondents of the post-test who failed to respond to the pre-test; 100% indicated that they had taught children who had already been diagnosed as ADHD while no one indicated that they had not taught children diagnosed as ADHD.

Table 24 reveals that of the respondents of the post-test who failed to respond to the pre-test; 35.7% taught in School A, 21.4% taught in School B, no one taught in School C, 14.2% taught in School D, no one taught in School E, 7.1% taught in School F, and 21.4% responded from School G.
TABLE 17
GENDER OF RESPONDENTS
RESPONDING TO POST-TEST BUT NOT PRE-TEST
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>GENDER</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>MALE</td>
<td>4</td>
<td>28.6</td>
</tr>
<tr>
<td>FEMALE</td>
<td>10</td>
<td>71.4</td>
</tr>
</tbody>
</table>

TABLE 18
YEARS OF TEACHING EXPERIENCE
RESPONDENTS TO POST-TEST BUT NOT PRE-TEST
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>YEARS OF EXPERIENCE</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5</td>
<td>5</td>
<td>35.7</td>
</tr>
<tr>
<td>5-10</td>
<td>1</td>
<td>7.1</td>
</tr>
<tr>
<td>11-15</td>
<td>2</td>
<td>14.3</td>
</tr>
<tr>
<td>16-20</td>
<td>2</td>
<td>14.3</td>
</tr>
<tr>
<td>21-25</td>
<td>2</td>
<td>14.3</td>
</tr>
<tr>
<td>&gt; 25</td>
<td>2</td>
<td>14.3</td>
</tr>
</tbody>
</table>
TABLE 19
EDUCATIONAL LEVEL OF RESPONDENTS
OF POST-TEST BUT NOT PRE-TEST
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>LEVEL OF EDUCATION</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA</td>
<td>5</td>
<td>35.7</td>
</tr>
<tr>
<td>BA+18 CREDITS</td>
<td>6</td>
<td>42.8</td>
</tr>
<tr>
<td>MA</td>
<td>3</td>
<td>21.4</td>
</tr>
<tr>
<td>MA+15 CREDITS</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>MA+30 CREDITS</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

TABLE 20
TEACHING LEVEL OF RESPONDENTS
TO POST-TEST BUT NOT PRE-TEST
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>TEACHING LEVEL</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRIMARY (GRADES K-6)</td>
<td>9</td>
<td>64.3</td>
</tr>
<tr>
<td>SECONDARY (GRADES 7-12)</td>
<td>5</td>
<td>35.7</td>
</tr>
</tbody>
</table>
### TABLE 21
FAMILIARITY WITH ADHD OF TEACHERS
RESPONDING TO POST-TEST BUT NOT PRE TEST
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>FAMILIARITY</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOT FAMILIAR WITH ADHD</td>
<td>12</td>
<td>14.2</td>
</tr>
<tr>
<td>FAMILIAR WITH ADHD</td>
<td>2</td>
<td>85.7</td>
</tr>
</tbody>
</table>

### TABLE 22
TEACHERS WHO TAUGHT STUDENTS SUSPECTED OF ADHD
RESPONDING TO POST-TEST BUT NOT PRE-TEST
FREQUENCY AND PERCENTAGES

<table>
<thead>
<tr>
<th>TEACHERS WHO:</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOT SUSPECTED</td>
<td>12</td>
<td>85.7</td>
</tr>
<tr>
<td>TAUGHT SUSPECTED CHILDREN</td>
<td>2</td>
<td>14.3</td>
</tr>
</tbody>
</table>
### TABLE 23
TEACHERS WHO TAUGHT DIAGNOSED ADHD
RESPONDING TO POST-TEST BUT NOT PRE-TEST
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>TEACHERS WHO:</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAVE NOT TAUGHT</td>
<td>14</td>
<td>.0</td>
</tr>
<tr>
<td>HAVE TAUGHT</td>
<td>0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### TABLE 24
SCHOOLS OF TEACHERS WHO RESPONDED
TO THE POST-TEST BUT NOT THE PRE-TEST
FREQUENCY AND PERCENT

<table>
<thead>
<tr>
<th>SCHOOL</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCHOOL A</td>
<td>5</td>
<td>35.7</td>
</tr>
<tr>
<td>SCHOOL B</td>
<td>3</td>
<td>21.4</td>
</tr>
<tr>
<td>SCHOOL C</td>
<td>0</td>
<td>.0</td>
</tr>
<tr>
<td>SCHOOL D</td>
<td>2</td>
<td>14.2</td>
</tr>
<tr>
<td>SCHOOL E</td>
<td>0</td>
<td>.0</td>
</tr>
<tr>
<td>SCHOOL F</td>
<td>1</td>
<td>7.1</td>
</tr>
<tr>
<td>SCHOOL G</td>
<td>3</td>
<td>21.4</td>
</tr>
</tbody>
</table>
Results of Pre-test and Post-test

Tables 25 and 26 include the 11 attitude items on the survey. Table 25 reveals that a significant difference occurred for only two of the items when comparing the pre-test with the post-test.

Tables 27 and 28 include the 11 knowledge items addressed on the survey. Table 27 reveals that a significant difference occurred for three of the items when comparing the pre-test with the post-test.
<table>
<thead>
<tr>
<th>QUESTION</th>
<th>N</th>
<th>MEAN DIFF.</th>
<th>SD</th>
<th>SE</th>
<th>t VALUE</th>
<th>DF</th>
<th>2-TAIL PROB.</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is unfair to spend more money educating ADHD students.</td>
<td>91</td>
<td>.0989</td>
<td>1.274</td>
<td>.134</td>
<td>.74</td>
<td>90</td>
<td>.461</td>
</tr>
<tr>
<td>Classroom environments are enriched by ADHD students.</td>
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<td>1.245</td>
<td>.131</td>
<td>-1.68</td>
<td>90</td>
<td>.096</td>
</tr>
<tr>
<td>ADHD students tend to feel sorry for themselves.</td>
<td>89</td>
<td>.2247</td>
<td>1.045</td>
<td>.110</td>
<td>2.03</td>
<td>88</td>
<td>.045*</td>
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<tr>
<td>I believe that teaching ADHD students could be very rewarding.</td>
<td>90</td>
<td>.0889</td>
<td>1.118</td>
<td>.118</td>
<td>.75</td>
<td>89</td>
<td>.453</td>
</tr>
<tr>
<td>I feel uncomfortable around ADHD people.</td>
<td>91</td>
<td>.3297</td>
<td>1.640</td>
<td>.172</td>
<td>1.92</td>
<td>90</td>
<td>.058</td>
</tr>
<tr>
<td>All of us are ADHD to some degree.</td>
<td>91</td>
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<td>1.510</td>
<td>.158</td>
<td>5.21</td>
<td>90</td>
<td>.000*</td>
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<td>ADHD students take more away from society than they give back.</td>
<td>89</td>
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<td>1.317</td>
<td>.140</td>
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<td>88</td>
<td>1.000</td>
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<td>.0562</td>
<td>1.569</td>
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<td>88</td>
<td>.736</td>
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<td>Having ADHD students in the takes away from the quality of education other students receive.</td>
<td>90</td>
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<td>1.124</td>
<td>.119</td>
<td>1.41</td>
<td>89</td>
<td>.163</td>
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<td>It is acceptable to spend additional funds to make this school assessable to ADHD students.</td>
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<td>1.456</td>
<td>.154</td>
<td>1.09</td>
<td>88</td>
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</table>

* p ≤ .05
TABLE 26
PRE-TEST AND POST-TEST MEANS
FOR ATTITUDES

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>N</th>
<th>Pre-test</th>
<th>Post-test</th>
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<tbody>
<tr>
<td>Classroom environments are enriched by ADHD students.</td>
<td>91</td>
<td>3.7582</td>
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<td>Classroom environments are enriched by ADHD students.</td>
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<td>3.3626</td>
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<td>ADHD students tend to feel sorry for themselves.</td>
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<td>I believe that teaching ADHD students could be very rewarding.</td>
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<td>4.2000</td>
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<td>I feel uncomfortable around ADHD people.</td>
<td>91</td>
<td>4.8462</td>
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<tr>
<td>All of us are ADHD to some degree.</td>
<td>91</td>
<td>4.5714</td>
<td>3.7473</td>
</tr>
<tr>
<td>ADHD students take more away from society than they give back.</td>
<td>89</td>
<td>4.5843</td>
<td>4.5281</td>
</tr>
<tr>
<td>Few ADHD students will succeed in college.</td>
<td>89</td>
<td>4.6292</td>
<td>4.6292</td>
</tr>
<tr>
<td>An ADHD student wanting to pursue a professional degree should be</td>
<td>89</td>
<td>5.2135</td>
<td>5.1573</td>
</tr>
<tr>
<td>discouraged from doing so.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having ADHD students in the takes away from the quality of education</td>
<td>90</td>
<td>4.0000</td>
<td>3.8333</td>
</tr>
<tr>
<td>other students receive.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is acceptable to spend additional funds to make this school</td>
<td>89</td>
<td>4.1236</td>
<td>3.9551</td>
</tr>
<tr>
<td>assessable to ADHD students.</td>
<td></td>
<td></td>
<td></td>
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</table>

* p ≤ .05
<table>
<thead>
<tr>
<th>QUESTION</th>
<th>N</th>
<th>MEAN DIFF.</th>
<th>SD</th>
<th>SE</th>
<th>Ts VALUE</th>
<th>DF</th>
<th>2-TAIL PROB.</th>
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</thead>
<tbody>
<tr>
<td>ADHD students are often seen as irresponsible when, in reality, the problem may be poor organization.</td>
<td>89</td>
<td>-.0899</td>
<td>1.184</td>
<td>.125</td>
<td>-.72</td>
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<td>Impulsivity and poor peer relations are frequent problems.</td>
<td>89</td>
<td>-.3034</td>
<td>1.247</td>
<td>.132</td>
<td>-2.30</td>
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<td>.024*</td>
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<tr>
<td>This school has special programs for ADHD.</td>
<td>88</td>
<td>-.1818</td>
<td>1.594</td>
<td>.170</td>
<td>-1.07</td>
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<td>.288</td>
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<td>Poor academic performance is due to poor study habits.</td>
<td>88</td>
<td>-.3182</td>
<td>1.067</td>
<td>.114</td>
<td>-2.80</td>
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<td>.006*</td>
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<td>I can recognize an ADHD student.</td>
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<td>.980</td>
<td>.104</td>
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<td>.108</td>
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<td>I know when to provide assistance to ADHD students.</td>
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<td>-.1798</td>
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<td>88</td>
<td>.128</td>
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<td>An adapted education program for ADHD students may not eliminate failure.</td>
<td>89</td>
<td>-.0225</td>
<td>1.087</td>
<td>.115</td>
<td>-.20</td>
<td>88</td>
<td>.846</td>
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<td>I know how to offer assistance to ADHD students.</td>
<td>90</td>
<td>-.1667</td>
<td>1.008</td>
<td>.106</td>
<td>-1.57</td>
<td>89</td>
<td>.120</td>
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<td>I know where to refer ADHD students.</td>
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<td>1.449</td>
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<td>-.73</td>
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<td>.469</td>
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<td>ADHD students are protected from discriminatory practices by Federal law.</td>
<td>88</td>
<td>-.1477</td>
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<td>.120</td>
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<td>-.2697</td>
<td>.997</td>
<td>.106</td>
<td>-2.55</td>
<td>88</td>
<td>.012*</td>
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</tbody>
</table>

* $p < .05$
<table>
<thead>
<tr>
<th>QUESTION</th>
<th>MEANS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADHD students are often perceived as irresponsible when, in reality, the problem may be a result of poor organization.</td>
<td>89 4.6292 4.7191</td>
</tr>
<tr>
<td>Impulsivity and poor peer relations are frequent problems faced by ADHD students.</td>
<td>89 4.6854 4.9888</td>
</tr>
<tr>
<td>This school has special programs for ADHD students.</td>
<td>88 2.8750 3.0568</td>
</tr>
<tr>
<td>Poor academic performance of ADHD students is most likely a result of study habits.</td>
<td>88 3.3864 3.7045</td>
</tr>
<tr>
<td>I can recognize an ADHD student.</td>
<td>89 3.9101 4.0787</td>
</tr>
<tr>
<td>I know when to provide assistance to ADHD students in my class.</td>
<td>89 3.7079 3.8876</td>
</tr>
<tr>
<td>An adapted education program for ADHD students may not eliminate academic failure.</td>
<td>89 4.0787 4.1011</td>
</tr>
<tr>
<td>I know how to offer assistance to ADHD students in my class. I know where to refer ADHD students for help at this district.</td>
<td>90 3.5667 3.7333 3.6778 3.7889</td>
</tr>
<tr>
<td>ADHD students are protected from discriminatory educational practices by Federal law.</td>
<td>88 4.4091 4.5568</td>
</tr>
<tr>
<td>ADHD students with poor grades are often disorganized.</td>
<td>89 4.7528 5.0225</td>
</tr>
</tbody>
</table>
Discussion

The results of the study will be presented in association with the Null Hypotheses.

Accessing Attitudes

Null Hypothesis I: There will be no significant difference between teachers attitudes towards ADHD children due to the distribution of information about ADHD children.

Table 25 reveals that of the 11 attitude questions addressed on the survey, a statistically significant difference occurred for only two of the items when comparing the pre-test with the post-test. Thus, this hypothesis was not rejected at the .05 level of statistical significance on nine of the eleven questions.

The first survey item that shows a significant difference between the pre-test and the post-test was item 11. This item states: "ADHD students tend to feel sorry for themselves." The mean of the pre-test was 3.9775 while the mean of the post-test was 3.7528. Since the item was recoded to reflect a positive statement, these data indicate that the treatment had a negative affect on the teachers surveyed. It would appear that after being given information concerning the disability the teachers were more likely to believe that students having ADHD feel sorry for themselves.

Although this question was first listed under the attitude section in the original survey form, after close inspection of the question and the informational facts handed out about the condition, it would appear that perhaps this
might be a "knowledge" question as well. One of the informational sheets used as the treatment in this study stated:

"ADHD children almost always feel inadequate. They do not choose to act the way that they do. They seem to be stuck in a cycle of impulsively, acting out and then defensively defending their actions.

ADHD children often have such poor self-concept of themselves that they often simply view themselves as not being able to conduct themselves correctly." (Appendix B)

If this survey question was looked at as a knowledge question, and if the teachers looked at the fact that ADHD children, "almost always feel inadequate" and that they often have poor self-concepts, the teachers might interpret this as the children feeling sorry for themselves. The teachers may not be indicating a negative feeling towards the students but rather a fact that they have learned from the treatment.

The next survey question to show a significant difference was item 14. This statement read: "All of us are ADHD to some degree." The pre-test showed a mean of 4.5714 while the post-test mean was 3.7473. Again, these items were recoded before they were calculated to reflect a positive statement. This would imply that the teachers believed that we are not all ADHD to some extent.

This item would show that the treatment had a negative affect even if you looked at it as a knowledge question. ADHD is thought to run on a continuum. It would only become a
problem if it were at such a degree that it conflicted with a life activity such as learning. This information was presented on worksheet number three (see Appendix B) where it was stated, "The degree ADHD runs on a continuum. You can be a little ADHD. Many of us may be said to be ADHD. It doesn't become a problem until it interferes with life functions."

Taken in its original context as an attitude question, it would also appear that the treatment had a negative impact on the teachers ability to relate and understand the nature of the disability.

Item nine states, "It is unfair to spend more money educating ADHD students than other students". Table 26 reveals a pre-test mean of 3.7582 and a post-test mean of 3.6593. If a score of 3.5 is used as the separation between positive and negative attitudes, then the attitudes towards spending more money on ADHD children fall in the low but positive area on both the pre-test and the post-test. Since this item was recoded to reflect a positive statement, these data indicate that the teachers had a more positive attitude towards spending additional money on ADHD children before the treatment. The change in attitude was not statistically significant. The null hypothesis was not rejected.

Item ten states, "Classroom environments are enriched by the presence of ADHD students." Table 26 reveals a pre-test mean of 3.1429 and a post-test mean of 3.3626. If a score of 3.5 is used as the separation between positive and negative attitudes, then the attitudes of teachers towards ADHD
children enriching their classroom would be more negative. The scores reveal that the teachers did show a more positive attitude towards ADHD children enriching their classrooms after the treatment, however, the change in attitude was not statistically significant. The null hypothesis was not rejected.

Item 12 states, "I believe that teaching ADHD students could be very rewarding." Table 26 reveals a pre-test mean of 4.2889 and a post-test mean of 4.2000. This indicates that the teachers had a positive attitude on both the pre-test and the post-test. These scores suggest that the teachers had a slightly better attitude before the treatment was applied; however, this change in attitude was not statistically significant. The null hypothesis was not rejected.

Item 13 states, "I feel uncomfortable around ADHD people." Table 26 reveals a pre-test mean of 4.8462, and a post-test mean of 4.5165. This indicates that the teachers had a positive attitude on both the pre-test and the post-test. Since this item was recoded to reflect a positive statement, these data indicate that the teachers had a more positive attitude towards feeling comfortable around ADHD children before the treatment. This change in attitude was not statistically significant. The null hypothesis was not rejected.

Item 15 states, "ADHD students take more away from society than they give back." Table 26 reveals a pre-test mean of 4.5843 and a post-test mean of 4.528. This item was
recoded to reflect a positive statement so this would indicate that the teachers had a positive attitude towards ADHD in our society on both the pre-test and the post-test. These data imply that the teachers had a more positive attitude before the treatment; however, there was no statistically significant difference. The null hypothesis was not rejected.

Item 16 states, "Few ADHD students will succeed in college." Table 26 reveals a pre-test mean of 4.6292 and a post-test mean of 4.6292. This item was recoded to reflect a positive statement so this would indicate that the teachers had a positive attitude towards ADHD children succeeding in college. These data suggest that the treatment had no effect at all on the teachers' attitudes towards ADHD children succeeding in college. The null hypothesis was not rejected.

Item 17 states, "An ADHD student wanting to pursue a professional degree should be discouraged from doing so." Table 26 reveals a pre-test mean of 5.2135 and a post-test mean of 5.1573. This item was recoded to reflect a positive statement. This would indicate that the teachers had a positive attitude towards ADHD children pursuing a professional degree on both the pre-test and the post-test. These data imply that the teachers had a more positive attitude before the treatment, however, there was no statistically significant difference. The null hypothesis was not rejected.

Item 18 states, "Having ADHD students in the classroom takes away from the quality of education other students
receive." Table 26 reveals a pre-test mean of 4.0000 and a post-test mean of 3.8333. This item was recoded to reflect a positive statement so this would indicate that the teachers had a positive attitude about ADHD students in their classrooms on both the pre-test and the post-test. These data imply that the teachers had a more positive attitude before the treatment; however, there was no statistically significant difference. The null hypothesis was not rejected.

Item 19 states, "It is acceptable to spend additional funds to make this school assessable to ADHD students." Table 26 reveals a pre-test mean of 4.1236 and a post-test mean of 3.9551. This would indicate that the teachers had a positive attitude towards spending additional funds to make their schools more assessable to ADHD children on both the pre-test and the post-test. These data imply that the teachers had a more positive attitude before the treatment; however, there was no statistically significant difference. The null hypothesis was not rejected.

Accessing Knowledge

Null Hypothesis II: There will be no significant difference between teachers’ knowledge of ADHD children due to the distribution of information about ADHD children.

Table 28 reveals that of the 11 knowledge questions addressed on the survey, a statistical significant difference occurred for only three of the items when comparing the pre-test with the post-test. Thus, this hypotheses was not rejected at the .05 level of statistical significance on eight
of the eleven questions. The knowledge items that were found to be significantly different after the treatment were items 21, 23 and 30.

The first item to show a significant difference after the treatment was item 21 which read, "Impulsivity and poor peer relations are frequent problems faced by ADHD students". The mean of the pre-test was 4.6854 and the post-test showed a mean of 4.9888. These data indicate a positive growth in knowledge after the treatment. The null hypothesis was rejected.

The second item to show a significant difference was item 23. This item read, "Poor academic performance of ADHD students is most likely the result of study habits." The pre-test showed a mean of 3.3864 and the post-test had a mean of 3.7045. This indicated a positive growth in knowledge.

Item 30 had a mean of 4.7528 on the pre-test and 5.0225 on the post-test, revealing a positive statistical significant growth at the .05 level. This item states, "ADHD students with poor grades are often disorganized; have difficulty completing work." This statement supports several items on the information sheets used as the treatment, indicating that the information sheets may have had a positive impact.

Item 20 states, "ADHD students are often perceived as irresponsible when, in reality, the problem may be a result of poor organization." Table 28 reveals a pre-test mean of 4.6292 and a post-test mean of 4.7191. The teachers' understanding of this information did improve after the
treatment but the data did not show a statistically significant change. The null hypothesis was not rejected.

Item 22 states, "This school has special programs for ADHD students." Table 28 reveals a pre-test mean of 2.8750 and a post-test mean of 3.0568. The teachers' understanding of this information did improve after the treatment but the data did not show a statistically significant change. The null hypothesis was not rejected.

Item 24 states, "I can recognize an ADHD student." Table 28 reveals a pre-test mean of 3.9101 and a post-test mean of 4.0787. The teachers' understanding of this information did improve after the treatment but the data did not show a statistically significant change. The null hypothesis was not rejected.

Item 25 states, "I know when to provide assistance to ADHD students in my class." Table 28 reveals a pre-test mean of 3.7079 and a post-test mean of 3.8876. The teachers' understanding of this information did improve after the treatment but the data did not show a statistically significant change. The null hypothesis was not rejected.

Item 26 states, "An adapted education program for ADHD students may not eliminate academic failure." Table 28 reveals a pre-test mean of 4.0787 and a post-test mean of 4.1011. The teachers' understanding of this information did improve after the treatment but the data did not show a statistically significant change. The null hypothesis was not rejected.
Item 27 states, "I know how to offer assistance for ADHD students in my class." Table 28 reveals a pre-test mean of 3.5667 and a post-test mean of 3.7333. The teachers' understanding of this information did improve after the treatment but the data did not show a statistically significant change. The null hypothesis was not rejected.

Item 28 states, "I know where to refer ADHD students for help at this school district." Table 28 reveals a pre-test mean of 3.6778 and a post-test mean of 3.7889. The teachers' understanding of this information did improve after the treatment but the data did not show a statistically significant change. The null hypothesis was not rejected.

Item 29 states, "ADHD students are protected from discriminatory educational practices by Federal law." The null hypothesis was not rejected. Table 28 reveals a pre-test mean of 4.4092 and a post-test mean of 4.5568. The teachers' understanding of this information did improve after the treatment but the data did not show a statistically significant change. The null hypothesis was not rejected.
CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This study was undertaken to determine if brief but essential facts, delivered to teachers in written form in their school mailboxes, would have a positive impact on the teachers' knowledge and attitude towards ADHD children.

The study was conducted in three rural public school districts in Lapeer County. Responses to a survey, revised from a survey designed to measure attitudes and knowledge of college personnel towards learning disabled students, were used to determine if a positive impact was achieved. The survey questions were divided into two basic sections with eleven questions dealing with teachers' attitudes towards ADHD students and eleven dealing with teachers' knowledge of ADHD.

The survey was first given as a pre-test. Thirteen information sheets were then put into the teachers boxes at the rate of one per day. The post-test was administered two days after the last information sheet was distributed. Ninety one of the one hundred and seventy teachers completed both the pre-test and the post-test.

Conclusions

There was a significant difference for only five of the 22 items after the treatment was given. The survey, it would first appear, had a negative effect on two of the items listed on the attitude portion of the survey. Although the survey instrument was valid, the treatment may have lead the teachers to misinterpret the questions.
The treatment seemed to work somewhat better in improving teachers' knowledge of ADHD. On this portion there was a positive significant difference on three items on the survey. These items were: a) "Impulsivity and poor peer relations are frequent problems faced by ADHD students;" b) "Poor academic performance of ADHD students is most likely a result of study habits;" and c) "ADHD students with poor grades are often disorganized." Since the information sheets directly addressed these items and there was no other observable interventions during the time between the pre-test and post-test, it may be assumed that the information provided the teachers did make a positive impact.

This study brings up several more questions. Since the study seemed to have more of an impact on the knowledge portion than on the attitude portion, perhaps this type of intervention is better suited to delivering factual information and less successful in changing attitudes.

Since this study only seemed to have a positive impact on three of the knowledge items, perhaps this type of intervention is not suited for busy teachers. When the post-test was distributed, several teachers voiced a concern that they did not have the time to read the information sheets. Several teachers claimed that they had collected and were saving the information sheets to read when they had more time. Other teachers questioned whether they should complete the post-test because they did not read all of the information sheets. Since this research was conducted to study the
feasibility of using this type of staff development to impact teachers, the teachers were told to complete the post-test even if they did not have time to read all of the material. One of the basic assumptions in this study was that the teachers would have access to mailboxes and that they would have the time to read the information sheets. Evidently, this assumption was incorrect.

Another question that needs to be answered is that of the style in which the information was presented. It was presented on colored paper to catch the teachers’ attention, but the sheets were basically plain, typed written, and did not provide an interesting design or format that might further stimulate the teachers’ attention and interest. Perhaps if the information sheets were more appealing, the teachers would have read them more carefully.

**Recommendations**

1. Compare the effectiveness of different styles of written information. More interesting presentations might encourage the teachers to read the information more carefully.

   The use of humor or cartoons might make the information more entertaining and thus more appealing to the teachers.

2. Examine the impact on a similar test by using, as variables, the teachers who were actually able to read the treatment material and the teachers who did not have time to read the treatment material. Some surveys were taken by teachers who did not have the time to read the material. More research on teachers’ time is necessary.
3. Compare the impact of a similar study when the teachers have an investment in the outcome. If, for example, a school was cited for not following the Section 504 rules for ADHD, the teachers might be more careful in reading the material.

4. A similar study could be done during a different time of year. This study was conducted in September. Perhaps it would have been more successful during a different time of year when the teachers might have more time.

5. It might prove beneficial to deliver the same information to another group, in a group setting where the information is presented orally and where there could be a question and answer session.
APPENDICES
APPENDIX A

SURVEY
STAFF SURVEY

Demographic Information

PLEASE CIRCLE THE APPROPRIATE RESPONSE:

1. Sex:  Male  Female

2. Years of Teaching Experience:  <5  5-10  11-15  16-20  21-25  >25

3. Education Level:  BA  BA+15  MA  MA+15  MA+30  Doctorate

4. Teaching Level:  PS  DK  K  1  2  3  4  5  6  7  8  9  10  11  12

5. I am familiar with Attention Deficit Hyperactivity Disorder:  Yes  No

6. I have taught students I suspect had ADHD:  Yes  No

7. I have taught a diagnosed ADHD student in the past:  Yes  No

8. I teach at:  Almont Elementary  Dryden Elementary  I.C. Weston School  Imlay City Middle School  Almont H.S.  Dryden H.S.  I.C. Borland School  I.C. High School

SURVEY ITEMS

PLEASE READ THE FOLLOWING STATEMENTS AND CIRCLE THE RESPONSE THAT REFLECTS YOUR OPINION. PLEASE COMPLETE EACH SURVEY QUESTION.

1 = Strongly Agree
2 = Agree
3 = Tend to Agree
4 = Tend to Disagree
5 = Disagree
6 = Strongly Disagree

9. It is unfair to spend more money educating ADHD students than other students.

10. Classroom environments are enriched by the presence of ADHD students.

11. ADHD students tend to feel sorry for themselves.

12. I believe that teaching ADHD students could be very rewarding.
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>13.</td>
<td>I feel uncomfortable around ADHD people.</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>14.</td>
<td>All of us are ADHD to some degree.</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>15.</td>
<td>ADHD students take more away from society than they give back.</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>16.</td>
<td>Few ADHD students will succeed in college.</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>17.</td>
<td>An ADHD student wanting to pursue a professional degree should be discouraged from doing so.</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>18.</td>
<td>Having ADHD students in the classroom takes away from the quality of education other students receive.</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>19.</td>
<td>It is acceptable to spend additional funds to make this school assessable to ADHD students.</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>20.</td>
<td>ADHD students are often perceived as irresponsible when, in reality, the problem may be a result of poor organization.</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>21.</td>
<td>Impulsivity and poor peer relations are frequent problems faced by ADHD students.</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>22.</td>
<td>This school has special programs for ADHD students.</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>23.</td>
<td>Poor academic performance of ADHD students is most likely a result of study habits.</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>24.</td>
<td>I can recognize an ADHD student.</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>25.</td>
<td>I know when to provide assistance to ADHD students in my class.</td>
<td>1 2 3 4 5 6</td>
</tr>
</tbody>
</table>
26. An adapted education program for ADHD students may not eliminate academic failure.

27. I know how to offer assistance to ADHD students in my class.

28. I know where to refer ADHD students for help at this district.

29. ADHD students are protected from discriminatory educational practices by Federal law.

30. ADHD students with poor grades are often disorganized; have difficulty completing work.
APPENDIX B

INFORMATION SHEETS
ATTENTION DEFICIT/HYPERACTIVITY DISORDER

Information sheet # 1

QUESTION 1: What name was ADHD formerly known by?
A. Defect in Moral Control
B. Restlessness Syndrome
C. Post-Encephalilitic Behavior Disorder
D. Minimal Brain Dysfunction
E. Hyperkineticy
F. Attention Deficit Disorder

ANSWER: All of the above

QUESTION 2: Do ADHD children qualify for Special Education?
ANSWER: ADHD children do NOT qualify for Special Education under the State’s Special Education Regulations. Many ADHD children have coexisting disabilities such as learning disabilities or emotional impairments which would qualify them for special education. Section 504 of the Rehabilitation Act of 1973 (a Federal Law) does include ADHD as a "handicap" and thus requires schools to provide special provisions for these children.

QUESTION 3: What does current research suggest as a cause of ADHD?
A. A brain disorder which causes too little dopamine and noradrenaline to be produced. These are brain chemicals which normally control behavior, learning and expression of emotions.
B. A genetic thyroid disorder which causes a resistance to thyroid hormone.

ANSWER: Both A and B. ADHD is thought to be a biological in nature. There is a strong genetic component since it often runs in families.

QUESTION 4: To what do most researchers attribute conduct disorders in ADHD children?
A. Impulsiveness associated with the ADHD syndrome
B. Low frustration tolerance associated with the syndrome.
C. Accumulated frustration from a history of failure.
D. Low self-esteem, resulting in long-term psychopathology
E. Mood swings resulting from the syndrome.

ANSWER: All of the above.

QUESTION 5: Does good parenting prevent the incidence of ADHD?
ANSWER: ADHD is thought to be biological in nature. Research shows that parenting skills does little to halt the onset of the condition. Many ADHD children come from chaotic homes. Since there is evidence of a genetic connection, these homes may be the result of other family members having the condition and not the cause of the child’s ADHD.
ATTENTION DEFICIT/HYPERACTIVITY DISORDER

Information Sheet #2

CHARACTERISTICS

1. **Inattention and poor concentration**, resulting in poor school performance and chronic academic underachievement.

2. Motor restlessness and **overactivity**.

3. Social **immaturity** interfering with peer relations.

4. Inability to sustain goal oriented performance. (These children require immediate reinforcement. The reward of a good report card in the distant future means little to them).

5. **Impulsivity** leading to acting out in school.

6. Chronic poor self-esteem due to cumulative history of failure, sometimes leading to depression or delinquency.

7. High incidence of **conduct problems** and aggressive behavior.

8. High incidence of learning disabilities

9. **Low frustration** tolerance.

10. ADHD is present in all intellectual levels.
ATTENTION DEFICIT/HYPERACTIVITY DISORDER

Information Sheet #3

1. FACT - 3 to 5% of school age children are ADHD

2. FACT - Diagnosis of ADHD can be difficult. ADHD children display an inappropriate degree of:
   A. Inattention
   B. Overactivity
   C. Impulsivity

3. FACT - ADHD may often coexist with other disorders such as learning disabilities, conduct disorders and emotional impairments.

4. FACT - The degree ADHD runs on a continuum. You can be "a little" ADHD. Many of us may be said to be ADHD. It doesn't become a problem until it interferes with life functions.

5. FACT - The School environment is difficult for an ADHD child.

6. FACT - ADHD is a developmental disorder. Children often outgrow the symptoms of this disorder at puberty but recent studies discovered that many ADHD children outgrow the symptoms much later in life (some never outgrow them.)

7. FACT - Common statements made about ADHD children by parents and teachers:
   (Attention)
   - He doesn't seem to listen to the assignment.
   - I ask her to do something and she does something else
   - He just doesn't seem to be on the right page at times.
   - Is he marching to a different drummer?
   - She never seems to be able to do her work unless I am right there to help her focus.
   (Hyperactivity)
   - He just can't sit still.
   - He tapped his pencil throughout the lesson.
   - She is constantly moving about the classroom.

8. FACT - ADHD children can focus on activities when there is a high degree of intrinsic stimulation.

9. FACT - Impulsivity tends to cause the school personnel the greatest degree of difficulty due to the fact that the student does not appear to pick
up on well-established school rules. The student knows the rules. His impulsivity causes him to break them and his frustration often causes him to behave badly when reprimanded.

10. FACT - ADHD children, "tend to be consistently inconsistent." At times they appear to show the appropriate responses but these times come and go and do not remain constant without appropriate interventions.
ATTENTION DEFICIT/HYPERACTIVITY DISORDER

Information Sheet # 4

MANY STUDENTS WITH ADHD HAVE DIFFICULTY CONTROLLING THEIR BEHAVIOR AND WILL ACT ON THEIR WANTS AND DESIRES IN AN IMMEDIATE GRATIFICATION METHOD.

THESE STUDENTS WILL IMPULSIVELY ATTEMPT TO ENGAGE IN A VARIETY OF ACTIVITIES (MOTOR ACTIVITY BEING ONE OF THESE) TO INCREASE THE LEVEL OF STIMULATION TO A DESIRABLE LEVEL.

"A GENERIC PROGRAM FOR ALL STUDENTS WITH ADHD WILL NOT BE SUCCESSFUL IF THE SCHOOL STAFF DOES NOT CONSIDER THIS WIDE VARIATION IN NEEDS AND INDIVIDUAL DIFFERENCES IN EACH STUDENT IDENTIFIED AS HAVING ADHD."

from Michigan Depart. of Ed. ADHD Task Force 1993
ATTENTION DEFICIT/HYPERACTIVITY DISORDER

Information sheet # 5

QUESTION 1: What happens to ADHD children when they grow up?

A. Approximately 2/3 of ADHD children grow out of the syndrome. Low self-esteem and continued failure in childhood often affects their success in adulthood.

B. Approximately 1/3 of ADHD children continue to have the syndrome past their early 20s. These people often require medication such as ritalin into adulthood.

C. Of the 1/3 of the ADHD children who do not outgrow the syndrome, a large number have conduct disorders.

ANSWER: All of the above. Research results varies on the number of ADHD children who outgrow the disorder. Between 1/3 to 2/3 ADHD children will outgrow the symptoms. Between 1/3 to 2/3 will continue to display the symptoms after adolescence. Since a large number of individuals do outgrow this disorder, it is important that we understand these children in order to help them cope with their disability.

QUESTION 2: Should ADHD children pursue a college education?

ANSWER: ADHD children come in all intellectual levels. The public school setting is not an easy place for them to function. If they can learn to function successfully and if they do have the intellectual capabilities, ADHD children should be encouraged to seek higher education. ADHD people are as different from one another as any other other group of people. They must be looked at individually.

QUESTION 3: What is the difference between ADHD and UADD?

ANSWER: UADD (formally known as ADD without Hyperactivity) is a different type of attention deficit. It involves difficulty in focusing attention and with cognitive processing speed, rather than sustained attention and impulse control. Cognitively, children with UADD appear more sluggish in responding to tasks; often have their awareness focused on internal events rather than external demands; and are typically slower in completing pencil and paper tasks. They also have considerably greater inconsistency in memory recall particularly on verbal tasks. They are viewed as "daydreamy, confused or lost in thought, apathetic or unmotivated and at times slow moving. Medication does help some of these children although it is not as effective as with ADHD children. UADD children often
go unnoticed by school staff because they are less disruptive than ADHD children.

QUESTION 4: Is Ritalin the only medication proven successful with ADHD children.

ANSWER: Methyphenidate (Ritalin) is the drug of choice because it has the fewest side effects and is short acting. When Ritalin does not improve the symptoms of ADHD other drugs are often tried. The second line of drugs begins with dextroamphetamine (Dexedrine), desipramine (Norpramin) and pemoline (Cylert).
ATTENTION DEFICIT/HYPERACTIVITY DISORDER

Information Sheet #6

QUESTION: Is 504 a Special Education Law?

ANSWER: NO. Section 504 of the Rehabilitation Act of 1973 is a civil rights statute that prohibits discrimination on the basis of a handicap. It requires districts to evaluate students who, because of a disability, need special education or related services, including regular education adaptations. The law requires a "free and appropriate education" (FAPE) to these individuals. An appropriate education for an ADHD child may differ in several aspects to a child who does not have ADHD.

QUESTION: What happens to a school district if it does not provide a "free and appropriate education" for ADHD children?

ANSWER: The school district that does not provide special services or classroom adaptations required under 504 could lose Federal financial assistance.

QUESTION: What are the general differences between 504 and the Individuals with Disabilities Education Act (our special ed. rules)?

ANSWER: The Special Education Rules and Regulations are very specific while 504 regulations are much more general. There are students who will not qualify for Special Education under the Special Education Rules and Regulations but will qualify as "handicapped" under Section 504. "Michigan mandatory special education rules are quite specific in terms of time lines for evaluation, evaluation criteria, and procedural safeguards, Section 504 regulations are very general in nature and allow a great deal of latitude to school districts to develop their own procedures and policies for implementing Section 504 within the broad parameters set out by Section 504." ADHD Task Force Report, Michigan Department of Education p. 16

QUESTION: When do we need an evaluation under Section 504?

ANSWER: Section 504 requires that a school district conduct an evaluation when any student, because of his/her handicap, is believed to need regular education accommodations, special education or related services.
QUESTION: Who sets up the criteria for the evaluation?

ANSWER: The school district sets up the criteria. There are no rules as to who conducts an evaluation other than a generalized statement that tests and other evaluation material must be administered by trained personnel in conformance with the instructions provided by their producer.

QUESTION: Who is responsible for enforcing Section 504?

ANSWER: The Office of Civil Rights (OCR)

QUESTION: When a doctor medically diagnoses ADHD, does the child then qualify for special education services?

ANSWER: No, a medical diagnosis does not guarantee eligibility under either the special education laws or Section 504. Doctors are often unaware that it takes a multisource team to make that evaluation. However, it is possible to determine eligibility of a child suspected of having ADHD without conducting a medical evaluation.

QUESTION: How does a teacher provide help for ADHD children who exhibit traits associated with learning disabilities or emotional impairments?

ANSWER: Refer the child to the Special Education Department for testing.

QUESTION: How does a teacher provide help for ADHD children who do NOT exhibit traits associated with learning disabilities or emotional impairments?

ANSWER: Contact the building principal to refer the child to the 504 Committee. The teacher should take an active role in this committee.
ATTENTION DEFICIT/HYPERACTIVITY DISORDER

Information Sheet #7

REGULAR EDUCATION ACCOMMODATIONS
CONTEMPLATED UNDER SECTION 504

Examples of adaptations in regular education programs could include the following:

Providing a structured learning environment;

repeating and simplifying instructions about in-class and homework assignment;

supplementing verbal instructions with visual instructions;

using behavioral management techniques;

adjusting class schedules;

modifying test delivery, using tape recorders, computer-aided instruction, and other audio-visual equipment;

selecting modified textbooks or workbooks; and tailoring homework assignments.

Other provisions range from consultation to special resources and may include reducing class size; use of one-on-one tutorial and; classroom aides and note takers.

from the Michigan Dept. of Ed. Task Force on ADHD
ATTENTION DEFICIT/HYPERACTIVITY DISORDER

Information Sheet #8

ASSESSMENT OF ADHD

Such assessment components may include, but are not required:

Parent Interview
Teacher Interview
Student Interview
Review of School Records
Parent Questionnaire and Rating Scales
Teacher Questionnaire and Rating Scales
Direct observation of Behavior Across Settings
Collection of Academic Classroom Performance Data
Psychoeducational Assessment
Previous Psychoeducational Assessment Data
Physical/Medical Examination

TEAM MEMBERS:
Such members may include, but not limited to:

Parents
Student
Teacher(s)
Psychologist
Social Worker
Physician

Diagnosis Based On:
Diagnostic and Statistical Manual III-Revised

314.01 Attention Deficit Hyperactivity Disorder

- Disturbance of at least 6 months duration
- Demonstration of at least 8 of 14 behavioral characteristics
- Significant behavioral characteristics when compared to peer of same mental age
- Onset before the age of 7

314.00 Undifferentiated Attention Deficit Disorder

- Persistence of developmentally inappropriate and marked inattention
ATTENTION DEFICIT/HYPERACTIVITY DISORDER

Information Sheet #9

WHAT CAN WE DO?

WEISS AND HECHTMAN (1986) FOUND THAT WHEN ADULTS WHO WERE
HYPERACTIVE AS CHILDREN REASSESSED THEIR SCHOOL
EXPERIENCES, MANY REPORTED THAT A TEACHER'S CARING
ATTITUDE, ENCOURAGEMENT, EXTRA ATTENTION, AND GUIDANCE
WERE "TURNING POINTS" FOR THEM.

... THE STUDENT WITH ADHD DOES NOT CHOOSE TO
HAVE DIFFICULT BEHAVIOR OR LEARNING AND
PERFORMANCE PROBLEMS.
THEY ARE PART AND PARCEL OF THE DISORDER AND
REQUIRE UNDERSTANDING AND EFFECTIVE MANAGEMENT.

Michigan Dept. of Ed. Task Force on
ADHD
ENVIRONMENTAL MODIFICATIONS WHICH MIGHT HELP ADHD CHILDREN IN THE CLASSROOM:

1. Avoid assigning student to an "open classroom" setting.
2. Seat the student where most visual distractions are behind the student.
3. Seat the student away from auditory distractions such as heaters, air conditioners.
4. Seat near the teacher and appropriate role models but keep the child as part of the group.
5. Surround by model students.
6. Create a structured environment with predictable routines.
7. Post class rules in prominent place.
8. Prepare a stimuli-reduced area that all students may use.
9. Seat at individual desks instead of tables.
ATTENTION DEFICIT/HYPERACTIVITY DISORDER

Information Sheet #11

EDUCATIONAL/BEHAVIORAL INTERVENTIONS AND STRATEGIES

1. Assign student to structured but flexible teachers.
2. Hand schedule at the secondary level.
3. Seek a good fit between the student's learning style and the teacher's teaching style.
4. Schedule more demanding classes earlier in the day.
5. Alternate lessons or classes that require greater auditory attention with those that are more visual or active.
6. Use an interactive teaching approach; introduce information through auditory, visual and tactile sensory modalities.
7. Use teaching techniques that involve active student participation as opposed to passive listening.
8. Shorten assignments (reduce rote writing).
9. Accept a reasonable limit to the amount of time the student will spend each night on homework.
10. Break down lessons into several short segments.
11. Provide student with outlines.
13. Ask student to repeat instructions before beginning assignments.
14. Show organization is important by modeling it.
15. Allow student 5 minutes at the end of each class to organize books, papers, etc., before beginning the next class.
16. Give student extra set of books if he/she has difficulty getting them between home and school for homework.
17. Color code student material or use other techniques to help to keep the student organized.
18. Use daily or weekly assignment sheets.
19. Use calendar to plan long-term assignments.
20. Notify parents immediately at the first sign of missing assignments.
21. Give student weekly progress reports.
22. Allow oral and/or untimed tests.
23. Give more "wait time" - the amount of time you wait for answers.
24. Permit breaks during tests.
25. When impulsivity on multiple choice tests means the student will not read all choices, have the student eliminate all incorrect responses, rather than choose one correct answer.
26. Allow student to take test in less distractible environments.
27. Assign a "study buddy."
28. Be generous with the use of positive feedback and encouragement.
29. Give the student frequent feedback.
30. Make necessary adjustments in a way that does not draw negative attention to the student.
31. Develop discreet cues between teacher and student to let him/her know when he/she is off task.
32. Provide social skills training.
33. Provide conflict resolution training.
34. Have a more organized student take notes on carbon paper or duplicate their notes.
35. Develop a reward system for work completion. Focus on quality.
ADHD children almost always feel inadequate. They do not choose to act the way that they do. They seem to be stuck in a cycle of impulsively acting out and then defensively defending their actions.

ADHD children often have such poor self-concept of themselves that they often simply view themselves as not being able to conduct themselves correctly. In a major study ADHD boys accepted all of the blame for their improper behavior but gave the credit for their proper behavior to the pharmaceutical treatment they were under.

Children with ADHD often appear irresponsible, neglecting their assignments and losing their assignments. These actions are often the result poor organizational skills stemming from their impulsive and inattentive behavior.

Adults who were once diagnosed as ADHD children report that teacher caring, attitude, encouragement, extra attention and guidance were "turning points" in their lives.
ATTENTION DEFICIT/HYPERACTIVITY DISORDER

Information Sheet #13

CLASSROOM TECHNIQUES FOR ADHD CHILDREN

1. A class should have few disruptions and a limited number of physical relocations.
2. The day must show a high level of consistency.
3. Although all time limits should not be eliminated, ADHD children should be given extra time to complete their lessons.
4. The length of their assignments should be shortened.
5. Classroom rules and rules for social interaction should be reviewed with the entire class frequently.
6. Appropriate and consistent reinforcers should be used.
7. The teacher should group the ADHD child with good role models when assigning groups.

(Erickson 1992)

HOW TO CHANNEL ACTIVITY INTO STRUCTURED FORMS

1. Give activity reward (errand, clean board, etc.).
2. Encourage sports of any type.
3. Allow directed movement in classroom that is not disruptive (e.g. sharpen pencils for teacher, give 2 seats so the child can change placement).
4. Encourage notetaking.

FOR INABILITY TO WAIT

1. Instruct the child on how to continue on easier parts of tasks (or do substitute task) while waiting for the teacher’s help.
2. For more immature children, encourage doodling or play with clay, paper-clips, pipe cleaners etc, while waiting or listening.
3. Have children underline directions or relevant information.

FOR FAILURE TO SUSTAIN ATTENTION TO ROUTINE TASKS AND ACTIVITIES

1. Give enrichment activities for children on topics of their interest.
2. Teacher travel (walk) around the classroom at frequent intervals.
3. Use fewer words in explaining tasks (concise and global verbal directions).
4. Give fewer homework assignments.
5. Give shorter homework assignments.
6. Give two task with a preferred activity to be completed after the less preferred task.
7. Give fewer spelling words and fewer math problems.
8. Alternate low and high interest tasks, so that the child can look forward to high interest tasks.
9. Use overhead projector when lecturing.
10. Allow child to sit closer to the teacher.
11. Modify tests: read tests or have the test tape recorder for the ADHD student.
12. Color, circle or underline the test directions.
13. Prompt the child for verbal directions by calling his/her name, touching the child, or by moving closer to the child.

FOR DISRUPTION AND NOISE
1. Give the class and individuals three possible strikes at which time the whole class will have to do something less pleasant.
2. Use whole class rewards (trips, free time for low noise levels).
APPENDIX C

ADMINISTRATIVE RULES
Rule 13.(1) "Specific learning disability" means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, of emotional disturbance, of autism, or of environmental, cultural, or economic disadvantage.

(2) The individualized educational planning committee may determine that a child has a specific learning disability if the child does not achieve commensurate with his or her age and ability levels in one or more of the areas listed in this subrule, when provided with learning experiences appropriate for the child’s age and ability levels, and if the multidisciplinary evaluation team finds that a child has a severe discrepancy between achievement and intellectual ability in one or more of the following areas:

(a) Oral expression.
(b) Listening comprehension.
(c) Written expression.
(d) Basic reading skill.
(e) Reading comprehension.
(f) Mathematics calculation.
(g) Mathematics reasoning.

(3) The individualized educational planning committee shall not identify a child as having a specific learning disability if the severe discrepancy between ability and achievement is primarily the result of any of the following:

(a) A visual, hearing, or motor handicap.
(b) Mental retardation.
(c) Emotional disturbance.
(d) Autism.
(e) Environmental, cultural, or economic disadvantage.

(4) A determination of impairment shall be based upon a comprehensive evaluation by a multidisciplinary evaluation team, which shall include at least both of the following:

(a) The child’s regular teacher or, if the child does not have a regular teacher, a regular classroom teacher qualified to teach a child of his or her age, or, for a child of less than school age, an individual qualified by the state educational agency to teach a child of his or her age.

(b) At least 1 person qualified to conduct individual diagnostic examinations of children, such as a school
psychologist, a teacher of speech and language impaired, or a teacher consultant.

R 340.1706 Determination of emotionally impaired.

Rule 6.(1) The emotionally impaired shall be determined through manifestation of behavioral problems primarily in the affective domain, over an extended period of time, which adversely affect the persons' education to the extent that the person cannot profit from regular learning experiences without special education support. The problems result in behaviors manifested by 1 or more of the following characteristics:

(a) Inability to build or maintain satisfactory interpersonal relationships within the school environment.
(b) Inappropriate types of behavior or feelings under normal circumstances.
(c) General pervasive mood of unhappiness or depression.
(d) Tendency to develop physical symptoms or fears associated with personal or school problems.

(2) The term "emotionally impaired" also includes persons who, in addition to the above characteristics, exhibit maladaptive behaviors related to schizophrenia or similar disorders. The term "emotionally impaired" does not include persons who are socially maladjusted, unless it is determined that such persons are emotionally impaired.

(3) The emotionally impaired shall not include persons whose behaviors are primarily the result of intellectual, sensory, or health factors.

(4) A determination of impairment shall be based on data provided by a multidisciplinary team, which shall include a comprehensive evaluation by both of the following:

(a) A psychologist or psychiatrist.
(b) A school social worker.

(5) A determination of impairment shall not be based solely on behaviors relating to environmental, cultural, or economic differences.

R 340.1709 Determination of physically and otherwise health impaired.

Rule 9.(1) The physically and otherwise health impaired shall be determined through the manifestation of a physical or other health impairment which adversely affects educational performance and which may require physical adaptations within the school environment.

(2) Determination of impairment shall be based upon a
comprehensive evaluation by a multidisciplinary evaluation team, which shall include 1 of the following:
(a) An orthopedic surgeon.
(b) An internist.
(c) A neurologist.
(d) A pediatrician.
(e) Any other approved physician as defined in Act No. 368 of the Public Acts of 1978, as amended, being SS. 333.1101 et seq. of the Michigan Compiled Laws.

(3) A determination of impairment shall not be based solely on behaviors relating to environmental, cultural, or economic differences.
PART 104—NONDISCRIMINATION ON THE BASIS OF HANDICAP IN PROGRAMS AND ACTIVITIES RECEIVING OR BENEFITING FROM FEDERAL FINANCIAL ASSISTANCE

Subpart A—General Provisions

Sec.

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104.2 Application.
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104.7 Designation of responsible employee and adoption of grievance procedures.
104.8 Notices.
104.9 Administrative requirements for small recipients.
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104.32 Existing facilities.
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104.61 Procedures.
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Appendix A—Analysis of Fiscal Regulation.
Appendix B—Guidelines for eliminating discrimination and denial of services on the basis of race, color, national origin, sex, and handicap in vocational education programs.


Subpart A—General Provisions

§ 104.1 Purpose.

The purpose of this part is to effectuate section 504 of the Rehabilitation Act of 1973, which is designed to eliminate discrimination on the basis of handicap in any program or activity receiving Federal financial assistance.

§ 104.2 Application.

This part applies to each recipient of Federal financial assistance from the Department of Education and to each program or activity that receives or benefits from such assistance.

§ 104.3 Definitions.

As used in this part:
(b) "Section 504" means section 504 of the Act.
(d) "Department" means the Department of Education.

"Assistant Secretary" means the Assistant Secretary for Civil Rights of the Department of Education.

(i) "Recipient" means any state or its political subdivision, any instrumentality of a state or its political subdivision, any public or private agency, institution, organization, or other entity, or any person to which Federal financial assistance is extended directly or through another recipient, including any successor, assignee, or transferee of a recipient, but excluding the ultimate beneficiary of the assistance.

(a) "Applicant for assistance" means one who submits a application, request, or plan, required to be approved by a Department official or by a recipient as a condition to becoming a recipient.

(b) "Federal financial assistance" means any grant, loan, contract (other than a procurement contract or a contract of insurance or guaranty), or any other arrangement by which the Department provides or otherwise makes available assistance in the form of:

(1) Funds;
(2) Services of Federal personnel or
(3) Real and personal property or any interest in or use of such property, including:

(i) Transfers or leases of such property for less than fair market value for reduced consideration; and
(ii) Proceeds from a subsequent transfer or lease of such property if the Federal share of its fair market value is not returned to the Federal Government.

(i) "Facility" means all or any portion of buildings, structures, equipment, roads, sidewalks, parking lots, or other real or personal property or interest in such property.

(j) "Hard-handed person." (1) "Handicapped persons" means any person who (i) has a physical or mental impairment which substantially limits one or more major life activities, (ii) has a record of such an impairment, or (iii) is regarded as having such an impairment.

(k) "Facility" means all or any portion of buildings, structures, equipment, roads, sidewalks, parking lots, or other real or personal property or interest in such property.

(l) "Handicapped person." (1) "Handicapped persons" means any person who (i) has a physical or mental impairment which substantially limits one or more major life activities, (ii) has a record of such an impairment, or (iii) is regarded as having such an impairment.

(m) "Facility" means all or any portion of buildings, structures, equipment, roads, sidewalks, parking lots, or other real or personal property or interest in such property.

§ 104.4 Discrimination prohibited.

(a) General. No qualified handicapped person shall, on the basis of handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity which receives or
benefits from Federal financial assistance.

(b) Discriminatory actions prohibited. (1) A recipient, in providing any aid, benefit, or service, may not, directly or through contractual, licensing, or other arrangements, on the basis of handicap,

(i) deny a qualified handicapped person the opportunity to participate in or benefit from the aid, benefit, or service;

(ii) afford a qualified handicapped person an opportunity to participate in or benefit from the aid, benefit, or service that is not equal to that afforded others;

(iii) provide a qualified handicapped person with aid, benefit, or service that is not as effective as that provided to others;

(iv) provide different or separate aid, benefit, or services to handicapped persons or to any class of handicapped persons unless such action is necessary to provide qualified handicapped persons with aid, benefit, or service that is as effective as that provided to others;

(v) aid or perpetuate discrimination against a qualified handicapped person by providing significant assistance to an agency, organization, or person that discriminates on the basis of handicap, providing any aid, benefit, or service to beneficiaries of such programs;

(vi) deny a qualified handicapped person the opportunity to participate as a member of a planning or advisory board;

(vii) otherwise limit a qualified handicapped person in the enjoyment of any right, privilege, advantage, or opportunity enjoyed by others receiving an aid, benefit, or service.

(2) For purposes of this part, aids, benefits, and services, to be equally effective, are not required to produce the identical result or level of achievement for handicapped and nonhandicapped persons, but must afford handicapped persons equal opportunity to obtain the same result, to gain the same benefit, or to reach the same level of achievement, in the most integrated setting appropriate to the person's needs.

(3) Despite the existence of separate or different programs or activities provided in accordance with this part, a recipient may not deny a qualified handicapped person the opportunity to participate in such programs or activities that are not separate or different.

(4) A recipient may not directly or through contractual or other arrangements, utilize criteria or methods of administration (i) that have the effect of subjecting qualified handicapped persons to discrimination on the basis of handicap, (ii) that have the purpose or effect of discriminating or substantially impairing accomplishment of the objectives of the recipient's program with respect to handicapped persons, or (iii) that perpetuate the discrimination of another recipient if both recipients are subject to common administrative control or are agencies of the same State.

(5) In determining the site or location of a facility, an applicant for assistance or a recipient may not make selections (i) that have the effect of excluding handicapped persons from, denying them the benefits of, or otherwise subjecting them to discrimination under any program or activity that receives Federal financial assistance or (ii) that have the purpose or effect of discriminating or substantially impairing the accomplishment of the objectives of the program or activity with respect to handicapped persons.

(6) As used in this section, the aid, benefit, or service provided under a program or activity receiving or benefiting from Federal financial assistance includes any aid, benefit, or service provided in or through a facility that has been constructed, expanded, altered, leased or otherwise acquired, in whole or in part, with Federal financial assistance.

(c) Programs limited by Federal law. The exclusion of nonhandicapped persons from the benefits of a program limited by Federal statute or executive order to handicapped persons or the exclusion of a specific class of handicapped persons from a program limited by Federal statute or executive order to a different class of handicapped persons is not prohibited by this part.

104.5 Assurances required.

(a) Assurances. An applicant for Federal financial assistance for a program or activity to which this part applies shall submit an assurance, on a form specified by the Assistant Secretary, that the program will be operated in compliance with this part. An applicant may incorporate these assurances by reference in subsequent applications to the Department.

(b) Duration of obligation. (1) In the case of Federal financial assistance extended in the form of real property or to provide real property or structures on the property, the assurance will obligate the recipient or, in the case of a subsequent transfer, the transferee, for the period during which the real property or structures are used for the purpose for which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits.

(2) In the case of Federal financial assistance extended to provide personal property, the assurance will obligate the recipient for the period during which it retains ownership or possession of the property.

(3) In all other cases the assurance will oblige the recipient for the period during which Federal financial assistance is extended.

(c) Covenants. (1) Where Federal financial assistance is provided in the form of real property or interest in the property from the Department, the instrument effecting or recording this transfer shall contain a covenant running with the land to assure nondiscrimination for the period during which the real property is used for a purpose for which the Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits.

(2) Where no transfer of property is involved but property is purchased or improved with Federal financial assistance, the recipient shall agree to include the covenant described in paragraph (b)(3) of this section in the instrument effecting or recording any subsequent transfer of the property.

(d) Where Federal financial assistance is provided in the form of real property or interest in the property from the Department, the covenant shall also include a condition coupled with a right to be reserved by the Department to revert title to the property to the event of a breach of the covenant. If a transferee of real property proposes to mortgage or otherwise encumber the real property as security for financing construction of a pew, or improvement of existing facilities on the property for the purposes for which the property was transferred, the Assistant Secretary may, upon written notice to the transferee and if necessary to accomplish such financing and upon such conditions as he or she deems appropriate, agree to forbear the exercise of such right to revert title for so long as the lien of such mortgage or other encumbrance remains effective.

104.6 Remedial action, voluntary action, and self-evaluation.

(a) Remedial action. (1) If the Assistant Secretary finds that a recipient has discriminated against persons on the basis of handicap in violation of section 504 or this part, the recipient shall take such remedial action as the Assistant Secretary deems necessary to overcome the effects of the discrimination.
(2) Where a recipient is found to have discriminated against persons on the basis of handicap in violation of section 504 or this part and where another recipient exercises control over the recipient that has discriminated, the Assistant Secretary, where appropriate, may require either or both recipients to take remedial action.

(3) The Assistant Secretary may, where necessary to overcome the effects of discrimination in violation of section 504 or this part, require a recipient to take remedial action (i) with respect to handicapped persons who are no longer participants in the recipient’s program but who were participants in the program when such discrimination occurred or (ii) with respect to handicapped persons who would have been participants in the program had the discrimination not occurred.

(b) Voluntary action. A recipient may take steps, in addition to any action that is required by this part, to overcome the effects of conditions that resulted in limited participation in the recipient’s program or activity by qualified handicapped persons.

(c) Self-evaluation. (1) A recipient shall, within one year of the effective date of this part:

(i) Evaluate, with the assistance of interested persons, including handicapped persons or organizations representing handicapped persons, its current policies and practices and the effects thereof that do not or may not meet the requirements of this part;

(ii) Modify, after consultation with interested persons, including handicapped persons or organizations representing handicapped persons, any policies and practices that do not meet the requirements of this part; and

(iii) Take, after consultation with interested persons, including handicapped persons or organizations representing handicapped persons, appropriate remedial steps to eliminate the effects of any discrimination that resulted from adherence to these policies and practices.

(2) A recipient that employs fifteen or more persons shall, for at least three years following completion of the evaluation required under paragraph (c)(1) of this section, maintain on file, make available for public inspection, and provide to the Assistant Secretary upon request: (i) a list of the interested persons consulted; (ii) a description of areas examined and any problems identified; and (iii) a description of any modifications made and of any remedial steps taken

§ 104.7 Designation of responsible employees and adoption of grievance procedures.

(a) Designation of responsible employees. A recipient that employs fifteen or more persons shall designate at least one person to coordinate its efforts to comply with this part.

(b) Adoption of grievance procedures. A recipient that employs fifteen or more persons shall adopt grievance procedures that incorporate appropriate due process standards and that provide for the prompt and equitable resolution of complaints alleging any action prohibited by this part. Such procedures need not be established with respect to complaints from handicapped persons for employment or from applicants for admission to postsecondary educational institutions.

§ 104.8 Notice.

(a) A recipient that employs fifteen or more persons shall take appropriate initial and continuing steps to notify participants, beneficiaries, applicants, and employees, including those with impaired vision or hearing, and unions or professional organizations holding collective bargaining or professional agreements with the recipient that it does not discriminate on the basis of handicap in violation of section 504 and this part. The notification shall state, where appropriate, that the notice does not discriminate in admission or access to, or treatment or employment in, its programs and activities. The notification shall also include an identification of the responsible employee designated pursuant to § 104.7(a).

(b) A recipient shall make the initial notification required by this paragraph within 90 days of the effective date of this part. Methods of initial and continuing notification may include the posting of notices, publication in newspapers and magazines, placement of notices in recipients’ publications, and distribution of memoranda or other written communications.

§ 104.9 Administrative requirements for small recipients.

The Assistant Secretary may require any recipient with fewer than fifteen employees, or any class of such recipients, to comply with §§ 104.7 and 104.8 in whole or in part, when the Assistant Secretary finds a violation of this part or finds that such compliance will not significantly impair the ability of the recipient or class of recipients to provide benefits or services.

§ 104.10 Effect of state or local law or other requirements and effect of employment opportunities.

(a) The obligation to comply with this part is not obviated or alleviated by the existence of any state or local law or regulation which, on the basis of handicap, imposes prohibitions or limits upon the eligibility of qualified handicapped persons to receive services or to practice any occupation or profession.

(b) The obligation to comply with this part is not obviated or alleviated because employment opportunities in any occupation or profession are or may be less limited for handicapped persons than for nonhandicapped persons.

Subpart B—Employment Practices

§ 104.11 Discrimination prohibited.

(a) General. (1) No qualified handicapped person shall, on the basis of handicap, be subjected to discrimination in employment under any program or activity to which this part applies.

(2) A recipient that receives assistance under the Education of the Handicapped Act shall take positive steps to employ and advance in employment qualified handicapped persons in programs assisted under that Act.

(3) A recipient shall make all decisions concerning employment under any program or activity to which this part applies in a manner which ensures that discrimination on the basis of handicap was not occur and may not limit, segregate, or classify applicants or employees in any way that adversely affects their opportunities or status because of handicap.

(4) A recipient that does not participate in a contractual or other relationship that has the effect of subjecting qualified handicapped applicants or employees to discrimination prohibited by this subpart shall include in those contracts or agreements a statement of the policy described in paragraph (a) of this section. A recipient may meet the requirements of this paragraph either by including appropriate inserts in existing materials and publications or by revising and reprinting the materials and publications.

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benefits to employees of the recipient, and with organizations providing training and apprenticeship programs.

(b) Specific activities. The provisions of this subpart apply to:

(1) Recruitment, advertising, and the processing of applications for employment;
(2) Hiring, upgrading, promotion, award of tenure, termination, layoff, termination, right of return from layoff and rehiring;
(3) Rates of pay or any other form of compensation and changes in compensation;
(4) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;
(5) Leaves of absence, sick leave, or any other leave;
(6) Fringe benefits available by virtue of employment, whether or not administered by the recipient;
(7) Selection and financial support for training, including apprenticeship, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;
(8) Employer sponsored activities, including social or recreational programs; and
(9) Any other term, condition, or privilege of employment.

(c) A recipient's obligation to comply with this subpart is not affected by any inconsistent term of any collective bargaining agreement to which it is a party.

§ 104.12 Reasonable accommodation.

(a) A recipient shall make reasonable accommodation to the known physical or mental limitations of an otherwise qualified handicapped applicant or employee unless the recipient can demonstrate that the accommodation would impose an undue hardship on the operation of its programs.

(b) Reasonable accommodation may include: (1) making facilities used by employees readily accessible to and usable by handicapped persons, and (2) job restructuring, part-time or modified work schedules, acquisition or modification of equipment or devices, the provision of readers or interpreters, and other similar actions.

(c) In determining pursuant to paragraph (a) of this section whether an accommodation would impose an undue hardship on the operation of a recipient's program, factors to be considered include:

(1) The overall size of the recipient's program with respect to number of employees, number and type of facilities, and size of budget;

(2) The type of the recipient's operation, including the composition and structure of the recipient's workforce and

(3) The nature and cost of the accommodation needed.

(d) A recipient may not deny any employment opportunity to a qualified handicapped employee or applicant if the basis for the denial is the need to make reasonable accommodation to the physical or mental abilities of the employee or applicant.

§ 104.13 Employment criteria.

(a) A recipient may not make use of any employment test or other selection criterion that screens out or tends to screen out handicapped persons or any class of handicapped persons unless:

(1) The test score or other selection criterion, as used by the recipient, is shown to be job-related for the position in question, and (2) alternative job-related tests or criteria that do not screen out or tend to screen out as many handicapped persons are not shown by the Director to be available.

(b) A recipient shall select and administer tests concerning employment so as best to ensure that, when administered to an applicant or employee who has a handicap that impairs sensory, manual, or speaking skills, the test results accurately reflect the applicant's or employee's impaired sensory, mental, or speaking skills (except where those skills are the factors that the test purports to measure).

§ 104.14 Preemployment inquiries.

(a) Except as provided in paragraphs (b) and (c) of this section, a recipient may not conduct a preemployment medical examination or may not make preemployment inquiry of an applicant as to whether the applicant is a handicapped person or as to the nature or severity of a handicap. A recipient may, however, make preemployment inquiry into an applicant's ability to perform job-related functions.

(b) When a recipient is taking remedial action to correct the effects of past discrimination pursuant to § 104.19, the recipient may, if a recipient is taking voluntary action to overcome the effects of conditions that resulted in limited participation in its federally assisted program or activity pursuant to § 104.14(b), or when a recipient is taking affirmative action pursuant to section 503 of the Act, the recipient may invite applicants for employment to indicate whether and to what extent they are handicapped.

§ 104.15 Title VI.

(a) The recipient states clearly on any written questionnaire used for this purpose or makes clearly oral if no written questionnaire is used that the information requested is intended for use solely in connection with its remedial action obligations or its voluntary or affirmative action efforts and

(b) The recipient states clearly that the information is being requested on a voluntary basis, that it will be kept confidential as provided in paragraph (c) of this section, that refusal to provide it will not subject the applicant or employee to any adverse treatment, and that it will be used only in accordance with this part.

(c) Nothing in this section shall prohibit a recipient from conditioning an offer of employment on the results of a medical examination conducted prior to the employee's acceptance of an offer Provided, That: (1) All entering employees are subject to such an examination regardless of handicap, and

(d) The results of such an examination are used only in accordance with the requirements of this part.

§ 104.16 Information obtained in accordance with this section as to the medical condition or history of the applicant shall be collected and maintained on separate forms that shall be accorded confidentiality as medical records, except that:

(1) Supervisors and managers may be informed regarding restrictions on the work or duties of handicapped persons and necessary accommodations;

(2) First aid and safety personnel may be informed, where appropriate, if the condition might require emergency treatment; and

(3) Government officials investigating compliance with the Act shall be provided relevant information upon request.

§§ 104.17-104.20 [Reserved]

Subpart C—Program Accessibility

§ 104.21 Discrimination prohibited.

No qualified handicapped person shall, because a recipient's facilities are inaccessible to or unusable by handicapped persons, be denied the benefits of, or be excluded from participation in, or otherwise be subjected to discrimination under any program or activity to which this part applies.

§ 104.22 Existing facilities.

(a) Program accessibility. A recipient shall operate each program or activity to
which this part applies so that the program or activity, when viewed in its entirety, is readily accessible to and usable by handicapped persons. This paragraph does not require a recipient to make each of its existing facilities or every part of a facility accessible to and usable by handicapped persons.

(b) Methods. A recipient may comply with the requirements of paragraph (a) of this section through such means as redesign of equipment, reassignment of classes or other services to accessible buildings, assignment of aides to beneficiaries, home visits, delivery of health, welfare, or other social services at alternate accessible sites, alteration of existing facilities and construction of new facilities in conformance with the requirements of §104.23, or any other methods that result in making its programs, activities, and services accessible to and usable by handicapped persons. A recipient is not required to make structural changes in existing facilities where other methods are effective in achieving compliance with paragraph (a) of this section. In choosing among available methods for meeting the requirements of paragraph (a) of this section, a recipient shall give priority to those methods that offer positions, and activities to handicapped persons in the most integrated setting appropriate.

(c) Small health, welfare, or other social service providers. If a recipient with fewer than fifteen employees that provides health, welfare, or other social services finds, after consultation with a handicapped person seeking its services, that there is no method of complying with paragraph (a) of this section other than making a significant alteration in its existing facilities, the recipient may, as an alternative, refer the handicapped person to other providers of those services that are accessible.

(d) Time period. A recipient shall comply with the requirements of paragraph (a) of this section within sixty days of the effective date of this part except that where structural changes in facilities are necessary, such changes shall be made within three years of the effective date of this part, but in any event as expeditiously as possible.

(e) Transition plan. In the event that structural changes to facilities are necessary to meet the requirements of paragraph (a) of this section, a recipient shall develop, within six months of the effective date of this part, a transition plan setting forth the steps necessary to complete such changes. The plan shall be developed with the assistance of interested persons, including handicapped persons or organizations representing handicapped persons. A copy of the transition plan shall be made available for public inspection. The plan shall, at a minimum:

(1) Identify physical obstacles to the recipient’s facilities that limit the accessibility of its program or activity to handicapped persons.

(2) Describe in detail the methods that will be used to make the facilities accessible.

(3) Specify the schedule for taking the steps necessary to achieve full program accessibility and, if the time period of the transition plan is longer than one year, identify the steps of that plan that will be taken during each year of the transition period and.

(4) Indicate the person responsible for implementation of the plan.

(f) Notice. The recipient shall adopt and implement procedures to ensure that interested persons, including persons with impaired vision or hearing, can obtain information as to the existence and location of services, activities, and facilities that are accessible to and usable by handicapped persons.

§104.23 New construction.

(a) Design and construction. Each facility or part of a facility constructed by, on behalf of, or for the use of a recipient shall be designed and constructed in such manner that the facility or part of the facility is readily accessible to and usable by handicapped persons.

(b) Alteration. Each facility or part of a facility which is altered by, on behalf of, or for the use of a recipient after the effective date of this part in a manner that affects or could affect the usability of the facility or part of the facility shall, to the maximum extent feasible, be altered in such manner that the altered portion of the facility is readily accessible to and usable by handicapped persons.

(c) American National Standards Institute accessibility standards. Design, construction, or alteration of facilities in conformance with the American National Standards Institute accessibility standards. Design, construction, or alteration of facilities in conformance with the American National Standards Institute accessibility standards. Design, construction, or alteration of facilities in conformance with the American National Standards Institute's Accessibility Standards for Making Buildings and Facilities Accessible to, and Usable by, the Physically Handicapped, published by the American National Standards Institute, Inc. ANSI A117.1-1981 (R1977), which is incorporated by reference in this section, shall constitute compliance with paragraphs (a) and (b) of this section. Departures from particular requirements of those standards by the use of other methods shall be permitted when it is clearly evident that equivalent access to the facility or part of the facility is thereby provided. Incorporation by reference provisions are approved by the Director of the Federal Register, May 27, 1977.

§104.24-104.30 (Reserved)

Subpart C—Preschool, Elementary, and Secondary Education

§104.31 Application of this subpart.

Subpart D applies to preschool, elementary, secondary, and adult education programs and activities that receive or benefit from Federal financial assistance and to recipients that operate, or that receive or benefit from Federal financial assistance for the operation of such programs or activities.

§104.22 Location and notification. A recipient that operates a public elementary or secondary education program shall annually:

(a) Undertake to identify and locate every qualified handicapped person residing in the recipient’s jurisdiction who is not receiving a public education and

(b) Take appropriate steps to notify handicapped persons and their parents or guardians of the recipient’s duty under this subpart.

§104.23 Free appropriate public education.

(a) General. A recipient that operates a public elementary or secondary education program shall provide a free appropriate public education to each handicapped person residing in the recipient’s jurisdiction, regardless of the nature or severity of the person’s handicap.

(b) Appropriate education. (1) For the purpose of this subpart, the provision of an appropriate education is the provision of regular or special education and related aids and services that (i) are designed to meet individual educational needs of handicapped persons as adequately as the needs of nonhandicapped persons are met and

(ii) are based upon adherence to procedures that satisfy the requirements of §§104.34, 104.35, and 104.36.

(2) Implementation of an individualized education program developed in accordance with the Education of the Handicapped Act is one means of meeting the standard established in paragraph (b)(1)(ii) of this section.

(3) A recipient may place a handicapped person in or refer such person to a program other than the one...
that it operates as its means of carrying out the requirements of this subpart. If so, the recipient remains responsible for ensuring that the requirements of this subpart are met with respect to any handicapped person so placed or referred.

(c) Free education—(1) General. For the purpose of this section, the provision of a free education is the provision of educational and related services without cost to the handicapped person or to his or her parents or guardian, except for those fees that are imposed on non-handicapped persons or their parents or guardian. It may consist either of the provision of free service or assistance, or it refers such person to a program not operated by the recipient as its means of carrying out the requirements of this subpart. Funds available from any public or private agency may be used to meet the requirements of this subpart. Nothing in this section shall be construed to relieve an individual or family from any other legal obligation to provide or pay for services provided to a handicapped person.

(2) Transportation. If a recipient places a handicapped person in or refers such person to a program not operated by the recipient as its means of carrying out the requirements of this subpart, the recipient shall ensure that adequate transportation to and from the program is provided at no greater cost than would be incurred by the person or his or her parents or guardian if the person were placed in the program operated by the recipient.

(3) Residential placement. If placement in a public or private residential program is necessary to provide a free appropriate public education to a handicapped person, because of his or her handicap, the program, including non-medical care and room and board, shall be provided at no cost to the person or his or her parents or guardian.

(4) Placement of handicapped persons by parents. If a recipient has made available, in conformance with the requirements of this section and §104.34, a free appropriate public education to a handicapped person and the person's parents or guardian choose to place the person in a private school, the recipient is not required to pay for the person's education in the private school. Disagreements between a parent or guardian and a recipient regarding whether the recipient has made such a program available or otherwise regarding the question of financial responsibility are subject to the due process procedures of §104.33.

(d) Compliance. A recipient may not exclude any qualified handicapped person from a public elementary or secondary education after the effective date of this part. A recipient that is not, on the effective date of this regulation, in full compliance with the other requirements of the preceding paragraphs of this section shall meet such requirements at the earliest practicable time and in no event later than September 1, 1978.

§104.34 Educational setting.

(a) Academic setting. A recipient to which this subpart applies shall provide, or shall provide for the education of, each qualified handicapped person in its jurisdiction with persons who are not handicapped to the maximum extent appropriate to the needs of the handicapped person. A recipient shall place a handicapped person in the regular educational environment operated by the recipient unless it is demonstrated by the recipient that the education of the person in the regular educational environment with the use of supplementary aids and services cannot be achieved satisfactorily. Whenever a recipient places a person in a setting other than the regular educational environment pursuant to this paragraph, it shall take into account the proximity of the alternate setting to the person's home.

(b) Nonacademic setting. In providing or arranging for the provision of nonacademic and extracurricular services and activities, including meals, recess periods, and the services and activities set forth in §104.37(a)(3), a recipient shall ensure that handicapped persons participate with nonhandicapped persons in such activities and services to the maximum extent appropriate to the needs of the handicapped person in question.

(c) Comparable facilities. If a recipient, in compliance with paragraph (a) of this section, operates a facility that is identifiable as being for handicapped persons, the recipient shall ensure that the facility and the services and activities provided therein are comparable to the other facilities, services, and activities of the recipient.

§104.35 Evaluation and placement.

(a) Reevaluation. A recipient to which this section applies shall establish procedures, in accordance with paragraph (b) of this section, for periodic reevaluation of students who have been provided special education and related services. A reevaluation procedure consistent with the Education for the Handicapped Act is one means of meeting this requirement.

(b) Evaluation procedures. A recipient to which this subpart applies shall establish standards and procedures for the evaluation and placement of persons who, because of handicap, need or are believed to need special education or related services which ensure that:

(1) Tests and other evaluation materials shall have been validated for the specific purpose for which they are used and are administered by trained personnel in conformance with the instructions provided by their producer;

(2) Tests and other evaluation materials include those tailored to assess specific areas of educational need and not merely those which are designed to provide a single general intelligence quotient;

(3) Tests are selected and administered so as best to ensure that, when a test is administered to a student with impaired sensory, manual, or speaking skills, the test results accurately reflect the student's aptitude or achievement level or whatever other factor the test purports to measure, rather than reflecting the student's impaired sensory, manual, or speaking skills (except where those skills are the factors that the test purports to measure).

(c) Placement procedures. In interpreting evaluation data and in making placement decisions, a recipient shall (1) draw upon information from a variety of sources, including aptitude and achievement tests, teacher recommendations, physical condition, social or cultural background, and adaptive behavior; (2) establish procedures to ensure that information obtained from all such sources is documented and carefully considered; (3) ensure that the placement decision is made by a group of persons, including persons knowledgeable about the child, the meaning of the evaluation data, and the placement options; and (4) assure that the placement decision is made in conformity with §104.34.

(d) Reevaluation. A recipient to which this section applies shall establish procedures, in accordance with paragraph (b) of this section, for periodic reevaluation of students who have been provided special education and related services. A reevaluation procedure consistent with the Education for the Handicapped Act is one means of meeting this requirement.

§104.36 Procedural safeguards.

A recipient that operates a public elementary or secondary education
program shall establish and implement, with respect to actions regarding the
identification, evaluation, or educational placement of persons who, because of
handicap, need or are believed to need
special instruction or related services, a
system of procedural safeguards that
includes notice, an opportunity for the
parent or guardian of the person to
examine relevant records, an impartial
hearing opportunity for participation by the person's parents or
guardians and representatives by counsel,
and a review procedure. Compliance with the procedural safeguards of
section 615 of the Education of the Handicapped Act is one means of
measuring this requirement.

§ 104.37 Nonacademic services.

(a) General. A recipient to which this
subpart applies shall provide non-
academic and extracurricular services
and activities in such manner as is
necessary to afford handicapped
students an equal opportunity for
participation in such services and
activities.

(b) Nonacademic and extracurricular
services and activities may include
counseling services, physical
recreational activities, transportation,
health services, recreational activities,
special interest groups or clubs
sponsored by the recipients, referrals to
agencies which provide assistance to
handicapped persons, and employment
of students, including both employment
by the recipient and assistance in
making available outside employment.

(c) Counseling services. A recipient to
which this subpart applies that provides
counseling, academic, or vocational
counseling, guidance, or placement
services to its students shall provide
these services without discrimination on
the basis of handicap. The recipient
shall ensure that qualified handicapped
students are not counseled toward more
restrictive career objectives than are
handicapped students with similar
interests and abilities.

(1) In providing physical education
programs and activities to any of its
students, a recipient to which this
subpart applies may not discriminate on
the basis of handicap. A recipient that
offers physical education courses or that
operates or sponsors interscholastic,
club or intramural athletics shall
provide to qualified handicapped
students an equal opportunity for
participation in these activities.

(2) A recipient may offer to
handicapped students physical
education and athletic activities that are
separate or different from those offered
to nonhandicapped students only if
separation or differentiation is
consistent with the requirements of
§ 104.34 and only if a qualified
handicapped student is denied the
opportunity to compete for teams or to
participate in courses that are not
separate or different.

§ 104.38 Preschool and adult education
programs.

A recipient to which this subpart
applies that operates a preschool
education or day care program or
activity or an adult education program
or activity may not, on the basis of
handicap, exclude qualified
handicapped persons from the program
or activity and shall take into account
the needs of such persons in determining the aid, benefits, or services to be
provided under the program or activity.

§ 104.39 Private education programs.

(a) A recipient that operates a private
elementary or secondary education
program may not, on the basis of
handicap, exclude a qualified
handicapped person from such a program
if that person can, with minor
adjustments, be provided an appropriate
education, as defined in § 104.33(b)(3),
within the recipient's program.

(b) A recipient to which this section
applies may not charge more for the
provision of an appropriate education to
handicapped persons than to
nonhandicapped persons except to the
extent that any additional charge is
justified by a substantial increase in
cost to the recipient.

(c) A recipient to which this section
applies that operates special education
programs shall operate such programs in
accordance with the provisions of
§§ 104.33 and 104.34. Each recipient to
which this section applies is subject to the
provisions of §§ 104.34, 104.37, and
104.38.

§ 104.40 [Reserved]

Subpart E—Postsecondary Education

§ 104.41 Application of this subpart.

Subpart E applies to postsecondary
education programs and activities,
including postsecondary vocational
education programs and activities, that
receive or benefit from Federal financial
assistance to recipients that operate, or that receive or benefit from
Federal financial assistance for the
operation of such programs or activities.

§ 104.42 Admissions and recruitment.

(a) General. Qualified handicapped
persons may not, on the basis of
handicap, be denied admission or be
subjected to discrimination in admission
or recruitment by a recipient to which
this subpart applies.

(b) Admissions. In administering its
admissions policies, a recipient to which
this subpart applies:

(1) May not apply limitations upon the
number or proportion of handicapped
persons who may be admitted;

(2) May not make use of any test or
riterion for admission that has a
disproportionate, adverse effect on
handicapped persons or any class of
handicapped persons unless (i) the test
or criterion, as used by the recipient, has
been validated as a predictor of success
in the education program or activity in
question and (ii) alternate tests or
criteria that have a less
disproportionate, adverse effect are not
shown by the Assistant Secretary to be
available,

(3) Shall assure itself that (i) admissions
tests are validated and administered so as to best ensure that,
when a test is administered to an
applicant who has a handicap that
impairs sensory, manual, or speaking
skills, the test results accurately reflect
the applicant's aptitude or achievement
level or whatever other factor the test
purports to measure; (ii) admissions tests that are
designed for persons with impaired
sensory, manual, or speaking skills are
offered as often and in as timely a
manner as are other admissions tests;
and (iii) admissions tests are administered in facilities that, on
the whole, are accessible to handicapped
persons

(4) Except as provided in paragraph
(c) of this section, may not make
admission inquiry as to whether an
applicant for admission is a
handicapped person but, after
admission, may make inquiries on a
reasonable basis as to handicaps
that may require accommodation.

(5) Prohibition of after-admission action.

(c) Prohibition of after-admission action.

When a recipient is taking remedial
action to correct the effects of past
discrimination pursuant to § 104.41(a) or
when a recipient is taking voluntary
remedial action to correct any conditions
that resulted in limited participation in its federally assisted
program or activity pursuant to
§ 104.41(b), such a recipient may invite
applicants for admission to indicate
whether and to what extent they are
handicapped. Provided, That:

(1) The recipient shall state clearly on any
written questionnaire used for this
purpose or makes clear orally if no
written questionnaire is used that

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Information requested is intended for use solely in connection with its remedial action obligations or its voluntary action efforts; and

(2) The recipient states clearly that the information is being requested on a voluntary basis, that it will be kept confidential, that refusal to provide it will not subject the applicant to any adverse treatment, and that it will be used only in accordance with this part.

(d) Validity studies. For the purpose of paragraph (b)(2) of this section, a recipient may use prediction equations or first year grades, but shall conduct periodic validity studies against the criterion of overall success in the education program or activity in question in order to monitor the general validity of the test scores.

§ 104.42 Treatment of student records.

(a) No qualified handicapped student shall, on the basis of handicap, be excluded from participation in, or be denied the benefits of, or otherwise be subjected to discrimination under any sectarian, research, occupational training, health, blind, insurance, counseling, financial aid, physical education, athletic, recreation, transportation, other extracurricular, or other postsecondary education program or activity to which this part applies.

(b) A recipient to which this part applies that considers participation by students in education programs or activities operated wholly by the recipient as part of, or equivalent to, and education program or activity operated by the recipient shall assure itself that the other education program or activity, as a whole, provides an equal opportunity for the participation of qualified handicapped persons.

(c) A recipient to which this part applies may not, on the basis of handicap, exclude any qualified handicapped student from any course, course of study, or other part of its education program or activity.

(d) A recipient to which this part applies shall operate its programs and activities in the most integrated setting appropriate.

§ 104.44 Academic requirements.

(a) Academic requirements. A recipient to which this part applies shall make such modifications to its academic requirements as are necessary to ensure that such requirements do not discriminate or have the effect of discriminating, on the basis of handicap, against a qualified handicapped applicant or student. Academic requirements that the recipient can demonstrate are essential to the program of instruction being pursued by such student or to any directly related licensing requirement will not be regarded as discriminatory within the meaning of this section. Modifications may include changes in the length of time permitted for the completion of degree requirements, substitution of specific courses required for the completion of degree requirements, and adaptation of the manner in which specific courses are conducted.

(b) Other rules. A recipient to which this part applies may not impose upon handicapped students other rules, such as the prohibition of tape recorders in classrooms or of dog guides in campus buildings, that have the effect of limiting the participation of handicapped students in the recipient's education program or activity.

(c) Course examinations. In the course examinations or other procedures for evaluating students' academic achievement in its program, a recipient to which this part applies shall provide such methods for evaluating the achievement of students who have a handicap that impair sensory, manual, or speaking skills as will best ensure that the results of the evaluation represent the student's achievement to the course, rather than reflecting the student's impaired sensory, manual, or speaking skills (except where such skills are the factors that the test purports to measure).

(d) Auxiliary aids. (1) A recipient to which this part applies shall take such steps as are necessary to ensure that no handicapped student is denied the benefits of, excluded from participation in, or otherwise subjected to discrimination under the education program or activity operated by the recipient because of the absence of educational auxiliary aids for students with impaired sensory, manual, or speaking skills.

(2) Auxiliary aids may include taped texts, interpreters, or other methods of making orally delivered materials available to students with hearing impairments, readers in libraries for students with visual impairments, classroom equipment adapted for use by students with manual impairments, and other similar services and actions. Recipients need not provide aids to individually prescribed devices, readers for personal use or study, or other devices or services of a personal nature.

§ 104.45 Housing.

(a) Housing provided by the recipient. A recipient that provides housing to its nonhandicapped students shall provide comparable, convenient, and accessible housing to handicapped students in the same manner as others. At the end of the transition period provided for in Subpart C, such housing shall be available in sufficient quantity and variety so that the scope of handicapped student choice of living accommodations is, as a whole, comparable to that of nonhandicapped students.

(b) Other housing. A recipient that assists any agency, organization, or person in making housing available is any of its students shall take such action as may be necessary to assure itself that such housing is, as a whole, made available in a manner that does not result in discrimination on the basis of handicap.

§ 104.46 Financial and employment assistance to students.

(a) Provision of financial assistance.

(1) In providing financial assistance to qualified handicapped persons, a recipient to which this part applies may not (i), on the basis of handicap, provide less assistance than is provided to nonhandicapped persons, limit eligibility for assistance, or otherwise discriminate on the basis of handicap; or (ii) assist any entity or person that provides assistance to any of the recipient's students in a manner that discriminates against qualified handicapped persons on the basis of handicap.

(2) A recipient may administer or assist in the administration of scholarships, fellowships, or other forms of financial assistance established under wills, trusts, bequests, or similar legal instruments that require awards to be made on the basis of factors that discriminate or have the effect of discriminating on the basis of handicap only if the overall effect of the award of scholarships, fellowships, and other forms of financial assistance is not discriminatory on the basis of handicap.

(b) Assistance in making available outside employment. A recipient that assists any agency, organization, or person in providing employment opportunities to any of its students shall assure itself that such employment opportunities, as a whole, are made available in a manner that would not violate Subpart B if they were provided by the recipient.

(c) Employment of students by recipients. A recipient that employs any of its students may not do so in a manner that violates Subpart B.

§ 104.47 Nonacademic services.

(a) Physical education and athletics.

(1) In providing physical education courses and athletics and similar programs and activities to any of its students, a recipient to which this part applies may not discriminate on the basis of handicap.

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that offers physical education courses or that operates or sponsors intercollegiate, club, or intramural athletics shall provide to qualified handicapped students an equal opportunity for participation in these activities.  

(b) Counseling and placement services. A recipient to which this subpart applies which provides personal, academic, or vocational counseling, guidance, or placement services to its students shall provide these services without discrimination on the basis of handicap. The recipient shall ensure that qualified handicapped students are counseled toward more restrictive career objectives than are nonhandicapped students with similar interests and abilities. This requirement does not preclude a recipient from providing factual information about licensing and certification requirements that may present obstacles to handicapped persons in their pursuit of particular careers.  

[c] Social organizations. A recipient that provides significant assistance to fraternities, sororities, or similar organizations shall assure itself that the membership practices of such organizations do not permit discrimination otherwise prohibited by this subpart.  

§ 104.48-104.50 [Reserved]  

Subpart F—Health, Welfare, and Social Services  

§ 104.51 Application of this subpart.  

Subpart F applies to health, welfare, and other social service programs and activities that receive or benefit from Federal financial assistance and to recipients that operate, or that receive or benefit from Federal financial assistance for the operation of such programs or activities.  

§ 104.52 Health, welfare, and other social services.  

[a] General. In providing health, welfare, or other social services or benefits, a recipient may not on the basis of handicap:  

(1) Deny a qualified handicapped person these benefits or services; or  

(2) Afford a qualified handicapped person an opportunity to receive benefits or services that is not equal to that offered nonhandicapped persons;  

(3) Provide a qualified handicapped person with benefits or services that are not as effective (as defined in § 104.4(b)) as the benefits or services provided to others; or  

(4) Provide benefits or services in a manner that limits or has the effect of limiting the participation of qualified handicapped persons; or  

(5) Provide different or separate benefits or services to handicapped persons except where necessary to provide qualified handicapped persons with benefits and services that are as effective as those provided to others.  

[b] Notice. A recipient that provides notice concerning benefits or services or written material concerning waivers of rights or consent to treatment shall take such steps as are necessary to ensure that qualified handicapped persons, including those with impaired sensory, manual, or speaking skills, are not denied effective notice because of their handicap.  

[c] Emergency treatment for the hearing impaired. A recipient hospital that provides health services or benefits shall establish a procedure for effective communication with persons with impaired hearing for the purpose of providing emergency health care.  

[d] Auxiliary aids. (1) A recipient to which this subpart applies that employs fifteen or more persons shall provide appropriate auxiliary aids to persons with impaired sensory, manual, or speaking skills, where necessary to afford such persons an equal opportunity to benefit from the services in question.  

(2) The Assistant Secretary may require recipients with fewer than fifteen employees to provide auxiliary aids where the provision of aids would not significantly impair the ability of the recipient to provide its benefits or services.  

[e] For the purpose of this paragraph, auxiliary aids may include braille and taped materials, interpreters, and other aids for persons with impaired hearing or vision.  

§ 104.53 Drug and alcohol addicts.  

A recipient to which this subpart applies that operates a general hospital or outpatient facility may not discriminate in admission or treatment against a drug or alcohol abuser or alcoholic who is suffering from a medical condition, because of the person's drug or alcohol abuse or alcoholism.
broad application. In terms of federal financial assistance, other civil rights statutes that have been construed as applying to section 504 be implemented at the same manner as titles VI and IX. In view of the long established exemption of beneficiaries of insurance or pension plans under title VI, we think it unlikely that Congress intended section 504 to apply to such contracts.

1. "Handicapped person," Section 104(d)(1), which defines the class of persons protected under the regulation, has not been substantially changed. The definition of handicapped person in paragraph (d)(1) conforms to the statutory definition of handicapped person that is applicable to section 504, as set forth in section 111(a) of the Rehabilitation Act Amendments of 1974, Pub.L. 93-515.

The first of the three parts of the statutory and regulatory definition includes any person who has a physical or mental impairment that substantially limits one or more major life activities. The definition of handicap contained in section 104(d)(1) further defines physical or mental impairments. The definition does not set forth a list of specific disabilities that constitute physical or mental impairments because of the difficulty of ensuring the comprehensiveness of any such list. The term "major life activities" includes, however, such functions as breathing, speech, and hearing impairments, cardiac, physical, psychological, and neurological disorders, cancer, heart disease, diabetes, mental retardation, emotional illness, and, as discussed below, drug addiction and alcoholism. It should be emphasized that a physical or mental impairment does not constitute a handicap if it is episodic or of such short duration that it is unlikely to be severe or substantially limiting. The Department does not believe that a major life activity that meets this test is prohibited by the regulation.

A related issue raised by several commenters is whether the definition of handicap applies in the same way to drug addiction as it does to other physical or mental impairments. The Department believes that it does.

4. Drug addicts and alcoholics. As was the case during the first comment period, the issue of whether to include drug addicts and alcoholics within the definition of handicapped person was of major concern to many comments. The arguments presented on each side of the issue were similar during the two comment periods, as was the preference of commenters for exclusion of this group of persons. While some commenters reflected misconceptions about the implications of including alcoholics and drug addicts within the scope of the regulation, the Secretary understands the concerns that underlie the comments on this question and recognizes that application of section 504 to handicapped persons. The Executive Office for Alcohol and Drug Abuse presents sensitive and difficult questions that must be taken into account in interpretation and enforcement. The Secretary has carefully examined the issue and has obtained a broad consultation with the Attorney General. That opinion concludes that drug addiction and alcoholism are "physical or mental impairments" within the meaning of section 514 of the Rehabilitation Act of 1973, as amended, and that drug addicts and alcoholics are therefore handicapped for purposes of section 504 if their impairment substantially limits one or more of their major life activities. The Secretary therefore believes that he is without authority to exclude these conditions from the definition. There is a medical and legal consensus that alcoholism and drug addiction are diseases, although there is disagreement as to whether they are primarily mental or physical. In addition, while Congress did not focus specifically on the problems of drug addiction and alcoholism in enacting section 504, the committees that considered the Rehabilitation Act of 1973 were made aware of the Department's long-standing practice of accommodating such handicapped individuals eligible for rehabilitation services under the Vocational Rehabilitation Act.

The Secretary wishes to assure recipients that inclusion of drug addicts and alcoholics within the scope of the regulation will not lead to the consequences feared by many commenters. It cannot be emphasized too strongly that the statute and the regulation apply only to discrimination against qualified handicapped persons solely by reason of their handicap. The fact that drug addiction and alcoholism may be handicapping does not mean that these conditions must be ignored. The Secretary's concern is to determine whether an individual is qualified for services or in employment opportunities. On the contrary, a recipient may hold a drug addict or alcoholic to the same standard of performance and behavior to which it holds others, even if any conditions necessary to performance or behavior in question are related to the recipient's drug addiction or alcoholism, in other words, while addiction or drug addiction may disqualify a handicapped person from employment solely because of his or her condition, the behavioral manifestations of the condition may be taken into account in determining whether he or she is qualified.

With respect to the employment of a drug addict or alcoholic, if it can be shown that the addiction or alcoholism prevents successful performance of the job, the recipient need not be provided the employment opportunities in question. For example, in making employment decisions, a recipient may judge addicts and alcoholics on the same basis it judges all other applicants and employees. Thus, a recipient may consider—for all applicants including drug addicts and alcoholics—past personnel records, absenteeism, disruptive, abusive, or dangerous behavior, violations of rules and satisfactory work performance. Moreover, employers may enforce rules prohibiting the possession or use of alcohol or drugs in the work-place, provided that such rules are tailored so that only physical and mental handicaps are included. Thus, environmental, cultural, and economic disadvantages are not in themselves handicaps; nor are prison records, age, or homosexuality.
reproduction of the present or history of these conditions: indeed, in the event that the waiver is not valid, the conditions of the waiver will be taken into consideration. Thus, a college may not exclude an alcoholic or student on the basis of alcoholism. Hence, if this person can successfully participate in the education program and comply with the rules of the college and his/her behavior does not impede the performance of other students.

Of great concern to many commentators was the question of the effect of the inclusion of drug addicts and alcoholics as handicapped persons would have on school disciplinary rules prohibiting the use or possession of drugs or alcohol by students. Neither the rules nor their application to drug addicts or alcoholics is prohibited by this regulation, provided that the rules are enforced equitably with respect to all students.

8. Qualified handicapped person.

Section 104.6(a) of § 104.6, as defined in “qualified handicapped person.” Throughout the regulations, this term is used instead of the statutory term “otherwise qualified handicapped person.” The Department believes that the omission of the word “otherwise” is necessary in order to comport with the intent of the Act, which states that persons with disabilities shall be “otherwise qualified” for the job of driving. Clearly, such a result was not intended by Congress. In all other respects, the terms “qualified” and “otherwise qualified” are intended to be interchangeable.

Section 104.34(k) defines a qualified handicapped person with respect to employment with respect to a handicapped person who can, with reasonable accommodation, perform the essential functions of the job in question. The term “essential functions” does not appear in the corresponding provision of the Department of Labor’s section 503 regulations, and a few courts have objected to its inclusion on the ground that a handicapped person should be able to perform all job tasks. However, the Department believes that inclusion of the phrase is useful in emphasizing that handicapped persons should not be disqualified simply because they may have difficulty in performing tasks that bear only a marginal relationship to a particular job.

Further, we are convinced that inclusion of the phrase is not inconsistent with the Department of Labor’s application of its definition.

Certain commentators urged that the definition of qualified handicapped person be amended so explicitly to place upon the employer the burden of showing that a particular mental or physical characteristic in essential cause the handicap, an achievement by the requirement contained in the paragraph (a) of § 104.13, which requires an employer to establish that his selection criteria that tend to screen out handicapped persons are related to the job inquestion, that recommendation has not been followed.

Section 104.34(k) defines qualified handicapped person with respect to public, secondary, or elementary services or the person is on an age at which the handicapped person is eligible for such service. All students with a legal education who mandatorily attend school. In addition, the extended age range for which the recipient in question must provide all educational opportunities to handicapped persons is in order to be eligible for assistance under the Education of the Handicapped Act—generally, 3–18 or as of September 1975, 3–21—and as of September 1980 are incorporated by reference in this paragraph.

Section 104.34(k) defines qualified handicapped person with respect to postsecondary educational programs. As revised, the paragraph means that both academic and technical standards must be met by applicants to these programs. The term “technical standards” refers to all academic standards of the criteria that are essential to participation in the program in question.

9. General prohibitions against discrimination. Section 104.6 contains general prohibitions against discrimination applicable to all recipients of assistance from this Department.

Paragraph (b)(ii) prohibits the exclusion of qualified handicapped persons from aiding persons, benefits, and services, and paragraph (ii) requires that all equal opportunity to participate or benefit be provided. Paragraph (b)(ii) requires that services provided to handicapped persons be as effective as those provided to the nonhandicapped. In paragraph (ii), separate services are prohibited except when necessary to provide equally effective benefit.

In this context, the term “equally effective,” defined in paragraph (b)(ii) is intended to encompass the concept of equivalent, as opposed to identical, services and to acknowledge that in order to meet the individual needs of handicapped persons, the same extent that the corresponding needs of nonhandicapped persons are met, adjustments to regular programs or the provision of different programs may sometimes be necessary. This standard was adopted under Title VI of the Civil Rights Act of 1964 to ensure the program's educational services to students whose primary language is not English. See Laws of Michigan 414 U.S. 442 (1973). To be equally effective, however, an auxiliary or service need not produce equal results; it merely must afford an equal opportunity to achieve equal results.

It must be emphasized that although separate services must be required in some instances, the provision of unnecessarily separate or different services is discriminatory. The addition to paragraph (b)(ii) of the phrase “the most integrated setting appropriate to the particular student’s educational needs” is intended to reinforce this general concept. A new paragraph (b)(iii) has also been added to § 104.6 requiring that qualified handicapped persons be given the option of participating in regular programs despite the provisions of this regulation or of their own state or local regulations.

This paragraph has been rephrased in §§ 104.34 and 104.47 to connect with physical education and athletic programs.

Section 104.4(b)(ii)(I) defines a recipient from supporting another entity or person that service recipients or employees in the recipient’s program to discrimination on the basis of handicap. This section would, for example, prohibit financial support by a recipient to a community recreational group or to a professional organization that discriminates against handicapped persons. Among the criteria to be considered in each case are the substantiality of the relationship between the recipient and the other entity, including financial support by the recipient, and whether the denial or limitation of services has special significance for the recipient itself. Paragraph (b)(ii)(I) was added in response to request in order to make explicit the parallel rule against denying qualified handicapped persons the opportunity to serve on planning and advisory boards responsible for guiding federally assisted programs or activities.

Several comments appeared in response to § 104.4(b)(ii), which provides discriminatory or prejudicial to persons with disabilities. For example, the Department of Labor’s application of its definition of “handicapped person” appears to be inconsistent with the Department of Labor’s interpretation of Title II, section 504 of the Rehabilitation Act of 1973.
While it is not feasible to adopt a single civil rights executive code at this time, the Office of Civil Rights will work with each pool.

Section II. Private Right of Action. Several amendments urged that the regulations incorporate provisions guaranteeing a private right of action against recipients under section 106. To confer such a right is beyond the authority of the executive branch of Government. There is no evidence of holding that such a right exists. Lloyd v. Regional Transportation Authority, 541 F.2d 1227 (7th Cir. 1976); Civil No. 75-709 (S.D. W. Va., Jan. 14, 1976); Giraud v. City of Columbus, 413 F. Supp. 862 (N.D. Ohio, Oct. 29, 1976).

10. Remedial Action. Where there has been a finding of discrimination, § 104.5 requires a report of prior discriminatory action to overcome the effects of the discrimination. Action that might be required under paragraph (e)(1) includes provision of services to persons who possess or are furnished, reinstatement of employees and development of a remedial action plan. Should a recipient fail to take required remedial action, the ultimate sanctions of court action or termination of Federal financial assistance may be imposed.

10. Voluntary action. In § 104.6(b)(3), the term “voluntary action” has been substituted for the term “remedial action.” Because the use of the latter term led to some confusion, we believe the term “voluntary action” more accurately reflects the purpose of the paragraphs of this provision. The purpose is to encourage, beyond that required by the regulations, to overcome conditions that led to limited participation by handicapped persons, whether or not the limited participation was caused by any discriminatory actions on the part of a recipient. Several commenters urged that paragraphs (a) and (b) be revised to require remedial action to overcome effects of discriminatory practices regardless of whether there was an express finding of discrimination. The self-evaluation requirement in paragraph (c) appears to be the same as the voluntary action.

11. Self-Evaluation. Paragraph (c) requires recipients to conduct a self-evaluation in order to determine whether their policies or practices discriminate against handicapped persons and to take steps to remove deficiencies in those practices and their effects. The Department received many comments approving of the addition in paragraph (c) of a requirement that recipients seek the assistance of handicapped persons in the self-evaluation process. This provision has been further amended to require consultation with handicapped persons or organizations representative before recipients undertake the policy modifications and remedial steps prescribed in paragraphs (c) (1) and (ii).

Paragaph (g)(3), which sets forth the recordkeeping requirements concerning self-evaluation, now applies only to recipients with fifteen or more employees. This change was made in an effort to reduce the burdens on small recipients, and to make it easier to begin compliance.-Administrative regulations on small recipients. For those recipients required to keep records, the requirements have been made more specific: records must include a description of each and a description of areas examined, problems identified, and corrective steps taken. Moreover, the records must be made available for public inspection.

12. Grievance Procedure. Section 104.7 requires recipients with fifteen or more employees to designate an individual responsible for coordinating compliance efforts and to adopt a grievance procedure. Two changes were made in the section in response to comments. A general requirement that appropriate duty grievance procedures be followed has been added. It was decided that the details of such procedures could not at this time be specified because of the varied nature of the persons and entities who must establish the procedures and of the programs to which they apply. A sentence was also added to make clear that grievance procedures are not required to be made available to unsuccessful applicants for employment or to applicants for admission to colleges and universities.

The regulation does not require that grievance procedures be exhausted before recourse is sought from the Department. However, the Secretary believes that it is desirable and efficient in many cases for complainants to seek resolution of their complaints and disputes at the local level and therefore encourages them to use available grievance procedures.

13. Notice. Section 104.8 (formerly § 48.9) sets forth requirements for discrimination of statements of nondiscrimination policy by recipients. It is important that both handicapped persons and the public at large be aware of the Department's nondiscrimination policy. Both the Department and recipients have responsibilities in this regard. Indeed, the Department intends to undertake a major public information effort to inform persons of their rights under section 504 and that regulation. In § 104.6 the Department has sought to impose a clearer obligation on major recipients to notify beneficiaries and employees of the requirements of section 504, without dictating the precise way in which this notice must be given. At the same time, we have avoided imposing requirements on small recipients (those with fewer than fifteen employees) that would create unnecessary and counterproductive paper work burdens on them and would not further the enforcement resources of the Department.

Section 104.16(a) is simplified. Recipients with fifteen or more employees may take appropriate steps to notify beneficiaries and employees of the recipient's obligations under section 106. The text of § 104.16(a) has been revised to list possible, rather than required, means of notification. Section 104.16(b) requires recipients to include a notification of their policy of nondiscrimination in recruitment and other general information materials.

In response to a number of comments, § 104.8 has been revised to delete the requirements of publication in local newspapers, which has proved to be both unnecessary and impractical. Several commenters suggested that notification on separate forms be allowed until present standards are met. This has also been deleted. The final regulation therefore allows the method of compliance. The separate form should, however, be included with a significant and popular form or publication.

§ 104.10 (formerly § 48.9) which prohibited the use of materials that might give the impression that a recipient excludes qualified handicapped persons from its program has been deleted. The Department is convinced by the comments that this provision is unnecessary and difficult to apply. The Department encourages recipients, however, to include in their recruitment and other general information materials photographs of handicapped persons and ramps and other features of accessible buildings.

Under new § 104.10(a) the Assistant Secretary may, under certain circumstances, require recipients with fewer than fifteen employees to comply with one or more of these requirements. That is, if experience shows a need for imposing notice or other requirements on particular recipients or classes of small recipients, the Department is prepared to expand the coverage of these sections.

14. Inconsistent State Laws. Section 104.15(a) states that compliance with the regulation is not excused by state or local laws limiting the eligibility of qualified handicapped persons to serve or to practice an occupation. The provision thus applies only with respect to state or local laws that unreasonably discriminate on the basis of handicap.

Paragraph (b) further points out that the presence of limited opportunities in a particular profession does not excuse a recipient from complying with the regulation. Thus, a law and license law that denies admission to a blinded applicant because blind lawyers may find it more difficult to find jobs than do nonblind handicapped lawyers.

Subpart B—Employment Practices

Subpart B prescribes requirements for nondiscrimination in the employment practices of recipients of Federal financial assistance administered by the Department. This subpart is consistent with the employment provisions of the Department's
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paragraph (b) specifies certain safeguards that must be followed by the employer.

Finally, the revised regulations require an employer to inform employees of employment opportunities for handicapped persons on the grounds that such information is necessary to ensure program accessibility. The regulations similarly require an employer to provide reasonable access to educational opportunities for handicapped persons, and to the extent that advice on these issues is provided, such persons must be assured of adequate access to educational opportunities.

Section 104.15 (recruitment) and 104.18 (discrimination and structure) and 104.19 (compliance) have been deleted from the regulation as it was reauthorized to the Department of Labor's section 1981.

A proposed section, concerning fringe benefits, is included for the first time. The section provides, in general, that no section of the act will be construed to authorize any employee, or group of employees, to engage in any activity that is not specifically authorized by the act. The section further provides that no section of the act will be construed to authorize any employee, or group of employees, to engage in any activity that is not specifically authorized by the act.

The Department believes that such a section will not be interpreted to authorize any employee, or group of employees, to engage in any activity that is not specifically authorized by the act. The section further provides that no section of the act will be construed to authorize any employee, or group of employees, to engage in any activity that is not specifically authorized by the act.
requiring the removal of all architectural barriers to access. The Department has considered these comments but has decided to take no further action at this time concerning these regulations, believing that such action should only be considered in light of experience in implementing the program accessibility standard.

25. New construction. Section 104.33 requires that all new facilities, as well as alterations that would affect access to and use of existing facilities, be designed and constructed in a manner that makes the facility accessible to and usable by handicapped persons. Section 104.34(c) has been amended so that it applies to each newly constructed facility if the construction was commenced after the effective date of the regulation. The words "if construction has commenced" will be considered to mean "if groundbreaking has taken place." Thus, a recipient will not be required to alter the design of a facility that has progressed beyond groundbreaking prior to the effective date of the regulation.

Paragraph (b) requires certain alterations to conform to the requirement of physical accessibility in paragraph (a). If an alteration is undertaken to a portion of a building the accessible route to which could be improved at the same time the alteration is carried out, the alteration must be made in such a manner that the accessible route to which the alteration is carried out is maintained. That is, a doorway or wall that is being altered, the door or other wall opening must be made wide enough to accommodate wheelchairs. On the other hand, if the alteration consists of altering ceilings, the provisions of this section are not applicable because this alteration cannot be done in a way that affects the accessibility at any portion of the building. The phrase "to the maximum extent feasible" has been added to allow for the occasional case in which the nature of an existing facility is such that it is impractical or prohibitively expensive to renovate the building in a manner that results in its being entirely barrier-free. In all such cases, however, the alteration should provide the maximum amount of physical accessibility feasible.

As proposed, §104.33(c) required compliance with the American National Standards Institute (ANSI) standard on building accessibility as the minimum necessary for compliance with the accessibility requirement of §§104.33 (a) and (b) as referenced in the ANSI standard, but it was not proposed. Section 104.37 provides that the Department of Housing and Urban Development (HUD) shall adopt regulations to implement the standards established by the ANSI standard. This provision, however, has been deleted. The Secretary believes that the provisions are unnecessary and inappropriate to this regulation. The Department will, however, seek to coordinate enforcement activities under this regulation with those of the Architectural and Transportation Barriers Compliance Board.

26. Pre-school, Elementary, and Secondary Education

Subpart D sets forth requirements for non-discrimination in pre-school, elementary, secondary, and adult education programs and activities, including secondary vocational education programs. In this context, the term "adult education" refers only to those educational programs and activities for adults that are operated by elementary and secondary schools.

The provisions of Subpart D apply to state and local educational agencies. Although the subpart applies in general to both public and private education programs and activities that are federally assisted, §§104.32 and 104.33 apply only to public programs and §104.38 applies only to private programs. §§104.35 and 104.36 apply both to public programs and to those private programs that include special services for handicapped students.


The basic requirements common to those cases and to this regulation are (1) that handicapped persons, regardless of the nature or severity of their handicap, be provided a free appropriate public education, (2) that handicapped students be educated with nonhandicapped students to the maximum extent appropriate to their needs, (3) that educational agencies undertake to identify and locate all undiagnosed handicapped children, (4) that identification and evaluation procedures be improved in order to avoid the inappropriate education that results from the misdiagnosis of students, and (5) that procedural safeguards be established to enable parents and guardians to influence decisions regarding the evaluation and placement of their children. These requirements are designed to ensure that no handicapped child is excluded from school on the basis of handicap and, if a recipient demonstrates that placement in a regular educational setting cannot be achieved satisfactorily, that the student is provided with adequate alternative services suited to the student's needs without additional cost to the student's parents or guardian. Thus, a recipient who operates a public school system must either educate handicapped children in its regular program or provide such children with an appropriate alternative education at public expense.

It is not the intention of the Department, except in extraordinary circumstances, to review the result of individual placement and other educational decisions, so long as the school district complies with the "processes" requirements of this subpart (concerning identification, placement, and educational program and services). However, the Department will place a high priority on investigating cases which may involve exclusion of a child from the education system or a pattern or practice of discriminatory placement of handicapped children.

27. Location and satisfaction. Section 104.32 requires public schools to take steps annually to identify and locate handicapped children who are not receiving an education and to publicize to handicapped children and their parents the rights and duties established by sections 300 and this regulation. This section has been substantially rewritten with substantive change.

28. Free appropriate public education. Under §104.32(a), a recipient is responsible for providing a free appropriate public education to each qualified handicapped person who is in its jurisdiction. The word "in" encompasses the concepts of both domiciliary and residential. If a...
Para. (c) of 104.34 also sets forth the specific financial obligations of a recipient. If a recipient does not itself provide handicapped persons with the necessary services, it must assume the cost of any alternate placement. If, however, a recipient offers adequate services and if alternate placement is chosen by a student's parent or guardian, the recipient need not assume the cost of the outside services. If the parent or guardian believes that he or her child cannot be adequately educated in the recipient's program, he or she may make use of the procedures established in § 104.34. Under this paragraph, a recipient's obligations extend beyond the provision of tuition payments in the case of placements outside the regular program. Adequate transportation must also be provided. Recipients must also pay for psychological services and those medical services necessary for diagnosis and evaluative purposes.

If the recipient places a student, because of his or her handicap, in a program that necessitates him or her being away from home, the payments must also cover room and board. These payments are in addition to any custodial and supervisory care. When residential care is necessitated not by the student's handicap but by factors such as the student's home conditions, the recipient is not required to pay the cost of room and board.

Two new sentences have been added to paragraph (c)(1) to make clear that a recipient's financial obligations need not be met solely through its own funds. Recipients may rely on funds from any public or private source including insurers and similar third parties.

The EHA requires a free appropriate education to be provided to handicapped children "no later than September 1, 1977," but section 504 contains no authority for delaying enforcement. To resolve this problem, a new paragraph (d) has been added to § 104.34. Section 104.34(d) requires recipients to adopt rules or policies of the free appropriate public education requirements of § 104.34 as expeditiously as possible but no later than September 1, 1977. The provision also makes clear that, as of the effective date of this regulation, the recipient may comply with the standards of a qualified handicapped child's educational program. This provision contains no authority for deferment of the requirements of § 504 or any other law with respect to handicapped children. The EHA, which places the highest priority on providing services to handicapped children who are not currently receiving an education.

24. Educational setting. Section 104.34 prescribes standards for educating handicapped persons with nonhandicapped persons to the maximum extent appropriate to the needs of the handicapped person in question. A handicapped student may be removed from the regular educational setting only where the recipient can show that the needs of the student would be subserved by a placement in a regular class or regular educational program as a regular part of the educational setting to which the student is assigned. Although § 104.34, the needs of the handicapped person are determined as to proper placement. It should be stressed that, where a handicapped student is in a regular class or regular educational program and the education of other students is significantly impaired, the needs of the handicapped child cannot be met in that environment. Therefore, regular placement would not be appropriate to his or her needs and would not be required by § 104.34.

Among the factors to be considered in placing a child in the need to place the child as close to home as possible. A new sentence has been added to paragraph (e) requiring recipients to take this factor into account. As pointed out in several comments, the parents' right under § 104.34 to challenge the placement of the student extends not only to placement in special classes or separate schools but also to placement in a distant and inappropriate residential placement. An equally appropriate educational program may exist closer to home. The issue may be certified by the parent or guardian under §§ 104.34 and 104.36.

New paragraph (f) specified that handicapped children must also be provided on-site administrative services in an integrated setting at a State or local level as a condition of the requirement to provide appropriate education to handicapped children. This requirement is important for children whose educational needs necessitate their being taught solely with other handicapped children during most of the day. To the maximum extent appropriate, children in residential settings are also to be provided opportunities for participation with other children.

Section 104.34(f) requires that any facilities that are available be comparable in quality to other facilities of the recipient. A number of comments object to this section on the basis that it encourages the creation and maintenance of such facilities. This is not the intent of the provision. A separate liability clause section 504 unless it is indeed necessary to the provision of an appropriate education to certain handicapped students. In such instances, which such facilities are necessary (as might be the case, for example, for severely retarded persons). This provision requires that the educational services provided be comparable to those provided in the facilities of the recipient that are not comparable as being for handicapped purposes.

25. Evaluation and placement. Because the failure to provide handicapped persons with an appropriate education is so frequently the result of misclassification or misplacement, section 104.34(c)(1) makes compliance with its provisions contingent on adherence to certain procedures designed to assure appropriate classification and placement. These procedures, defined in §§ 104.32 and 104.36, are concerned with testing and other evaluation methods and with procedural due process rights.

Section 104.34(c)(1) prescribes that an individual evaluation be conducted before any action is taken with respect to the initial placement of a handicapped child in a regular or special education program or any subsequent significant change in that placement. Thus, a full revocation is not required every time an adjustment in placement is made. "Any action" includes denial of placement.

Paragraphs (b) and (c) of 104.33 establishes procedures designed to ensure that the evaluation or, if necessary, an appropriate evaluation is done in a non-discriminatory manner. The term "appropriate evaluation" has been narrowly defined to mean an evaluation which is as unbiased as possible in order to avoid distortion of the data and results by the impairment. Former paragraph (d) has been deleted and no corresponding section has been added. The modified version of the other provisions of this paragraph.

Paragraph (e) requires a recipient to arrange for a complete individual examination of each handicapped person at least once each year. The Department has concluded that it is inappropriate to the section 504 regulation to require such a complete examination, including periodic evaluations and specified that such evaluations in accordance with the EHA will constitute one (1) day. The proposed regulation implementing the EHA allows revocation at three-year intervals except under circumstances specific to the recipient. Under § 104.34, a recipient may establish a system of due process procedures to be afforded to parents or guardians before the recipient takes any action regarding the identification, evaluation, or educational placement of a person who, because of his handicap, needs or is believed to need special education or related services. This section has been revised. Because the due
subject to that Act, the section now specifies minimum necessary procedures, a right to inspect records, an impartial hearing with a right to representation by counsel, and a review procedure. The EEA procedures remain one means of meeting the program requirements, however, and are recommended to recipients as a model.

3d. Nonacademic and adult education. Section 104.37 requires a recipient to provide nonacademic and extracurricular services and activities in such manner as is necessary to afford handicapped students an opportunity. Because these services and activities are part of a recipient's education program, they must, in accordance with the provisions of §104.34, be provided in the most integrated setting appropriate.

Revised paragraph (c)(2)(i) does not permit separation or differentiation with respect to the provision of physical education and athletic activities, but only if qualified handicapped students are able to participate in one or more regular physical education and athletic activities. For example, a student in a wheelchair may participate in regular archery courses, as can a deaf student in a wrestling course.

Finally, the one-year transition period provided in a proposed section was deleted in response to the almost unanimous objection of commenters to that provision.

a. Nonacademic and adult education. Section 104.38 prohibits discrimination on the basis of handicap in preschool and adult education programs. Previous paragraphs (b), which emphasized that compensatory programs for disadvantaged children are subject to section 504, has been deleted as unnecessary, since it is incorporated by paragraph (d).

b. Private education. Section 104.39 sets forth the requirements applicable to recipients of private education programs and activities. The obligations of these recipients have been changed in two significant respects: first, private schools are subject to the requirements and are also subject to the provisions of the subpart only if they operate special education programs, second, under §104.39(a), they may charge fees for providing services to handicapped students than to nonhandicapped students, so long as the additional charges may be justified by increased costs.

Paragraph (a) of 104.39 is intended to protect recipients that operate education programs and activities that are not required to provide appropriate education to handicapped students with special educational needs if the program does not offer programs designed to meet those needs. Thus, a private school that has no program for mentally retarded persons in another section to admit such a person to its program nor to arrange or pay for the private school's services that the person's education in another program. A private recipient without a special program for blind students, however, would not be permitted to exclude, on the basis of blindness, a blind applicant who is able to participate in the regular program with minor adaptations in the manner in which the program is normally offered.

Subpart E—Postsecondary Education

Subpart E prescribes requirements for handicapped individuals in the operation of programs and activities in postsecondary programs and activities, including vocational education.

28. Admission and enrollment. In addition to a general prohibition of discrimination on the basis of handicap in §104.42(a), the regulation defines, in §104.42(b), specific prohibitions concerning the establishment of limitations on the admission of handicapped students, the use of tests or selection criteria, and prediscrimination inquiry. Several changes have been made to this provision.

Section 104.42(2)(i) provides that postsecondary educational institutions may not use any test or criterion that has a disproportionate adverse effect on handicapped persons unless it has been validated as a predictor of academic success and has been related to a discriminant with a less disproportionate adverse effect shown by the Department to be available. There are two significant changes in this approach from the July 19 proposed regulations.

First, many commenters expressed concern that §104.42(2)(iii) could be interpreted to require a "global search" for alternative tests that do not have a disproportionate adverse impact on handicapped persons. This was not the intent of the regulation and, therefore, it has been amended to place the burden on the Assistant Secretary for Civil Rights, rather than on the recipient, to identify alternate tests.

Second, a new paragraph (c), concerning validity studies, has been added. Under the proposed regulations, if a lesser success in an education program, not just first-year grades, was the criterion against which admissions tests were to be validated. This approach has been changed to reflect the concerns of ... professional testing services that use of first-year grades would be less disruptive of present practices and that periodic validity studies against overall success in the education program would be sufficient check on the reliability of post-year graduation.

Section 104.42(2)(ii) also requires a recipient to assure itself that admissions tests are selected and administered to applicants with impaired sensory, manual, or speaking skills in such manner as is necessary to avoid undue distortion of test results. Methods have been developed for minimizing handicap and the achievement of persons who are not able to take written tests or to even make the marks required for satisfactory performance. Methods for testing persons with visual or hearing impairments are available. A recipient, under this paragraph, must assure itself that such methods are used with respect to the selection and administration of any admissions tests that it uses.

Section 104.42(2)(iii)(B) has been amended to require that admissions tests be administered in a manner that, on the whole, are accessible in this context. On the whole means that all of the facilities need to be accessible as long as a sufficient number of facilities are available to handicapped persons.

Revised §104.42(2)(c) generally prohibits prediscrimination inquiries as to whether an applicant has a handicap. The considerations that led to this revision are similar to those underlying the comparable provisions of §104.16 on preemployment measures. The regulation does, however, allow inquiries to be made, after the first offer, of the recipient. The enrollment, as in handicaps that may require accommodation.

Course of study, or other part of its education program or activity. This paragraph reflects a concern that a college must ensure that discrimination on the basis of handicap does not occur in connection with teaching assignments of student teachers in public schools, as not operating by the college. Under the "as a whole" wording, the college could continue to use elements or a section of the program that discriminate if, and only if, the college's student teaching program, when viewed in its entirety, is accessible to handicapped student teachers, the same range and quality of choice of the student teaching assignments of nonhandicapped students.

Paragraph (c) of this section prohibits a recipient from excluding qualified handicapped students from any course, program, activity, or service that is not specifically excluded because of factors such as ambulatory difficulties of the student or assistance that can be made to the person in a situation similar to that of handicapped students that are provided services in the most integrated setting appropriate. Thus, if a college had several elementary physics classes and had moved one class to the first floor of the science building to accommodate students in wheelchairs, it would be a violation of this.
paragraph for the colleges to conserve handicapped students with as no mobility impairments in the same manner.

31. Academic adjustments. Paragraph (a) of § 106.43 requires that a recipient make certain adjustments in academic requirements and practices that discriminate or have the effect of discriminating on the basis of handicap. This requirement, like its predecessor in the proposed regulation does not obligate an institution to waive courses or other academic requirements. Such institutions must also meet the requirements to the needs of individual handicapped students. For example, an institution may provide an otherwise qualified handicapped student who is deaf to substitute an art appreciation or music history course for a required course in music appreciation or could accommodate a student in the music appreciation course conducted for the deaf student. It should be stressed that academic requirements that can be demonstrated by the recipient to be essential to its program of instruction or to particularized graduation degree may be changed.

Paragraph (b) provides that postsecondary institutions may not impose rules that have the effect of limiting the participation of handicapped student in the educational program. Such rules include prohibition of tape recorders or braille books in classroom and guide dogs in classrooms. Several recipients expressed concern about allowing students to tape record lectures because the prohibition later can't go to the library. This problem will be solved by requiring students to sign agreements that they will not release the tape recording or transcription to someone else until the professor's ability to obtain a copy.

Paragraph (c) of this section, concerning the administration of course examinations to students with impaired sensory, manual, or speaking skills, parallels the regulation's provisions on examinations testing § 104.34(b). and will be similarly interpreted. Under § 104.44(d), a recipient must ensure that no handicapped student is subject to disproportionate share of disciplinary action because of the absence of necessary auxiliary educational aids. Colleges and universities expressed concern about the costs of compliance with this provision.

The Department emphasizes that recipients can usually meet this obligation by assisting students in using existing resources for auxiliary aids such as state vocational rehabilitation agencies and private charitable organizations. Instead, the Department anticipates that the bulk of auxiliary aids will be paid for by state and private agencies, not by colleges or universities. In those circumstances, the recipient institution must provide the educational auxiliary aids. The institution has flexibility in choosing the methods by which the aids will be supplied. For example, some universities have used students to work with the institution's handicapped students. Other institutions have used existing private agencies that tape tests for handicapped students free of charge in order to better accommodate students needed for visually impaired students.

As long as no handicapped person is excluded from a program because of the lack of an appropriate aid, the recipient need not have all such aids on hand at all times. Thus, a school need not be capable of the recipient's library at all times so long as the schedule of times when a reader is available to the recipient's library at all times so long as the schedule of times when a reader is available is established, as a whole and is consistent. Of course, recipients are not required to maintain a complete braille library.

32. Housing. Section 104.43(b) requires postsecondary institutions to provide housing to handicapped students at the same cost as they provide it to other students and in a convenient, comparable, and comparable manner. Comments, particularly blind persons pointed out that some handicapped persons can live in any college housing and need not wait to the end of the transition period in Subpart C to be offered the same variety and scope of housing accommodations given to nonhandicapped persons. The Department concurs with this position and will interpret this section accordingly.

A number of colleges and universities raised questions on paragraph (b) of this section. It provides that if a recipient assists in making off-campus living arrangements available to students, it should develop and implement procedures to assure itself that off-campus housing, as a whole, is available to handicapped students. Since postsecondary institutions are presumably required to assure themselves that off-campus housing is provided in a manner that does not discriminate on the basis of sex § 106.32 of the title IX regulation, they may use the procedures developed under title IX to order comply with § 104.4(b). It should be emphasized that not all off-campus living arrangements need to be made accessible to handicapped persons.

33. Health and insurance. A proposed section, providing that recipients may not discriminate on the basis of handicap in the provision of health related services, has been deleted as duplicative of the general provisions of section 104.42. This deletion represents no change in the obligation of recipients to provide nondiscriminatory health and insurance plans. The Department will continue to require that nondiscriminatory health services be provided to handicapped students. Recipients are not required, however, to provide specialized services and aids to handicapped persons in health programs. If, for example, a college infirmary treats only simple disorders such as cuts, bruises, and colds, its obligation to handicapped persons is to treat such disorders for them.

34. Financial assistance. Section 104.44(a), prohibiting discrimination in providing financial assistance, remains substantively the same. It provides that recipients may not provide less assistance to or impose the obligation of qualified handicapped persons for such assistance, whether the assistance is provided directly by the recipient or by another entity through the recipient's sponsorship. Awards that are made under rules, trusts, or similar legal instruments in a discriminatory manner are permissible, but only if the overall effect of the recipient's provision of financial assistance is not discriminatory on the basis of handicap.

It will not be considered discriminatory to deny, on the basis of handicap, an athletic scholarship to a handicapped person if the handicap renders the person unable to qualify for the award. For example, a student who has a neurological disorder might be denied a varsity football scholarship on the basis of his inability to play football, but a deaf person could, on the basis of handicap, be denied a scholarship for the school's diving team. The deaf person could, however, be denied a scholarship on the basis of comparable diving ability.

Commenters on § 104.45(b), which applies to assistance in obtaining outside employment for students, superceded similar provisions in the proposed regulation, commenting concerning cooperative programs. This paragraph has not been included in the present action as well as § 104.45(b). In "Health and insurance." Section 104.45 establishes nondiscrimination standards for physical education and athletics counseling and placement services, and socialized support services. This section sets the same standards as does § 104.3 of Subpart B, discussed above, and will be interpreted in a similar fashion.

Subpart F—Health, Welfare, and Social Services

Subpart F applies to recipients that operate health, welfare, and social service programs. The Department received fewer comments on this subpart. Although many commented that Subpart F lacked specificity, these comments provided specific suggestions not adjectives. Nevertheless, some changes have been made, pursuant to comment, to clarify the obligations of recipients in specific areas. In addition, in an effort to reduce duplication in the regulation, the section governing recipients providing health services has been consolidated with the section regulating providers of welfare and social services. Since the separate provisions that appeared in the proposed regulation were almost identical, no substantive changes should be inferred from their consolidation.

Several comments asked whether Subpart F applies to vocational rehabilitation agencies whose purpose is to assist in the rehabilitation of handicapped persons. To the extent that these agencies receive financial assistance from the Department, they will be covered by Subpart F and all other relevant subparts of the regulation. Nothing in this regulation, however, precludes such agencies from servicing only handicapped persons.

Indeed, § 104.44(c) permits recipients to offer services to disabled persons under the federal law to handicapped persons or classes of handicapped persons.

A number of comments also discussed whether section 304 should be reworded to require payment of compensation to handicapped patients who perform services

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for the institution in which they reside. The Department of Labor has recently issued a proposed regulation under the Fair Labor Standards Act (FLSA) that covers the question of compensation for institutionalized persons. 42 F.R. 33224 (March 18, 1977). This Department will seek information and comments from the Department of Labor concerning the agency's experience administering the FLSA regulation.

36. Health, welfare, and other social service providers. Section 104.42(a) has been extended in several respects. The addition of new paragraph (a)(2) is intended to make clear the basic requirement of equal opportunity to receive services or in the health, welfare, and social service areas. The provision parallels §§ 104.4(b)(6) and 104.42(b). New paragraph (a)(3) requires the provision of effective and equal opportunities to receive services or in the health, welfare, and social service areas.

37. Treatment of Drug Addicts and Alcoholics. Section 104.33 is a new section that prohibits discrimination in the treatment and admission of drug and alcohol addicts to hospitals and outpatient facilities. Section 104.33 prohibits discrimination against drug addicts by operators of inpatient facilities, despite the fact that section 407 permits only to hospitals, because of the broader application of section 407. This provision does not mean that all hospitals and outpatient facilities must treat drug addiction and alcoholism as specific diseases.

38. Education of Institutionalized Persons. The regulation retains § 104.54 of the proposed regulation that requires that an appropriate education be provided to qualified handicapped persons who are confined to residential institutions or day care centers.

Subpart G—Procedures

In § 104.43, the Secretary has adopted the Title VI complaint and enforcement procedures for use in implementing section 504 until such time as they are superseded by the issuance of a consolidated procedural regulation applicable to all of the civil rights statutes and executive orders administered by the Department.

Appendix B—Guidelines for Eliminating Discrimination and Retaliation for Genders or Disability on the Basis of Race, Color, National Origin, Sex, and Handicap in Vocational Education Programs.

Note.—For the text of these guidelines, see 54 C.F.R. Part 100, Appendix B.
REFERENCES


Barkley, Russell (1993, June). Attention Deficit-Hyperactivity Disorders in Children and Adults. Workshop presented by The Detroit Institute for Children Care for the Disabled Child, Detroit, MI.


ABSTRACT

A STUDY TO DETERMINE THE EFFECTS OF THE DISTRIBUTION OF INFORMATIONAL FACTS CONCERNING ATTENTION DEFICIT/HYPERACTIVITY DISORDER (ADHD) CHILDREN ON TEACHERS' KNOWLEDGE AND ATTITUDES TOWARDS THESE STUDENTS

by

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May 1994

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Major: Curriculum and Instruction
Degree: Doctor of Education

The problem addressed in this study was how to efficiently and effectively educate public school teachers on the nature of Attention Deficit/Hyperactivity Disorder. New interpretations of legislation have made it necessary to address the problem of educating ADHD children. With the interpretation of Section 504 of the Vocational Rehabilitation Act of 1973, schools across the country are faced with the need to provide their teachers with information concerning ADHD. It is the intent of this study to determine if the distribution of the basic facts of ADHD could change the pattern of teacher attitudes and knowledge towards ADHD children by promoting a better understanding of these children.

The subjects for this study were 170 general education teachers from three rural school districts in Southeastern Lapeer County. A pre-test was administered in September 1993.
This was followed by 13 information sheets containing basic facts about ADHD which were placed in the teachers' school mailboxes at a rate of at least one per day. A post-test was then given to assess the impact of the information sheets on the teachers' attitudes and knowledge concerning ADHD.

Of the 22 items on the survey instrument, there was a significant difference on 5 items after the treatment was given. Two of the items that showed a significant difference were in the attitudes section. One of these items showed a negative impact of the intervention on the teachers.

The treatment seemed to work somewhat better in improving teachers' knowledge of ADHD. On this portion there was a positive significant difference on three items in the survey. Since the information sheets directly addressed these items, and there was no other observable interventions during the time between the pre-test and post-test, it may be assumed that the information provided the teachers did make a positive impact.

The items where a significant difference occurred were:
(a) "Impulsivity and poor peer relations are frequent problems faced by ADHD students," (b) "Poor academic performance of ADHD students is most likely the result of study habits," and (c) "ADHD students with poor grades are often disorganized."
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