

CLASSROOM INTERVENTIONS FOR CHILDREN WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER

Sefa BULUT*

Abant İzzet Baysal University
A. İ. B. Ü. Eğitim Fakültesi, P.D.R Bölümü Gölköy Bolu, Turkey
E-mail: sefabulut22@yahoo.com

Abstract: Attention-Deficit/Hyperactivity Disorder (ADHD) is a developmental disorder characterized by a persistent pattern of inattention, hyperactivity, and impulsivity. In the classroom this disorder presents a unique set of hurdles that must be overcome for the child with ADHD to succeed educationally. Alterations to the physical environment of the classroom, modification to the teacher's approach toward both the child and teaching, and adaptation of the educational material presented to children with ADHD must be done in order that students with special needs might thrive in the classroom setting. This review article takes into consideration children with ADHD in terms of their educational needs from the pedagogical perspective.

Key words: Attention-Deficit/Hyperactivity Disorder in children, interventions techniques for Attention-Deficit/Hyperactivity Disorder, education of children with Attention-Deficit/Hyperactivity Disorder

Attention Deficit Hyperactivity Disorder (ADHD) has become a widespread diagnosis given children who are disruptive in school or at home, and media attention on ADHD over the last few years has made it look as if there is an epidemic of this disorder. Anyone who has spent some time in a classroom has most likely come across a child who has been diagnosed with ADHD or a child whom they would like to label as having ADHD. The hyperactive and impulsive behaviors of many children with ADHD clearly present significant challenges to parents, teachers and school personnel.

The primary purpose of this paper is to examine the pedagogical needs of children from the cognitive and educational point of view. Adopting the school settings and modifying the teachers' approaches are the main topics of this research. Biological,

etiological and environmental concerns are not the focus of this paper.

ADHD is the most commonly diagnosed mental disorder among children, touching as many as 2 million children in the USA (Whalen, Henker, 1998). Affecting nearly 3 to 5 percent of all school age children, it has become one of the most highly researched childhood disorders (American Psychiatric Association, APA, 2000; Hardman, Drew, Egan, 2002; Glass, Weigar, 2000). From one-third to one-half of all cases referred to guidance clinics are for ADHD (Richters, 1995). Various epidemiological studies reported various rates of prevalence and gender ratios (Hinshaw, 1994). The literature generally indicates that more males identified with ADHD than females (National Institute of Health, 1988). Boys are about three times more likely than girls to develop ADHD in childhood and adolescence (Cohen, Cohen, Kasen, Velez, Hartmark, Johnson et al.,

* I would prefer communicating via e-mail.

1993). Other studies suggested male to female ratios range from 2:1 to 10:1, depending on the population sample (Levy, 1999).

There is also some suggestion that different types of ADHD show a different prevalence, with over half of those manifesting the combined type, 27% the inattentive type, and 18% the hyperactive-impulsive category (McBurnett, 1995). Some children have this disorder in a form that is so mild that it is barely detectable, but others with the disorder seem completely out of control and early diagnosable (Rose, 1999).

ADHD is found across most cultures and ethnic groups (Nolen-Hoeksema, 2001). Although it is difficult to compare prevalence rates cross-culturally due to differences in diagnostic criteria, sampling techniques and cultural expectations, there is evidence that several countries have prevalence rates at least as high as that of the USA. For example, researchers found 6% in Brazil, 9% for boys and 3.3% for girls in Canada, 6 to 9% in China, 19.8% for boys and 12.3% for girls in Colombia, from 4 to over 10% in Germany, about 8% in Japan, 1 to 2% in the Netherlands, and 2 to 6% in New Zealand (Dulcan, 1986). These statistics imply that ADHD is truly a universal phenomenon and justifiably needs attention.

In the last decade, the numbers of students diagnosed as with ADHD, increased 20% between 1997-1998 and 1998-1999 (National Institute of Mental Health, 1998). This would indicate that awareness about students with ADHD is growing. On the other hand, some argue that although the ADHD category has tripled in ten years, the 0.35% reported for 1988-1999 is still far below the prevalence estimates of 3 to 5 percent. Furthermore, many researchers think that fewer than half of

students with ADHD are receiving special education services; this is due to the fact that ADHD is not recognized as an eligible diagnosis for special education services in the USA.

Adapting the Environment and Providing Structure

In school settings, on the average at least one child in every USA classroom needs help for ADHD (Taylor, 1995). Thus, in order that a child with ADHD could follow lessons in the classroom, certain behavioral characteristics must be modified. Children plagued by ADHD have a difficult time learning in a classroom environment because of the inattentiveness, hyperactivity, disorganization, and impulsivity that frequently accompany the disorder. A child with ADHD often has problems following directions, remembering the task at hand, playing fairly with classmates, remaining in his or her seat, and following rules (Tanner, Hanmer, 1998). Steps must be taken to moderate these behaviors before a child can benefit most from the classroom education. With implementation of different behavioral management techniques and strategies, behaviors can be modified and desired classroom behaviors can be attained, thus culminating in the ultimate goal of educational success.

Because a child has been diagnosed as having ADHD does not mean that he or she is going to fail in school, but because focusing and paying attention are such challenges, school oftentimes is a serious problem. Most children with ADHD have a hypersensitivity to stimuli, and thus, they usually have difficulties learning in a typical classroom setting due to the extreme number of distractions surrounding them. They turn their heads at the slightest sound, movement, or visual distraction.

Through the implementation of relatively simple and straightforward accommodations to the classroom environment teachers can adapt to the strengths and weaknesses of their students with ADHD (Barkley, 1995).

Many years ago, theorists proposed that school environments should be as plain as possible, devoid of anything that could possibly distract the children, but implementation of these changes in the classroom were examined and found not only to be of no help to the children but possibly even detrimental to the learning experience. Children often fell asleep in class due to boredom in the sterile surroundings (Barkley, 1995). The idea of maintaining a drab learning environment as the best atmosphere for teaching children with ADHD has been thrown out but new modifications to the classroom are in order.

Physical accommodations in the classroom are quite common, and even expected, whenever a child has a physical handicap or suffers from a physically disabling injury, and this should also be the case for the child with ADHD. One such accommodation is seating arrangements in the classroom. Abramowitz and O'Leary (1991) suggest that seating the child with ADHD near to the teacher will be very beneficial for the child in several ways, the most important of which is that it will increase student-teacher interactions. The knowledge that the teacher is right there to see everything further discourages the child from "wandering off" and helps keep the child on-task. Placing the child near the teacher is also beneficial in that the teacher is nearby to help bring the child back to the task at hand. However, this seating might not be beneficial if the teacher's desk is a highly trafficked area.

When looking for the most advantageous seat for a child with ADHD, a teacher must

keep in mind some other important considerations. The child with ADHD must be placed in a location that is as quiet as possible if he/she is to be working on an individual assignment that requires high levels of concentration. Children with ADHD are highly distracted by noises and if placed near a noisy air conditioner or fan, inattention will increase dramatically (Zentall, Shaw, 1980). Placing a child with ADHD near a window or doorway is highly discouraged; doing so is like asking the child to wander off. It further helps if the student with ADHD has his/her back toward the rest of the class, thus reducing distractions generated by other students. Increasing the distance between desks also proves profitable when working with children with ADHD. The increased distance helps the students to focus on the work on their desk and makes it more difficult to be distracted by what other students are doing on their desks (Abramowitz, O'Leary, 1991). It is also a good idea to place good role models around the student. These students model appropriate classroom behaviors for the child with ADHD and act as a positive example for behavior (Ostoits, 1999).

In some instances the use of work carrels or privacy boards may additionally help students with ADHD (Ostoits, 1999). These enclosed environments lessen visual distraction and are available for all students to use for private work. Carrels also tend to stifle some of the extraneous noises that often accompany even the quietest of classrooms. It is important to remember, however, that the child with ADHD should not be isolated in an attempt to place him or her in a less distracting place. Without some guidance, students with ADHD will quickly be lost in their own thoughts and stare off into space. The student is more likely to stay on task if the teacher is nearby to check on progress.

A teacher must experiment with different modifications to determine which would best suit the individual with ADHD. Jacob, O'Leary, and Rosenblad (1978) give some examples of classroom modifications that are advantageous for children with ADHD. One example of a relatively simple intervention is allowing the student with ADHD to select two seats within the classroom to be used at his or her discretion throughout the school day. Another is allowing children with ADHD to stand at their desk for certain amounts of time if they are having an exceptionally difficult time sitting still. In some cases allowing a "seat break," an activity such as running errands or touching one's toes, helps immensely the child with ADHD by allowing him/her to release some of the pent-up energy (Weiss, 1992).

During different times of the class day it may be beneficial to alter the seating arrangements of the class to better facilitate learning (Bremer, Stern, 1976). Just as one has a place for all the objects in the class, there should be a place for all the activities of the class. Breaking into small groups or sitting on the floor may help when doing certain activities. Studies by Wallace (1995) show that children with ADHD most often preferred working in a small group of peers rather than always working alone or in a large group. While working in a small group, children gain more one-to-one assistance than when within a large group. This one-to-one time is especially important for the child with ADHD because the teacher is more readily accessible to offer help, correction, and feedback. During completion of independent work, however, children seated at individual desks rather than at tables have been shown to produce more work (Bremer, Stern, 1976). Above all, if manipulation of the seating arrangement is decided upon, it

is of utmost importance that it be done on a regularly scheduled basis so as to provide structure for the child with ADHD.

Structure is the central theme in the treatment of ADHD. It makes possible the expression of talent. Students with ADHD need structured daily schedules and consistent instructional methods to aid their education. One of the basic problems of ADHD is that individuals often have difficulty with organizing tasks and activities (APA, 2000). For them, a reliable system of external controls is essential. Thus, the best type of classroom for a child with ADHD has defined rules and schedules that are well posted (Fiore, Becker, Nero, 1993).

A daily schedule can be a very reassuring thing, especially to a child with special needs such as ADHD. If there is a regular sequence of events, it is much easier for the student to remember what to do and when to do it. It is most beneficial to have both rules and schedules that are written out and posted for easy access (DuPaul, Guevremont, Barkley, 1992). However, children with ADHD often become firmly entrenched in these schedules, so it is important to warn them of changes well in advance, meaning both a few days in advance and a few times the day of the change. It is likely that the child with ADHD may be highly upset if the schedule is interrupted or their routines changed (Mercugliano, Power, Blum, 1999).

Structure is essential for children with ADHD and everything in the class can be structured. One method of providing structure is through rules. All too often, the student with ADHD breaks rules, continues to do so, and still seems surprised when punished. To avoid such situations, the teacher must make sure to discuss the rules and make sure the child understands them. Rules for children with ADHD must

be explicit, consistent, firm and predictable, positive, and countable (Wender, 2000). Posting the rules is a must so that children with ADHD are able to view them constantly.

Rules should also be firm and predictable, meaning that the laws are set before the action and the rules or expectations for the student always have the same consequences (DuPaul, Stoner, 1994). The student should be able to recite the rules of the classroom and what the consequence is for a specific rule violation. These consequences must also be administered in a consistent and structured way so that the child knows in advance what certain actions will bring about. (DuPaul, Guevermont, Barkley, 1992). Positive rules mean that they should be worded in a positive manner. By phrasing the rule in the positive, it is clearer what the child should do rather than what he or she should not do. Furthermore, rules are better if they are observable and countable. For example, a rule such as "Pay attention" cannot be counted; however, a rule such as "Keep your eyes on the teacher when he is talking" can be observed and counted. When a rule can be observed and counted, better positive reinforcement can occur to help change behavior.

Modifying the Teacher's Approach

Students with ADHD often have symptoms intense enough to interfere with performance, actions and responsibilities in life in a number of ways. ADHD children often have significant difficulties in school and frequently present a substantial challenge to teacher in terms of both instruction and classroom management. Such children may be in and out of their seats, pestering others, exhibiting aggressive behaviors, such as hitting or pulling hair.

They may be unable to focus on the teacher's instructions and impulsively start an assignment before the directions are complete (Hardman, Drew, Egan, 2002). Thus, teaching children with ADHD can be very challenging and very frustrating at times. A better understanding of ADHD will allow teachers to help children with ADHD in the best possible manner. Teachers who have knowledge and skills become more helpful and effective in their interactions with children with ADHD, and they experience an enhanced sense of professional competence, including a greater personal motivation for teaching children who manifest ADHD behaviors (Miranda, Presentacion, Soriano, 2002). Before a teacher can put particular procedures into practice, some study of the disorder is necessary. Teacher's knowledge of ADHD is probably the most significant factor in helping the child with ADHD to succeed in a classroom setting (Willcutt, Pennington, 2000). Understanding ADHD behavior is essential for effectively dealing with it.

An instructor's style of teaching also has a major influence on the student-teacher interactions and the potential of the child with ADHD to learn in the classroom setting. Teachers who have problems teaching students with ADHD are often teachers who do not have teaching styles that are well suited for children with ADHD. When teachers tend to speed through lessons, they do not allow time for the ADHD children to process what has been thrown at them, and thus the child retains very little, if any, information (Conte, Kinsbourne, Swanson, Zirk, Samuels, 1987). Teaching to the capacity of the child's abilities to attend and accurately process information is key for any teacher working with ADHD children. Having an awareness of the student's general span of attention and using frequent checks to determine whether

the message has been received are also helpful in preventing information overflow (Zentall, 1985).

Teachers who lack organization in the presentation of lessons also prove to be a problem for the child with ADHD. Children with ADHD need structure and organization in order to absorb the most information possible from an environment. When teaching children with ADHD it is imperative that their teachers have a written, planned sequence of daily classroom activities, which are reviewed orally, and left posted as a visual reminder of the routine. The basic daily structure of activities should remain consistent (e.g., pledge of allegiance, roll call, math, recess, reading), but there should be variety within each daily activity to prevent boredom, which is another common problem of children with ADHD (Barkley, 1995). Using this method allows the child to expect the same order of activities each day, but permits the components of the activities to vary, thus decreasing boredom. Providing such structure and routine and incorporating variation within the structure will be more difficult for the teacher but will serve the needs of the child with ADHD most effectively.

Functional Behavioral Assessment (FBA) is cited as one of the most successful teaching techniques. FBA involves determining the consequences, antecedents, and setting events that maintain inappropriate behaviors (Horner, Carr, 1997). Contingency Based Management is also a very productive method in which students keep track of their own behavior and then receive the consequences, usually in the form of rewards, based on their behavior (Davies, Witte, 2000). A combination of FBA and contingency-based self-management techniques has been successfully used in increasing appropriate behavior of

elementary and secondary students with ADHD (DuPaul, Eckert, 1997).

Another technique is Self-Monitoring, the teacher might have students use this technique in which students record how many times they left their seats during a class period. Many students with ADHD lack the ability to self-monitor. This requires the ability to appraise a situation and consider alternative ways of responding as well as possible outcomes associated with various forms of responding (Shapiro, DuPaul, Bradely-Klug, 1998). Many studies have been conducted in the area of self-management and these studies have repeatedly demonstrated the effectiveness of teaching students.

Coaching is also a useful technique, involves identifying someone whom the person with ADHD can relay on for support. The coach can be a therapist, a teacher or a friend, someone who spends ten to fifteen minutes each day helping keep the students focused on their goals. Teachers can implement this strategy in the breaks or after school hours or find some volunteers to help the ADHD students. When this is done for a while, it will show its effectiveness (Hallowell, Ratey, 1994).

Those teachers who have an authoritarian approach to teaching may experience considerable conflict with students with ADHD, who typically have many difficulties with rule-governed behavior. The child with ADHD is likely to respond best to a firm but very positive teacher who defines behavioral expectations very clearly and sticks to them (Brophy, 1983). A teacher who is too rigid will often find that the child with ADHD is a constant source of irritation, thus causing the two to constantly clash. On the other hand, permissive teachers are not the best choice either, because they are prone to let the child rule the class.

Many teachers have found that feedback is essential when working with children with ADHD. Studies have shown that behavior management can improve the in-class behavior of the student with ADHD (DuPaul, Eckert, 1997; Purdie, Hattie, Carroll, 2002). More specifically, this research indicates that behavior management focusing on positive reinforcement, negative consequences, and response costs can be effective in reducing disruptive behavior and increasing attentiveness to tasks.

A response cost system is a behavior change technique that is based on positive reinforcement but on condition that positive reinforcement may temporarily be withheld as a result of inappropriate behavior (Mercugliano, Power, Blum, 1999). In this system, rather than ruling out positive reinforcements one by one, reinforcements are given at the beginning. The child's goal is to end with a pre-specified minimum number of points or tokens in order to earn the reward. Inappropriate behavior results in points or tokens being taken away. Goldstein and Goldstein (1990) have stated that the child with ADHD so rarely gets rewards through positive behavior that when the points are provided up front, the child has greater motivation not to lose them. In this program it is also possible for the child to receive additional points when he or she demonstrates the desired target behaviors. Thus, there is a positive consequence when the desired behavior is present and a negative consequence when undesired behavior is displayed. When using this system it is imperative that the child is not losing more points than he or she has. Such an instance is a sign that the target behavior is too difficult for the child's current level of functioning, thus indicat-

ing that a more manageable behavior must be targeted (Mercugliano, Power, Blum, 1999).

Before a consequence can be given and a behavior be changed, a target behavior must be identified. When attempting to change behavior it is more beneficial to work toward a desirable behavior rather than remove an undesirable behavior (Barkley, 1997). For example, instead of concentrating on a child's disorderliness, the goal could be based around the child's ability to put school supplies away. After identifying the target behavior, a reasonable goal must be set. If the ultimate goal is to have the child remain seated through all of a lesson, start with sitting through five minutes, then six minutes, and so on. The goal is not to set the child up to fail every time. Breaking the goal into smaller parts makes it seem less formidable and more attainable to the child with ADHD. After the goal has been determined, the consequences for the desired behavior that the child feels are rewarding, must be developed. Simple rewards such as small toys or prizes, breakfast or lunch with the teacher, or other such things can be highly rewarding for children. Children with ADHD tend to have difficulty with delayed gratification; thus, when reinforcements are used, it is imperative that they be administered in a consistent and frequent manner. If administered in a timely and consistent way, positive reinforcements may serve to change behavior quite effectively, but because children with ADHD are more rapidly satiated with such encouragements than other students, they typically require many more potential positive consequences in the behavioral program.

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INTERVENČIA DO VYUČOVANIA - POMOC HYPERAKTÍVNYM DEŤOM S PORUCHOU POZORNOSTI

S. B u l u t

Súhrn: Syndróm - porucha pozornosti s hyperaktivitou (ADHD) je vývinová porucha charakterizovaná pretrvávajúcou nepozornosťou, hyperaktivitou a impulzívnosťou. Táto porucha predstavuje špecifický rad prekážok, ktoré treba prekonať, aby dieťa s ADHD v škole úspešne prospievalo. Treba upraviť zariadenie triedy (vzdialenosť medzi lavicami, usadenie žiakov s ADHD atď.), učiteľ musí prispôbiť svoj prístup k dieťaťu ako aj spôsob vyučovania a musí modifikovať učebný materiál predkladaný dieťaťu s ADHD. Predkladaný prehľadový článok sa zaoberá vzdelávacími potrebami detí s ADHD z pedagogického hľadiska.

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