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EFFECTIVE CLASSROOM STRATEGIES FOR STUDENTS WITH ADHD

by  
Jennifer A. Berenguer

A Thesis

Submitted in partial fulfillment of the requirements of the  
Masters in Learning Disabilities Degree  
of  
The Graduate School  
at  
Rowan University  
May 6, 2002

Approved by

Dr. Stanley Urban

Date Approved

May 6, 2002

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## ABSTRACT

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Effective Classroom Strategies for Students with ADHD  
2001-02  
Dr. Stanley Urban  
Masters in Learning Disabilities

The purposes of this exploratory investigation were to (a) identify practical strategies for ameliorating Attention Deficit Hyperactivity Disorder currently being implemented by teachers in the classroom setting; and (b) identify the strategies found to be most effective. Diagnostic criteria for the identification of students with ADHD are identified. Empirically validated treatments are identified and discussed. The role of educational professionals is delineated, demonstrating the need for identification of effective practical strategies for classroom utilization. Teachers demonstrated a high rate of frequency for utilizing practical strategies that they identified to be most effective. Implications for teaching students with ADHD in the least restrictive environment are discussed.

## MINI-ABSTRACT

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## Chapter 1: Introduction

### Background

Exploring and understanding the activity levels of children and how this is related to a child's ability to attend and take in information is essential to teaching not only the child with typical activity levels but also in successfully instructing the child with Attention Deficit Disorder with or without Hyperactivity. Attention Deficit Hyperactivity Disorder affects between 3% and 5% of the school population (Hibbs & Jensen, 1996). Many of these students will be serviced in public schools in regular education classrooms by teachers who feel they are not prepared to meet the needs of these students in their classrooms. As a result of the negative impact ADHD may have on a student's education, some students will need to access the free appropriate public education entitled to them through federal legislation. For children who cannot succeed in the classroom as a result of this disorder, access to the curriculum is made available through appropriate adaptations and modifications through the Individuals with Disabilities Act (IDEA), Section 504 of the Rehabilitation Act of 1973, or the American with Disabilities Act of 1990 (ADA).

### Need for Study

Everyone knows a child with ADHD and research on this topic is in abundance. The need for study is to answer the question most often asked by educators: What really

works? There is a need to identify the techniques and instructional strategies actually being used and proven to be effective by teachers in the field. This question applies to children identified as having ADD and ADHD who are receiving medication as well as children who are not receiving medication and rely on behavioral methods in order to compensate for difficulties within the classroom setting.

Although educators do not diagnose ADD or ADHD, educators do play an important role in describing behaviors in children and completing rating scales such as the Conner's Rating Scale for Teachers so that children may be properly identified. After a child is identified as having ADD, with or without Hyperactivity, the child may then by decision of his or her parents be medicated. Not all medications for ADHD work for all children and parents must make the terribly difficult decision, to medicate or not to medicate. Either way all children are entitled to a free and appropriate public education. Finally, educators are expected to play the most important role- educating all children. This means children with and without ADD/ADHD. It is important to determine those instructional strategies that are effective in the real world classroom setting.

### Research Questions

1. What practical strategies for ameliorating ADHD have been tried by teachers in the classroom setting?
2. Which strategies are being successfully implemented in classrooms?



## Definitions

First it is essential to have a common reference for the term Attention-Deficit/Hyperactivity Disorder (ADHD). The Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV) specifies diagnostic criteria for Attention-Deficit/Hyperactivity Disorder. The essential feature of Attention-Deficit/Hyperactivity Disorder is a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequent and severe than is typically observed in individuals at a comparable level of development (Criterion A). Some hyperactive-impulsive or inattentive symptoms that cause impairment must have been present before age 7 years, although many individuals are diagnosed after the symptoms have been present for a number of years (Criterion B). Some impairment from the symptoms must be present in at least two settings (e.g., at home and at school or work) (Criterion C). There must be clear evidence of interference with developmentally appropriate social, academic, or occupational functioning (Criterion D). The disturbance does not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and is not better accounted for by another mental disorder (e.g., a Mood Disorder, Anxiety Disorder, Dissociative Disorder, or Personality Disorder) (Criterion E).

The common factors found in defining the term, can be characterized by inattention, inhibition, and impulsivity. The American Psychiatric Association (APA) defines *Attention Deficit Hyperactivity Disorder* as a chronic and pervasive condition characterized by developmentally inappropriate levels of inattention, impulsivity, or hyperactivity (Hibbs & Jensen, 1996). ADHD can have a very serious impact on an individual's psychosocial functioning which may result in decreased academic

productivity, academic underachievement, peer relationship problems, family conflict, and diminished self-esteem (Barkley, 1990).

Although numerous studies focus on inattention and hyperactivity, developmental neuropsychologists seek to understand difficulties in inhibition. An inability to delay a response long enough to evaluate various alternative behaviors makes it difficult to learn new behaviors or to develop compensatory skills. Children with ADHD often have difficulty delaying their responses to environmental stimuli. They have also been found not to respond readily to environmental feedback concerning their behavior (Douglas, 1983).

Russell A. Barkley, Director of Psychology and Professor of Psychiatry and Neurology at the University of Massachusetts Medical Center, defines ADHD as a developmental disorder of self-control, consisting of problems with attention span, impulse control, and activity level. These problems are reflected in impairment in a child's will or capacity to control his or her own behavior relative to the passage of time—to keep future goals and consequences in mind.

It is also important to understand the history of ADHD. Clinical professionals operated according to the fallacious notions that ADHD was caused by brain injuries or poor parenting; that children would eventually outgrow it by adolescence; that stimulant medications would be effective only with children (not with adults and older adolescents) and only on school days; and that a diet free of certain food additives and sugar – all despite the absence of any set of findings in the scientific literature to support such claims (Barkley, 1995). More recent scientific studies have shown that ADHD probably is not primarily a disorder of paying attention but one of *self-regulation*: how the self comes to

manage itself within the larger realm of social behavior; a disturbance in the child's ability to use self-control with regard to the future (Barkley, 1995). That capacity is crucial to our ability to be organized, planful, and goal-directed, and it is directly dependent on how much control we have over our impulses (Barkley, 1995).

Understanding the facts regarding identification and diagnosis of ADHD are essential in determining treatment procedures for children with ADHD.

### Limitations

Respondents may not be completely honest about what strategies and interventions they use in their classrooms and others may not be willing to implement strategies and interventions due to individual philosophical differences in pedagogy.

## Chapter 2: Review of the Literature

### Etiological Factors in ADHD

Factors include genetic, nongenetic, psychosocial, and neurological bases (Mastropieri and Scruggs, 2000). Genetic evidence is based on families who have ADHD, estimating that as many as 32% of children with ADHD have parents or siblings with ADHD (Mastropieri & Scruggs, 2000; Biederman et al., 1992). Nongenetic factors include prenatal and perinatal factors, food additives and sugar, allergies, and thyroid disorders (Mastropieri & Scruggs, 2000; Riccio, Hynd, & Cohen, 1997). Research does not conclusively support theories of food additives (as hypothesized by Feingold) and sugar (as hypothesized by Smith) as causes for ADHD (Mastropieri & Scruggs, 2000; Connors, 1980; Wolraich, Milich, Stumbo, & Schultz, 1985). Psychosocial and neurological bases are also included as correlates associated with ADHD, however, no definitive single etiological factor has been uncovered (Mastropieri & Scruggs, 2000). Being aware of etiologies can assist individuals and families in the early detection and treatment of ADHD thus preventing the severity of characteristics such as poor social adjustment, academic failure, peer rejection, and family conflict.

### Assessment/Diagnosis

Experts recommend a two-step approach to the assessment of ADHD (Mastropieri & Scruggs, 2000). The first step is to determine whether ADHD exists and the second step

is to determine whether the student's educational progress is adversely affected by it (Mastropieri & Scruggs, 2000; CEC, 1992). The following information is collected in order to determine the existence of ADHD:

1. observations of the individual's behavior throughout the day
2. medical history
3. family information
4. school information
5. social-emotional functioning
6. cognitive-academic functioning (Mastropieri & Scruggs, 2000; CEC, 1992; Schwanz & Kamphaus, 1997)

The *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* lists **Diagnostic criteria for Attention-Deficit/Hyperactivity Disorder**. (pp.83-85)

- A. Either (1) or (2)
- (1) six (or more) of the following symptoms of **inattention** have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:  
*Inattention*
    - (a) often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
    - (b) often has difficulty sustaining attention in tasks or play activities
    - (c) often does not seem to listen when spoken to directly
    - (d) often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior to failure to understand instructions)
    - (e) often has difficulty organizing tasks and activities
    - (f) often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
    - (g) often loses things necessary for tasks or activities (e.g., toys, school, assignments, pencils, books, or tools)
    - (h) is often easily distracted by extraneous stimuli
    - (i) is often forgetful in daily activities
  - (2) six (or more) of the following symptoms of **hyperactivity-impulsivity** have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:  
*Hyperactivity*
    - (a) often fidgets with hands or feet and squirms in seat

- (b) often leaves seat in classroom or in other situations in which remaining seated is expected
  - (c) often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
  - (d) often has difficulty playing or engaging in leisure activities quietly
  - (e) is often “on the go” or often acts as “driven by a motor”
  - (f) often talks excessively
  - Impulsivity*
  - (g) often blurts out answers before questions have been completed
  - (h) often has difficulty awaiting turn
  - (i) often interrupts or intrudes on others (e.g., butts into conversations or games)
- B. Some hyperactive-impulsive or inattentive symptoms that caused impairment were present before age 7 years.
  - C. Some impairment from the symptoms is present in two or more settings (e.g., at school [or work] and at home).
  - D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.
  - E. The symptoms do not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder).

*Code based on type:*

**314.01 Attention-Deficit/Hyperactivity Disorder, Combined**

**Type:** if both criteria A1 and A2 are met for the past 6 months

**314.00 Attention-Deficit/Hyperactivity Disorder, Predominantly Inattentive Type:** if criterion A2 is met but criterion A1 is not met for the past 6 months

**314.01 Attention-Deficit/Hyperactivity Disorder, Predominantly Hyperactive-Impulsive Type:** if criterion A2 is met but Criterion A1 is not met for the past 6 months

If it is concluded that a child has ADHD, then it is necessary to collect information to determine the extent to which academic performance is hindered (Mastropieri & Scruggs, 2000; CEC, 1992). To qualify for special education services in the “other health impairment” category of IDEA, it must be documented (samples of class work, class grades in various subject areas, observational data, and rating scale data) that the ADHD has an adverse affect on educational performance (Mastropieri & Scruggs, 2000). To qualify for special services under Section 504 of the Vocational Rehabilitation Act, it must be documented that the ADHD substantially limits learning (Mastropieri & Scruggs, 2000). After assessment and diagnosis of ADHD, it is essential to seek the appropriate treatment based on the individual’s needs and treatment options. Although a child may not meet eligibility criteria under IDEA or Section 504, these students may still benefit

from various treatments or accommodations, even though these treatments may not be required as a legal obligation (Mastropieri & Scruggs, 2000). In making a diagnosis, the two-part test is crucial. If the child's educational progress is adversely affected by ADHD, treatment options will need to be pursued. When family doctors, pediatricians, psychologists, and neurologists become involved, school professionals, as well as parents, will act as information providers who will assist these medical professionals in making an accurate diagnosis. Assessments such as the Conner's Rating Scale (Conners & Lett, 1999) may be completed by teachers and parents in order to determine the manifestation of the behaviors across multiple settings. Some medical professionals require a full Child Study Team evaluation in order to rule out other conditions, such as Learning Disabilities, Cognitive Impairments, Language Impairments, and deficiencies in Auditory Processing.

### Treatments for ADHD

An impressive range of psychosocial treatment studies using parent training (PT), problem-solving communication training (PSCT), and structural family therapy (SFT) are available (Hibbs and Jensen, 1996). These approaches show significant benefits to children, adolescents, and their parents following the end of treatment.

Behavioral interventions are strategies that use the principles of consistent behavior management with respect to antecedent and consequent events, then strategies are implemented systematically based on that analysis. Cognitive-behavioral interventions use the same principles of behavior management, but in addition, as a self-instruction and self-monitoring component to the intervention. (Mastropieri & Scruggs, 2000)

The Parent Training (PT) program is a nine-session program, implemented by three licensed PhD-level psychologists which included an overview of ADHD, a review for understanding child behavior problems, a discussion of general behavior management principles, teaching parents specialized, positive reinforcement skills (positive attending and ignoring skills, attending positively to appropriate play or compliance with simple requests, and using a comprehensive, reward oriented home token or point system), teaching the use of punishment strategies (response cost for minor noncompliance and rule violations and time out from reinforcement for more serious rule violations), teaching how to modify these strategies for use in public places, and teaching how to work cooperatively with school personnel. The treatment outcome resulted in parent reports of improvements in the overall severity of their child's symptomatology and in parent functioning (Hibbs & Jensen, 1996).

The problem-solving communication training (PSCT) requires adolescents and their parents to learn a five-step behavioral approach to problem solving, which they practiced both under therapist supervision and on their own. The five-step behavioral problem solving includes training in defining problems, generating solutions to problems, evaluating solutions, choosing a solution, and implementing a solution. The PSCT model also includes the components of communication training (identifying and remediating maladaptive family communication patterns) and cognitive restructuring (identifying and reframing irrational family beliefs). The data from this study suggested that all three treatment conditions produced improvements in several areas of family functioning, such as fewer conflicts, less anger intensity during conflict discussions, and more effective communication. (Hibbs and Jensen, 1996)



The structural family therapy (SFT) focuses on adolescents with ADHD and their family. The treatment components include: identifying conflict issues of primary concern; reviewing prior family attempts to resolve conflicts; creating transactions, joining transactions, restructuring transactions; and altering boundaries, alignments, power and other aspects of family structure responsible for maintaining family conflict (Hibbs and Jensen, 1996).

Cognitive-behavioral treatments (CBT) have been developed for children with ADHD to foster self management of interpersonal behaviors (Hibbs & Jensen, 1996). Children are reinforced for self-monitoring, demonstrating appropriate responses during anger management exercises, and matching their own self-ratings with those of an objective adult observer.

All of these treatments emphasize positive communication between adults and children and require all parties to become active participants in the process. The significance of these empirical studies results in effective strategies in the treatment of ADHD not only for parents but also for teachers in the classroom setting. Such techniques and strategies can be modified and adapted by teachers in order to individualize these techniques for specific individuals, as well as for classroom management on a larger scale.

Medications for students with ADHD include psychostimulant drugs, such as Ritalin or Adderall, and have been controversial in the treatment of ADHD. Combinations of these treatments have been identified as producing the best results for students with ADHD including the maintenance of successful performance in school (Barkley, 1995; Hallahan & Cottone, 1997; Montague, Fiore, Hocutt, McKinney & Harris, 1996).

The stimulants, the drugs most commonly used, have been shown to be effective in improving behavior, academic work, and social adjustment in anywhere from 50 to 95% of children with ADHD (Barkley, 1995). Stimulants increase the level of arousal of the brain, which seems to help inhibit behavior and increase sustained attention (Barkley, 1995). The more severe the symptoms of inattention and impulsiveness, the better a child is likely to respond to the medicine, the most commonly prescribed of which are the stimulants Ritalin, Adderall, and Dexedrine (Barkley, 1995). Some studies have found that the quality of the relationship between parent and child may predict the child's drug response: The better the mother-child relationship, the greater the response to medication (Barkley, 1995). Although the benefits for a percentage of students are substantial, medication is not a complete remedy for ADHD. Medication alone does not enhance unmastered social and academic skills, nor does it appear to improve academic underachievement (Hibbs & Jensen, 1996). Overall, it is not the use of psychostimulant drugs in isolation that yield the best results, but when coupled with family therapy and/or psychosocial treatment, the result is a more positive outcome.

The most effective approach is a multifaceted treatment approach which may include:

- Behavior modification and management at home and school.
- Counseling. Family counseling is recommended because with an ADHD child in the house, the whole family is affected.
- Individual counseling to learn coping techniques, problem-solving strategies, and how to deal with stress and self-esteem
- Cognitive therapy to give the child the skills to regulate his/her own behavior as well as "stop-and-think" techniques.
- Social skills training (sometimes available in school counseling groups)
- Numerous school interventions (environmental, instructional, behavioral)
- Providing for physical outlet (e.g., swimming, martial arts, gymnastics, running- particularly non-competitive sports)
- Medical intervention (drug therapy)
- Parental education to help parents learn as much as they can about ADHD so they can help their child and be an effective advocate. Parental support groups are excellent sources of training, assistance, and networking. Most communities also have parenting classes and workshops dealing with a variety of helpful management strategies. (Reif, 1993)

Teachers and families may implement positive behavior strategies in order to improve behavioral and social outcomes of the child with ADD/ADHD. It is a combination of treatments which include the participation of all individuals who work with the child on a daily basis. Continuous monitoring and adjustments must evolve with the child's growing needs. Families, educators, community members, and the child must work cooperatively in order for any treatment to be successful.

## Chapter 3: Design of the Study

### Population

This study was conducted in five schools in the Gloucester Township Public School district. The district serves approximately 8,000 students in grades K-8. The district is comprised of eight elementary schools and three middle schools. One-hundred four teachers including regular education and special education teachers were surveyed.

### Method of Sample Selection

Full time regular education teachers and special education teachers, teaching Pre-K through grade 8, were surveyed. Five schools in Gloucester Township, the largest K-8 school district in New Jersey serving 8033 students, were chosen. Chews Elementary School serves a population of 884 students Pre-K through grade 5, which includes resource center classrooms, Language/Learning Disabilities self-contained classrooms, Preschool Disabilities Class, and Title 1 Preschool. Loring-Fleming Elementary School serves a population of 875 students Pre-K through grade 5, which includes resource center classrooms, Language/Learning Disabilities self-contained classrooms, Preschool Disabilities Class, and Title 1 Preschool. Glendora Elementary School serves a population of 269 students Pre-K through grade 5, which includes resource center classrooms. Erial Elementary School serves a population of 686 students K through grade 5, which includes resource center classrooms and Language/Learning Disabilities

self-contained classrooms. Glen Landing Middle School serves a population of 920 students grades six through eight, which includes resource center classrooms, Language/Learning Disabilities self-contained classrooms, and a Behavioral Disabilities Class.

### Instrumentation

The survey (Appendix A) was designed for this study in order to measure effective strategies based on the research that are actually being implemented in classrooms to aid in teaching students with ADHD. The study collected data regarding those strategies teachers are using in their classroom and how effective they find these strategies. Teachers were first asked to fill out identifying information including: grade taught, regular or special education teacher, years of experience, degree held, and age. The survey is composed of twenty-five strategies and respondents answer on a scale of one to three (1=never; 2=sometimes; 3= always) rating the frequency of use of the strategy and on a comparison scale of one to six (1=not applicable; 2=not effective; 3=slightly effective; 4= moderately effective; 5=effective; 6=extremely effective) rating the effectiveness of the strategy.

### Collection of Data

The survey was sent out during the month of January and teachers were asked to respond within two weeks. The survey was distributed to full time regular education and special education teachers. One-hundred four out of two hundred surveys were returned for a total return rate of 52%.

### Analysis of Data

Results of the surveys were tallied for a total number of responses to each item. Each response was assigned a point value corresponding to the answer chosen on the survey. The mean was calculated for each response corresponding to frequency and effectiveness. The mean of each response was used to rank order each strategy according to effectiveness and frequency of use.

## Chapter 4: Analysis and Interpretation of Data

### Introduction

The Survey of Effective Strategies for Teaching Students with ADHD was developed in order to answer the following research questions.

Research Question 1: What practical strategies for ameliorating ADHD have been tried by teachers in the classroom setting?

Research Question 2: Which strategies are being successfully implemented in classrooms?

Question #1 was evaluated by the rating of frequency. Question #2 was evaluated by the rating of effectiveness.

### Results

Results of the surveys, as indicated in Table 1, display practical strategies for ameliorating ADHD. Table 1 displays twenty-five strategies. Strategies are rated from one to twenty-five in ascending order from most to least effective. The column on the right displays the rating of frequency from one to twenty-five in order from most to least frequently utilized strategies.

A correlation is evident between frequency and effectiveness of these strategies, leading to the conclusion that the strategies found to be most effective are the most frequently used. The strategies found to be most effective include: repeating, rewording,

or clarifying instructions; positive teacher attention for desired behaviors; small group instruction or extra help; varied pacing of instruction to meet individual needs; preferential seating; and varied instructional format and presentation. Those found to be least effective include: individual behavior modification plan (self-monitoring); classroom paraprofessionals; and a home-based contingency contract (home reward for school behavior). Respondents indicated that paraprofessionals are not frequently available and that it is difficult to depend on a home-based contingency contract because immediate feedback is needed for positive results.

Respondents also answered three quantitative questions, as well as providing additional comments. Respondents were asked if they made adaptations and modifications for students with ADHD in their classroom, if they felt adequately prepared to meet the needs of students with ADHD, and to list any strategies they have utilized that did not appear on the survey and to rate the effectiveness. One hundred teachers responded to the first question. All one hundred responded “yes” to making adaptations and modifications for students with ADHD in the classroom.

In response to feeling adequately prepared, 86% of special education teachers responded that they feel adequately prepared in comparison to 43% of regular education teachers. Of the regular education teachers that responded to feeling adequately prepared, 72% had ten or more years of professional teaching experience. Comments of teachers that said they felt adequately prepared said their preparedness was directly related to their professional training through undergraduate college programs, graduate degree programs, professional development courses, in-service training, and self-motivated research on ADHD. Others that responded to feeling prepared to meet the



needs of students with ADHD, replied that they had a family member with ADHD and learned through experience.

Both regular and special education teachers that responded to “sometimes” feeling adequately prepared said their level of adequacy was dependent upon the degree of severity of the student’s behaviors and the degree to which parents were supportive of the child’s school experiences and cooperative with educational professionals.

Additional strategies were also listed by teachers who felt adequately prepared to meet the needs of students with ADHD. Role playing activities, direct instruction, small class size, parent support, and medication were all mentioned as having a positive outcome for students with ADHD in the classroom setting. Also mentioned was that gifted and talented students with ADHD are often overlooked and many of these students have developed adequate compensatory skills.

Additional comments were made by special area teachers (art, music, physical education, library, computer class) regarding their limited time spent with the student and the fact that these students are not always identified to the special area teachers unless the child is accompanied by an Individualized Education Plan (IEP) or a 504 plan. In addition, one regular education teacher with a Master’s Degree and thirteen years experience, commented on teacher education programs, both undergraduate and graduate, which do not spend enough time on students with behavioral issues.

One special education teacher commented that multiple strategies are often being used with individual students and that the process for each individual is often trial and error. As with any instructional procedures, the strategies need to be continually evaluated for

effectiveness and modifications to the individual's program are continuous in order to meet the needs of the child as he develops physically, emotionally, and intellectually.

### Summary

The most effective classroom strategies for students with ADHD are those of effective pedagogical skills with individualization for the student. These strategies may not only benefit children with ADHD but also all students in the classroom. Repeating, rewording, or clarifying directions; positive teacher attention for desired behaviors; small group instruction or extra help; and varied pacing and instructional format are all strategies that may be done within the classroom setting with relatively little extra preparation on the part of the classroom teacher. Preferential seating for students with ADHD can be utilized as a preventative measure for ameliorating undesirable behaviors. Limiting distractions to the maximum extent possible will assist the student in maintaining on task behavior and this too is a relatively simple strategy for teachers to utilize. Teachers are most likely to use such strategies since such strategies are not perceived as intrusive to the classroom structure and do not generally conflict with teaching philosophies.

Twice as many special education teachers as regular education teachers responded to feeling adequately prepared to meet the needs of students with ADHD. Those that felt prepared felt they had adequate training in this area. Teacher education for regular education teachers may benefit from addressing this issue in undergraduate and graduate degree programs. With the most recent revisions to the Individualized with Disabilities Education Act, school districts are obligated to provide students with an appropriate

education in the Least Restrictive Environment. Special educators are no longer the only professionals to service students with ADHD. Many children are now included in regular education programs for at least part of the school day and thus all teachers need to be prepared. Teachers that responded to feeling adequately prepared or at least prepared some of the time commented frequently on the effectiveness of parent involvement and medication.

**Table 1**

**Effective Strategies for Students with ADHD**

Strategy rated by effectiveness (most to least)

Rank Order of Frequency of Use

1.	Repeating, rewording, or clarifying directions.	1
2.	Positive teacher attention for desired behaviors.	2
3.	Small group instruction or extra help.	5
4.	Varied pacing of instruction to meet individual needs.	8
5.	Preferential seating.	4
6.	Varied instructional format and presentation.	7
7.	Use of cues prompts, or signals as reminders for expectations.	6
8.	Clearly defined rules and consequences posted in the classroom and referred to consistently.	3
9.	Frequent breaks or movement activities.	10
10.	Physical environment of the classroom.	9
11.	Task analysis (divide tasks into smaller units).	12
12.	Alternate sedentary activities with movement/hands-on activities.	15
13.	Modified length of assignments/homework.	16
14.	Use of peer models or peer helpers.	13
15.	Classroom behavior modification plan.	14
16.	Posted daily and weekly schedules.	11
17.	Individual behavior modification plan (teacher and student monitor).	18
18.	Ignoring undesirable behaviors.	19
19.	Response cost for noncompliance (Student must give something up or lose something for negative behaviors).	17
20.	School-based contingency contract.	20
21.	Time-out.	21
22.	Token economy (Student earns points or tokens for desired behaviors).	22
23.	Home-based contingency contract (home reward for school behavior).	23
24.	Classroom paraprofessional to assist the student.	24
25.	Individual behavior modification plan (self-monitoring).	25

## Chapter 5: Summary, Findings, and Conclusions

### Summary

The purposes of this exploratory investigation were to (a) identify practical strategies for ameliorating Attention Deficit Hyperactivity Disorder currently being implemented by teachers in the classroom setting; and (b) identify the strategies found to be most effective. Diagnostic criteria for the identification of students with ADHD are identified. Empirically validated treatments are identified and discussed. The role of educational professionals is delineated, demonstrating the need for identification of effective practical strategies for classroom utilization. Teachers demonstrated a high rate of frequency for utilizing practical strategies that they identified to be most effective. Implications for teaching students with ADHD in the least restrictive environment are discussed.

### Findings

A direct correlation between frequency and effectiveness of practical strategies was observed as a result of the study, indicating that the strategies found to be most effective are the most frequently used. The strategies found to be most effective include: repeating, rewording, or clarifying instructions; positive teacher attention for desired behaviors; small group instruction or extra help; varied pacing of instruction to meet individual needs; preferential seating; and varied instructional format and presentation.

Those found to be least effective include: individual behavior modification plan (self-monitoring); classroom paraprofessionals; and a home-based contingency contract (home reward for school behavior). Respondents indicated that paraprofessionals are not frequently available and that it is difficult to depend on a home-based contingency contract because immediate feedback is needed for positive results.

In response to feeling adequately prepared, 86% of special education teachers responded that they feel adequately prepared in comparison to 43% of regular education teachers. Of the regular education teachers that responded to feeling adequately prepared, 72% had ten or more years of professional teaching experience. Comments of teachers that said they felt adequately prepared said their preparedness was directly related to their professional training through undergraduate college programs, graduate degree programs, professional development courses, in-service training, and self-motivated research on ADHD. Others that responded to feeling prepared to meet the needs of students with ADHD, replied that they had a family member with ADHD and learned through experience.

### Conclusions

The most effective classroom strategies for ameliorating ADHD are those of effective pedagogical skills with individualization for the particular student identified. Specific strategies may be implemented by teachers in the classroom setting, but in order to ensure success a multifaceted approach should be taken. Collaboration among parents, educational professionals, medical professionals, and behavioral specialists can serve to

treat the child and the family unit, as well as assisting educational professionals in teaching the child effectively.

In response to the need for effective training for teaching students with ADHD, teacher education programs may warrant some changes in addressing this issue while educating pre-service teachers. School districts may also benefit from the inclusion of effective strategies for ameliorating ADHD in professional development programs. In order to fulfill the Least Restrictive Environment clause of the Individuals with Disabilities Education Act, a large number of students with ADHD will be educated with their grade mates, thus indicating a need for all teachers to be educated in response to this need, not just special education teachers.

When children are carefully diagnosed with ADHD and a multifaceted approach is effectively implemented, the results for children may include: increased concentration, increased task persistence, decreased impulsivity and hyperactivity, improved compliance and rule following, improved interpersonal relations, and improved self awareness.

Implications for further study include future research on professional development programs and teacher education training in relation to improved benefits for students with ADHD, as well as research on specific outcomes of behavioral effects when effective strategies are implemented over a period of time.

## APPENDIX A



## Survey of Effective Strategies for Teaching Students with ADHD

What grade do you teach? \_\_\_\_\_ Regular Education: \_\_\_\_\_ Special Education: \_\_\_\_\_  
 Years of Experience: \_\_\_\_\_ Age: (Circle one.) 21-30 31-39 40-49 50-59 60+  
 Degree held: (Circle.) BA BA+15 MA MA+15 MA+30

**Directions:** Mark each strategy by circling the number on the left indicating how frequently you utilize the strategy. Then mark each strategy by circling the number on the right indicating its level of effectiveness.

**1=never**  
**2=sometimes**  
**3=always**

**1=not applicable**  
**2=not effective**  
**3=slightly effective**  
**4=moderately effective**  
**5=effective**  
**6=extremely effective**

**How often have you used this strategy?**

**How effective is this strategy?**

1	2	3			1	2	3	4	5	6
			1. Positive teacher attention for desired behaviors.							
			2. Ignoring undesirable behaviors.							
			3. Use of peer models or peer helpers.							
			4. Classroom behavior modification plan.							
			5. Clearly defined rules and consequences posted in the classroom and referred to consistently.							
			6. Posted daily and weekly schedules.							
			7. Physical environment of the classroom.							
			8. Preferential seating.							
			9. Classroom paraprofessional to assist the student.							
			10. Response cost for noncompliance (Student must give something up or lose something for negative behaviors).							
			11. Token economy (Student earns points or tokens for desired behaviors).							
			12. Time-out.							
			13. Individual behavior modification plan (teacher and student monitor).							
			14. Individual behavior modification plan (self-monitoring).							
			15. Home-based contingency contract (home reward for school behavior).							
			16. School-based contingency contract.							

1=never 2=sometimes 3=always Frequency		1=not applicable 2=not effective 3=slightly effective 4=moderately effective 5=effective 6=extremely effective Effectiveness
1 2 3	17. Varied instructional format and presentation.	1 2 3 4 5 6
1 2 3	18. Frequent breaks or movement activities.	1 2 3 4 5 6
1 2 3	19. Varied pacing of instruction to meet individual needs.	1 2 3 4 5 6
1 2 3	20. Use of cues, prompts, or signals as reminders for expectations.	1 2 3 4 5 6
1 2 3	21. Alternate sedentary activities with movement/hands-on activities.	1 2 3 4 5 6
1 2 3	22. Task analysis (divide tasks into smaller units).	1 2 3 4 5 6
1 2 3	23. Modified length of assignments/homework.	1 2 3 4 5 6
1 2 3	24. Small group instruction or extra help.	1 2 3 4 5 6
1 2 3	25. Repeating, rewording, or clarifying instructions.	1 2 3 4 5 6

**Please answer the following question by circling yes or no:**

I make adaptations and modifications for students in my classroom with ADHD.      **Yes   No**

Do you feel adequately prepared to meet the needs of students with ADHD? **Why?/ Why not?**

Please list any strategies you have utilized that do not appear on this survey and rate the effectiveness.

Additional comments:

Thank you!

## APPENDIX B

Dear Fellow Educator,

I am a Learning Consultant on the Child Study Team and a graduate student at Rowan University completing my thesis as the final requirement for my Masters Degree in Learning Disabilities. I am conducting research on effective strategies for students with ADHD. As practical implementers of classroom strategies, your opinion is valuable. Attached please find a survey which will serve to collect data on the most effective and frequently used strategies for students with ADHD. Please complete this survey at your earliest convenience and return it to me at the Mirinda Department of Instruction Building via inter-office mail. Thank you for your cooperation in assisting me in this matter.

Sincerely,

Jennifer Berenguer

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