This paper provides a brief historical outline of attention deficit hyperactivity disorder (ADHD), its definition, its behavioral characteristics, and a guide to creating successful learning environments for these students. Diagnostic criteria for ADHD are listed and discussed, and incidence figures of 3 to 5 percent of all school-age children are cited. The paper briefly describes the following typical characteristics of students with ADHD: short attention spans and distractibility, impulsivity, free flight of ideas, poor organizational skills, insatiability, hyperactivity, social immaturity, performance inconsistency, inflexibility, mood swings, and poor short-term memory. Disorders that may mimic the characteristics of ADHD are identified, including anxiety disorders, conduct disorders, learning disabilities, depression, manic-depressive illness, and seasonal affective disorder. The controversy over the use of medications to treat ADHD is addressed. A section on ways to make school successful for students with attention deficits covers the importance of being knowledgeable about symptoms and attitudes surrounding ADHD, characteristics of successful teachers, the classroom environment, modifying the curriculum, ways to help students listen and attend, the need to provide students with frequent breaks, and homework. (Contains 17 references.) (DB)
As observed first hand in the state of Illinois and through examining the literature, there have been an alarmingly high number of students diagnosed as having Attention Deficit Hyperactivity Disorder (ADHD). Subsequently, teachers are concerned and want information on how to educate students who are impulsive, distractible, moody and anti-social. Educational theorists tell us that acquiring knowledge about ADHD is the first step in helping these challenging children and youth. However true, this can be time consuming, if not impossible, for educators faced with the daily demands of teaching. Hence, on the following pages, teachers will find a brief historical outline of ADHD, its definition and the behavioral characteristics associated with the disorder. Also provided is a condensed guide to help create successful learning environments for students with attention deficits.

**Historical Perspective of ADHD**

Conditions surrounding hyperactivity in children have been recognized for the past fifty years but have been called many different names. In the 1930s and 1940s, the terms “brain damaged” or “brain injured” were used (Lerner & Lerner, 1991). By the 1950s and early 1960s, names such as “minimal brain dysfunction,” “hyper kinetic behavior disorder,” or “Strauss syndrome” were applied to children who were overactive. “Hyperactive child syndrome” was the dominant term utilized in the late 1960s and 1970s (Silver, 1990). But in 1980, the Diagnostic and Statistical Manual of Mental Disorders (DSM III) of the American Psychiatric Association (APA) replaced the term “hyperactivity” with attention deficit disorder (ADD). At that point, ADD was defined with two categories, attention deficit disorder with hyperactivity and attention deficit disorder without hyperactivity. However, the most recent change in terminology of attention deficit hyperactivity disorder (ADHD) came when the DSM III was revised in 1987. Although the term “hyperactivity” was incorporated into the new wording, a child
could exhibit little or no hyperactive behavior and still be considered ADHD as long as sufficient evidence of impulsivity and an inability to concentrate for long periods of time existed.

Finding a specific name for attention deficits has proven a confusing ordeal; however, deciding upon a clear definition and diagnostic criteria have created even more puzzlement. Reflecting on the most recent change in language, Goldstein & Goldstein (1992, p. 11) stated: “This change was not well received by the professional community, and in all likelihood the clinical definition and/or the label will change again.”

Defining ADHD

Many professionals (Goldstein & Goldstein, 1992) believe that the name of the disorder and criteria currently used to define and diagnose it imply that children have to be hyperactive, when research (Moss with Dunlap, 1990) shows only a small percentage (30%) of those diagnosed are hyperactive. Nevertheless, until a new name and/or definition is developed, the current definition for attention deficits, as noted in the DSM III-R, refers to inappropriate degrees of inattention, impulsivity, and hyperactivity for the developmental age of the child. The disorder is manifested across most settings (home, school, and community) and has an onset at an early age—usually before seven years old. In addition, the condition must be ongoing for at least six months. Finally, a child must exhibit eight or more of the fourteen diagnostic criteria listed below before he or she can be diagnosed as having ADHD.

It is estimated that three to five percent of all school-age children, approximately one to two million students, have ADHD (Weaver, 1991) and two to eight times more boys than girls are diagnosed with the condition (Lerner & Lerner, 1991). Information about ADHD is sometimes confusing and contradictory, and much controversy exists over whether attention disorders should be included in the handicapping conditions that require special education services. Those opposed to children receiving special services under the category of ADHD believe that these children are already receiving needed help under the cat-

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diagnostic Criteria for Attention Deficit Hyperactivity Disorder

- often fidgets with hands or feet or squirms in seat (adolescents may be limited to subjective feelings of restlessness)
- often shifts from one uncompleted activity to another
- has difficulty remaining seated when required to do so
- has difficulty playing quietly
- is easily distracted by extraneous stimuli
- often talks excessively
- has difficulty awaiting turn in games or group situations
- often interrupts or intrudes on others (e.g., butts into other children’s games)
- often blurts out answers to questions before they have been completed
- often does not seem to listen to what is being said to him or her
- often loses things necessary for tasks or activities at school or at home (e.g., toys, pencils, books, or assignments)
- has difficulty following through on instructions from others (not due to oppositional behavior or failure of comprehension); e.g., fails to finish chores
- has difficulty sustaining attention in tasks or play activities
- often engages in physically dangerous activities without considering possible consequences (not for the purpose of thrill-seeking); e.g., runs into street without looking
egories of specific learning disabilities (LD) or serious emotional disturbance (ED). Lerner & Lerner (1991) noted that behavioral similarities do exist between children who are LD, ED, and ADHD. Shaywitz & Shaywitz (1988) suggested that 33% of children who are LD also have ADHD. In addition, 30% to 90% of children who are diagnosed with attention deficits have conduct problems (Frick & Lahey, 1991) and are probably receiving special education services under the category of EL. Yet, according to Epstein, Shaywitz, Shaywitz, and Woolston (1991), ADHD may be an under-diagnosed condition (especially ADHD without hyperactivity, or ADD) due to lack of knowledge, assessment differences and the reluctance to label children.

No matter how controversial, on September 16, 1991, ADHD was recognized as a disability under the Individuals with Disabilities Act (IDEA), Public Law 101-476 by the U. S. Department of Education. In other words, Congress decided that if the primary disability was ADHD, then a student was eligible under the “Other Health Impaired” category of IDEA for special education services. However, since there is still confusion and controversy over the exact definition and nature of the syndrome, it may be some time before Individual Educational Programs (IEPs) are developed specifically for students with ADHD. Laying controversy and confusion aside, children with attention problems exhibit characteristics that make them significantly at risk for having long-term academic, social, and emotional difficulties (Epstein, et al., 1991) and need educational programs that will ensure they experience success.

Characteristics of Students with ADHD

Teachers are concerned about adequately educating attention deficit students when they exhibit disruptive behaviors. What makes them such a challenge to motivate? Practitio-
that might impress the teacher, he may blurt out thoughts and take over group discus-
sions—forgetting social politeness and class-
room rules. He may annoy peers and teachers
by making unkind or unrelated comments
that pop into his head. But we must keep in
mind that this characteristic is not something
students can control.

**Poor organizational skills** is a condition
of attention deficit disorder that causes middle
school children the most difficulty. At this
point, students are required not only to change
classrooms frequently but to remember all
needed books, materials, homework, gym
clothes, lunch money, jackets, musical instru-
ments and after school sports equipment. This
increased demand for organization becomes a
nightmare for students who are attention defi-
cit. To make matters worse, individuals at this
age are required to organize complex thoughts,
write essays, do book reports, give speeches,
complete multi-step problems and do experi-
ments. These tasks are, at times, incompre-
hensible or impossible for students who are
attention deficit. Being faced with angry adults
and continual failure, many youths give up
trying to succeed in school. To add insult to
injury, the pre-teen and early teen years are
times when young people desire peer accep-
tance; however, adolescents with ADHD (who
don’t like themselves and feel like failures)
have difficulties developing friendships.

**Insatiability**, or an unquenchable de-
sire, is not as common of a characteristic as
those mentioned above and usually is seen in
younger children. Children who exhibit this
characteristic are chronically dissatisfied no
matter what is done for them. A kindergarten
child who is attention disordered may throw
an intense fit because he wants a snack. After
eating crackers and juice, he may immediately
have a raging tantrum over a toy he doesn’t
want to share.

**Hyperactivity**, or the inability to control
motor activity, actually affects less than 30%
of children and youth who have ADHD. Chil-
dren who are overactive move from one task
or item to another with little or no purpose.
Their activity levels increase with increased
stimuli from the environment. A simple game
of musical chairs can become a disaster as the
noise becomes louder and children move faster
to get the empty chairs. Like insatiability,
hyperactivity seems to affect young children,
and to decrease or disappear by the time the
child becomes an adolescent.

**Social immaturity**, or lacking social skills
needed to develop relationships, is indirectly
related to distractibility. When children are
easily distracted, they have difficulty learning
social cues and social nuances essential in
early elementary school for peer acceptance.
The socially immature student is often re-
buked by teachers and peers to act his age.

**Performance inconsistency** is occasion-
ally found in children with ADHD. One day,
the student will remember all needed materi-
als, turn in homework, and receive A’s on all
class assignments, but for the next several
days may not remember any materials, make
countless mistakes, and get failing grades.
This inconsistency is frustrating not only for
teachers but for the student who hears over
and over again, “What’s wrong with you? I
know you can remember your stuff and do the
work. You did it before. You’re just not
trying!”

**Inflexibility**, or the inability to tolerate
change, is a common characteristic among
children with ADHD. When classroom sched-
ules are abruptly changed, some children may
respond with immature behavior such as
throwing tantrums or name-calling. Also,
changing a room’s physical space or seating
arrangement may be met with a strong objec-
tion. Since attention deficit children’s mental
and physical activity are impossible for them
to control, they may feel impelled to try to
control their classroom placement and sched-
ule.

**Mood swings**, or the emotional state of
students with attention problems, will be
marked with inconsistency. Not all children with attention disorders will exhibit mood swings, but those who do may experience uncontrollable laughing to crying insconsolably to outrageous fury to deep depression, all in a given situation. Poor self-esteem and sheer frustration from trying to succeed may trigger this emotional roller coaster that many children have to endure.

- **Poor short-term memory** difficulties of children with attention problems baffle teachers. Because of their attention deficit, individuals fill up their minds with insignificant details. Short-term memory problems make it impossible for them to follow more than one direction at a time. The problem increases as students enter middle and high school, where the demands upon the memory increase.

At this point, readers may have recognized that many of the characteristics of attention disorders discussed above are similar to, if not the same as, characteristics of other known childhood disorders. Furthermore, many age-typical behaviors that children without ADHD exhibit during various stages of development are the same behaviors that create difficulties for children with ADHD. Why? Because the behaviors are not age-appropriate and teachers find them challenging to cope with in classroom settings. Listed below are disorders that have similar characteristics when compared to attention deficit disorders.

**Disorders that Mimic the Characteristics of ADHD**

In the literature, Hartmann (1993), Goldstein and Goldstein (1992), and Moss with Dunlap (1990) tell us that attention deficits may be misdiagnosed because many characteristics of other disorders are similar to those of ADHD. These conditions may include the following:

**Anxiety Disorders**

Individuals who are experiencing an anxiety disorder may feel anxious when faced with specific stressful situations, but the feelings of nervousness fluctuate from severe to mild to none at all. People who have ADHD will feel anxiety on a constant, lifetime basis.

**Conduct Disorders**

At times, the non-purposeful, impulsive problems of overactive children may be misdiagnosed as conduct problems. However, students with conduct difficulties are usually destructive and aggressive with malicious forethought. They frequently violate the rights of others for their own gain or pleasure.

**Learning Disabilities**

Overwhelmed with years of academic failure and negative interactions from adults, students who are learning disabled may exhibit intense emotions, excessive activity, and inattention when faced with the demands of learning. However, children with ADHD will exhibit these behaviors evenly across school, home and community situations and not limit the behavior to only stressful situations.

**Depression**

People who are depressed may be extremely distractible, which may be misdiagnosed as ADHD and visa versa. However, like anxiety disorders, the distractibility associated with depression comes and goes, yet individuals who have ADHD will experience a continual level of distractibility.

**Manic-Depressive Illness**

Many people who have attention deficits experience severe mood swings, and therefore are misdiagnosed as suffering from manic-depression. With an incorrect diagnosis comes an inappropriate drug for treatment, which usually causes the undesirable results of extreme emotional highs followed by deep depressions.

**Seasonal Affective Disorder**

Seasonal Affective Disorder (SAD) and ADHD are often interchangeably misdiagnosed because with both disorders, individuals experience depression, lack of motivation, lethargy, and distractibility. However, people...
who have SAD and not ADHD will experience symptoms only during the winter months or those months that have little sunlight.

As with finding a satisfactory name and definition, the search for the correct treatment of attention deficits has caused much debate and uncertainty. Pitted against each other are those who believe that medication is the best form of treatment versus those who conclude that treatment should involve remediation of skill deficits in the child's environment.

Treatment of ADHD

However controversial, research (Maag & Reid, 1994; Hartmann, 1993; Goldstein & Goldstein, 1992; and Moss with Dunlap, 1990) shows that medications such as Ritalin, Dexedrine, Desoxyn, Cylert, and other stimulants are considered the most common treatment for attention deficits. Among the benefits, it is reported that with the use of medication, children have improved social and academic behavior. Yet, heated controversy surrounds the use of drugs because they cause harmful side effects such as growth suppression, drug and alcohol addiction, lack of appetite, insomnia, and irritability. Also, one hyperactive child in 100 develops body or vocal tics when using stimulant medications, and the use of stimulant drugs have been linked to serious body and vocal tics or Tourette's syndrome.

Looking at the drug debate from another perspective, some believe (Maag & Reid, 1994; and Moss with Dunlap, 1990) that treating children who are ADHD with medication is currently being viewed as a "cure all" instead of one part of a total treatment plan. In other words, when medication can only control one or two symptoms, parents, teachers, psychologists and physicians believe that drugs can resolve the child's total disorder. These theorists and practitioners (Maag & Reid, 1994; Hartmann, 1993; Goldstein & Goldstein, 1992; and Moss with Dunlap, 1990) believe that comprehensive treatment plans that include the home, community and school environments must be developed. For example, parents, teachers, and community members would have an equal role in teaching academic, social, and organizational skills. Viewing attention disorders from this perspective, what is the teacher's role, and how can teachers create learning environments where children with ADHD succeed academically and socially?

Making School Successful for Students with Attention Deficits

Goldstein and Goldstein (1992) note that it is essential to make school successful because children with ADHD will be unable to overcome emotion by the thirty or more hours a week of academic and social frustration and failure. Those knowledgeable about attention deficits (Maag & Reid, 1994; Hartmann, 1993; Goldstein & Goldstein, 1992; Lerner & Lerner, 1991; and Moss with Dunlap, 1990) promote many strategies that teachers can use to make school productive for children with attention deficits.

Knowledge of Symptoms and Attitudes Surrounding ADHD

First, teachers who work with children who have attention problems must become knowledgeable about the signs and symptoms of ADHD. In addition to knowledge, attitudes and beliefs about the disorder must be recognized and altered (Lerner & Lerner, 1991). Attention deficit children are not lazy. They are not troublemakers. And they do not try to get out of school work. They may avoid tasks that are painful, such as writing a story when they cannot organize their thoughts or write legibly on paper. However, teachers can use alternatives such as computers, tape recorders, or allow students to tell their stories orally.
Characteristics of Successful Teachers

Teachers who work successfully with attention deficit students are those who can cope with frustration and stress. Attributes such as patience, understanding, empathy, and caring are needed when working with this extremely challenging population. Students need to know that there is someone who understands why they have difficulty listening, writing, reading, doing math, or keeping mouths and bodies quiet and still (Moss with Dunlap, 1990). They need teachers who can see beyond the symptoms of the disorder who can give positive attention and caring assistance and know how to ignore inappropriate behavior.

Classroom Environment

Next, the classroom environment needs to be developed to fit the unique needs of students with attention deficits. Many children can be distracted by classroom noise, confused with tasks that have many steps, or frustrated with activities that are given with time limits (Lerner & Lerner, 1991). Classrooms where many activities are going on may be disruptive to attention deficit children, unless they are working cooperatively and have been assigned specific roles. When the classroom has a set (but not boring or rigid) routine, it helps students to organize tasks and complete assignments. When there is a change in the daily schedule, it is helpful to prepare students in advance. For example, if a substitute teacher will be in the room, if an assembly will take place, or if the geography lesson takes longer than anticipated, students will find it easier to adjust if they have been told prior to the change.

Seating near the teacher is sometimes beneficial because a teacher can use proximity to keep students focused without disrupting the rest of the class. But being near the teacher should never be used as a punitive measure. At times students may need the option to go to quiet areas in the classroom or to an area outside the classroom such as the library to concentrate. Isolation should never be enforced or used as a punishment, and students should understand that being alone for a short time may help them focus.

Modifying the Curriculum

Not only does the environment have to be designed with forethought, but subjects must be modified to fit the needs of each student with an attention deficit. Teaching would be easier if all students with ADHD had the same academic difficulties, but this is not the case. Each student with an attention disorder will have unique needs. It is the teacher’s responsibility to evaluate the child’s capabilities and set realistic goals. With practical goals, students should experience academic success which will enhance their strengths and build self-images (Moss with Dunlap, 1990). Take spelling, for example. If students cannot spell, is it best practice for them to take twenty word tests weekly that they always fail? Would it not be better to give students a grade for defining the words, taking the test orally, or completing a ten or five word test? If a traditional curriculum is used, simply shortening the required assignments and focusing on process rather than product will allow most students with attention deficits to experience academic success.

Other educators (Hartmann, 1993) recommend developing a curriculum so students who have attention difficulties are “doing” rather than sitting and listening. He suggests developing programs that utilize experienced-based learning, where students complete projects, do experiments, and take field trips. Still others (Jones & Jones, 1995) encourage the use of cooperative groups so that students can learn interaction as well as academic skills.

Classroom Procedures and Rules

Teaching is demanding, fast-paced, and creates chaotic environments. With these types of conditions, there is confusion and frustration throughout the school day (Jones & Jones, 1990), which may cause students to become totally lost. Therefore, children with attention
difficulties must know and understand classroom rules and school procedures in order to be successful. Research studies (Jones & Jones, 1995) tell us that students who contribute to developing the rules and procedures will feel committed to following them. For children with short term memory difficulties, rules must be displayed in the room as a visual reminder, and teachers will have to patiently teach and reteach rules in order for students to retain and follow. Once rules have been implemented, it is essential for teachers to follow through with consequences when there are rule violations. On the one hand, children with attention disorders are great manipulators and know how to “wear down” adults with their chronic disruptions, misunderstandings, or misbehavior. On the other hand, teachers who are at their “wit’s end” and completely frustrated, may feel they do not have the energy to enforce a consequence and deal with the verbal abuse or tantrum that may result. A helpful strategy is to positively and firmly deal with the behavior before it escalates into a battle. Using methods that attack the character and personality of the child (embarrassment, ridicule, or humiliation) will lead to children seeking revenge and losing trust in their teachers (Ginott, 1972).

Goldstein and Goldstein (1992) suggest giving only positive directions or telling children what adults want to have happen instead of telling them what they don’t want to have happen. (“I want students to raise their hands.” instead of “Don’t yell out the answers.”) Wood and Long (1991) promote telling students what they “can” do instead of telling them what they can’t do. (“You can put your feet on the floor and use the table for your books.” instead of “You can’t put your feet on the table. Get them off!”) Using non-confrontational language will help teachers avoid power struggles with student who already may be overwhelmed and frustrated with academic and social expectations.

### Helping to Listen and Attend

Teachers working with attention disordered students need to use techniques that teach students how to listen and will hold their attention. First, it is important that teachers speak clearly, not too fast, and loud enough for students to hear and understand. If listening becomes a chore, students will daydream instead of trying to figure out what the teacher wants. It may be helpful to have a student repeat the directions so that all students will hear them for a second time. Writing directions and information on the board will give children a visual representation and help them remember what comes next. Second, it is essential for teachers to show enthusiasm for the subjects they teach. Enthusiasm engages and excites children who are easily bored and distractible. If the teacher comes across as disinterested, students who need to see a value in what they learn will feel the material is not important. Third, teachers who use humor are most successful with holding the attention of students whose minds are usually preoccupied with other thoughts. Jokes, comical anecdotes, and embellishment of facts have a way of holding the attention of students and help them remember important facts (Moss with Dunlap, 1990). Fourth, teachers who use class discussion and lecture methods should ask many questions to keep students’ attention and employ any minds that may have wandered on other thoughts. Listing main ideas or important questions that need to be answered on the chalk board will help distractible students to focus during lectures, discussions, or viewing of films.

After adopting techniques that help students listen, teachers will have to develop ways that maintain their students’ attention. It is not realistic for teachers to expect children with ADHD to be totally engaged and learning like non-ADHD students. However, developing cues or signals that remind a student to go back to work will greatly increase his
learning behavior, which in turn will help him succeed academically. Mutually, teacher and child should select a signal that is unobtrusive and non-disruptive to the flow of the classroom or the learning process. A gentle pat on a student’s shoulder, a teacher tugging her own ear or pointing to the child’s work are signals that have proven effective in getting students to refocus. In addition, breaking assignments into small parts and rewarding after each step is completed will help a children with attention deficits to feel successful. These feelings of success will, in turn, motivate them to continue to work on assignments.

Giving Breaks

It is necessary to give students who are ADHD many small breaks during a school day because they consume so much energy trying to stay focused and completing activities. Simply allowing students to stand up and stretch will help relieve frustration and anxiety. Breaks can be used not only to release tension, but can allow time for students to get drinks, sharpen pencils, and use the restroom. Playing a quick game of Simon Says is an enjoyable way to rejuvenate tired minds. Students who are ADHD will need more opportunities for movement than their peers. Allowing these active children to take notes to the office, feed class pets, return books to the library, and help janitors or cooks are effective ways additional movement can be incorporated into their daily schedules. In addition, heavy doses of affirmation will build self-esteem and make students feel like valuable members of the class.

Homework

Most students with ADHD feel homework is unfair and usually refuse to do it. To compound the homework dilemma, school systems are structured in such a way that homework is necessary for children to succeed. Teachers can help parents and students succeed by agreeing to develop a plan for homework. A plan may include teachers scheduling study times during the school day for students to complete homework, while teachers are available to give additional help. Other teachers opt to use homework notebooks, where students are required to copy down the week’s homework schedule, take it home, get a parent to examine and sign it, and return it to school for teacher’s approval. Some schools are fortunate enough to have automated telephone systems where teachers can leave homework assignments and parents can call to get the needed information. One must note, however, if children do not value homework, they will sabotage any homework plan that is developed. Teachers and parents need to work together consistently to show children that adults are persistent and serious about having homework completed.

Conclusion

We know that embarrassing, humiliating, nagging, and name-calling our students with attention disorders causes them to retaliate, seek revenge and to ultimately fail at school. As the number of children being diagnosed increases, it is of utmost importance for teachers to become familiar with the characteristics of ADHD and to develop new, informed attitudes concerning attention deficits. As knowledge and awareness about attention deficits expands, educators have to learn new ways to develop and implement effective learning strategies. Hopefully, with knowledge, all teachers will come to understand what an important role they play in helping children with ADHD experience success in school.

References


