

*Ensuring a healthy start. Promoting a bright future.*

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## Introduction

Affecting three to seven percent of the population, Attention Deficit Hyperactivity Disorder (ADHD) is one of the most common of the childhood behavior disorders. Associated with this disorder's core symptoms of inattention, hyperactivity and impulsivity are a variety of disruptive classroom behaviors (e.g., calling out, leaving seat, interrupting activities, etc.). Consequently, it is not surprising that these students often require behavioral interventions.

Expectations for the use of behavioral interventions for students with ADHD have been generated by Section 504 of the Vocational and Rehabilitation Act of 1973 and the Individuals with Disabilities Education Act (IDEA) of 1997. Section 504 has been used to require the development of general education accommodation plans. These plans are designed to ensure that the student with ADHD is provided a free and appropriate education. Among the recommended components of these plans are a variety of classroom interventions (including behavior intervention planning), with a special emphasis on environmental modifications. Similarly, the reauthorization of IDEA, with its requirements for functional behavior assessments, has increased the frequency with which classroom-based behavioral interventions are considered for these students.

## General Behavior Intervention Suggestions

While students with ADHD do have a core of common problems, this group is very heterogeneous. Thus, instead of focusing on ADHD symptoms per se, behavior intervention should first directly target the specific problem behavior(s). Next, an appropriate alternative behavior, incompatible with the problem behavior, should be selected. It is important to keep both behaviors in mind. Not only is it important to identify for students what behavior is unacceptable (what we don't want a student to do), but it is also essential to make clear what behavior is acceptable (what we want a student to do). These behaviors should be carefully defined so that the teacher will be able to accurately monitor them.

It is also important to ensure that the behavior intervention plan is based upon a careful functional assessment of the behaviors. Antecedents and consequences of both the problem and replacement behaviors need to be studied. Antecedents will suggest environmental changes that set up the student for success or failure. Analysis of consequences, on the other hand, will identify those environmental contingencies that reinforce both desired and undesired behavior. The function of the problem behavior should guide intervention plans. For example, if the behavior is maintained by negative reinforcement (e.g., the behavior allows the student to avoid an undesired academic task), then the intervention should ensure that this goal is not obtained by the problem behavior. At the same time the intervention should teach the student that performing the desirable behavior is a more effective way of obtaining a desirable outcome.

## Environmental and Instructional Considerations

While it is important to treat each student as an individual and to tailor interventions to meet specific behavioral challenges, research has identified several strategies as potentially effective. Specific strategies for promoting success for students with ADHD include the following:

### Task Duration

To accommodate to the student's short attention span, academic assignments should be brief and feedback regarding accuracy immediate. Longer projects should be broken up into manageable parts. Short time limits for task completion should be specified and enforced with timers.

### Direct Instruction

Attention to task is improved when the student with ADHD is engaged in teacher-directed as opposed to independent seat-work activities. In addition, the teaching of note-taking strategies increases the benefits of direct instruction. Both comprehension and on-task behavior improve with the development of these skills.

## Peer Tutoring

Classwide peer tutoring provides many of the instructional variables known to be important in setting up students with ADHD for success. For example, it provides frequent and immediate feedback. When combined with a token economy, peer tutoring has been associated with dramatic academic gains.

## Scheduling

Based on evidence that the on-task behavior of students with ADHD progressively worsens over the course of the day, it is suggested that academic instruction be provided in the morning. During the afternoon, when problem solving skills are especially poor, more active, nonacademic activities should be scheduled.

## Novelty

Presentation of novel, interesting, highly motivating material will improve attention. For example, increasing the novelty and interest level of tasks through use of increased stimulation (e.g., color, shape, texture) reduces activity level, enhances attention and improves overall performance.

## Structure and Organization

Lessons should be carefully structured and important points clearly identified. For example, providing a lecture outline is a helpful note-taking aid that increases memory of main ideas. Students with ADHD show improved memory when material is meaningfully structured for them.

## Rule Reminders and Visual Cues

The rules given to students with ADHD must be well defined, specific, and frequently reinforced through visible modes of presentation. Well-defined rules with clear consequences are essential. Relying on the student's memory of rules is not sufficient. Visual rule reminders or cues should be placed throughout the classroom. It is also helpful if rules are reviewed before activity transitions and following school breaks. For example, token economy systems are especially effective when the rules for these programs are reviewed daily.

## Auditory Cues

Providing auditory cues that prompt appropriate classroom behavior is a helpful strategy for students with ADD. For example, use of a tape with tones placed at irregular intervals to remind students to monitor their on-task behavior has been found to improve arithmetic productivity.

## Pacing of Work

When possible, it is helpful to allow students with ADHD to set their own pace for task completion. The intensity of problematic ADHD behaviors is less when work is self paced, as compared to situations where work is paced by others.

## Instructions

Because students with ADHD have difficulty following multi-step directions, it is important for instruction to be short, specific, and direct. Further, to ensure understanding, it is helpful if these students are asked to rephrase directions in their own words. Additionally, teachers must be prepared to

repeat directions frequently, and recognize that students often may not have paid attention to what was said.

## Productive Physical Movement

The student with ADHD may have difficulty sitting still. Thus, productive physical movement should be planned. It is appropriate to allow the student with ADHD opportunities for controlled movement. Examples might include a trip to the office, a chance to sharpen a pencil, taking a note to another teacher, watering the plants, feeding classroom pets, or simply standing at a desk while completing classwork. Alternating seatwork activities with other activities that allow for movement is essential. It is also important to keep in mind that on some days it will be more difficult for the student to sit still than on others. Thus, teachers need to be flexible and modify instructional demands accordingly.

## Active vs. Passive Involvement

In line with the idea of providing for productive physical movement, tasks that require active (as opposed to passive) responses may help students with ADHD channel their disruptive behaviors into constructive responses. While it may be difficult for these children to attend to a long lecture, teachers might find that students with ADHD can be successful when asked to assist with a lecture in some way (e.g., help with audio-visual aids, write important points on the chalkboard, etc.).

## Distractions

Generally, research has not supported the effectiveness of complete elimination of all irrelevant stimuli from the student's environment. However, as these students have difficulty paying attention to begin with, it is important that attractive alternatives to the task at hand be minimized. For example, activity centers, mobiles, aquariums and terrariums should not be placed within the student's visual field.

## Anticipation

Knowledge of ADHD and its primary symptoms is helpful in anticipating difficult situations. It is important to keep in mind that some situations will be more difficult than others. For example, effortful problem solving tasks are especially problematic. These situations should be anticipated and appropriate accommodations made. When presenting a task that the teacher suspects might exceed the student's attentional capacity, it is appropriate to reduce assignment length and emphasize quality as opposed to quantity.

## Contingency Management: Encouraging Appropriate Behavior

Although classroom environment changes can be helpful in reducing problematic behaviors and learning difficulties, by themselves they frequently are insufficient. Thus, contingencies need to be available that reinforce appropriate or desired behaviors, and discourage inappropriate or undesired behaviors.

## Powerful External Reinforcement

First, it is important to keep in mind that the contingencies or consequences used with these students

must be delivered more immediately and frequently than is typical for most students. Additionally, the consequences used need to be more powerful and of a higher magnitude than is required for students without ADHD. Students with this disorder need external criteria for success and need a pay-off for increased performance. Relying on intangible rewards may not be enough.

While current practice emphasizes the use of positive behavioral interventions, the use of both negative and positive consequences has been suggested to be effective when working with ADHD students. However, before negative consequences are implemented, appropriate and rich incentives should first be developed to reinforce desired behavior. It is essential to give much encouragement, praise and nurturance as these students are easily discouraged. When negative consequences are administered, they should be given in a fashion that does not embarrass or put down students. In addition, it is important to keep in mind that the rewards used with these students lose their reinforcing power quickly and must be changed or rotated frequently.

### Token Economy Systems

These systems proven behavioral strategies for improving both the academic and behavioral functioning of students with ADHD. Typically, these programs involve giving students tokens (e.g., poker chips) when they display appropriate behavior. These tokens are in turn exchanged for tangible rewards or privileges at specified times.

### Response-Cost Programs

These programs provide mild negative consequences when problem behavior is displayed. For example, a student may lose earned points or privileges when previously specified rules are broken. There is evidence that such programming decreases ADHD symptoms such as impulsivity. A specific response-cost program found to be effective with ADHD students involves giving a specific number of points at the start of each day. When a rule is broken (a problem behavior is displayed), points are taken away. Thus, to maintain their points, students must avoid breaking the rule. At the end of the period or day, students are typically allowed to exchange the points they have earned for a tangible reward or privilege. While these procedures are effective with students with ADHD, it is recommended that they be used only with the most disruptive classroom behaviors and only when the staff has been carefully trained.

### Time-Out

Removing the student from positive reinforcement, or time-out, typically involves removing the student from classroom activities. Time-out can be effective in reducing aggressive and disruptive actions in the classroom, especially when these behaviors are strengthened by peer attention. Time-out is not helpful, however, when problem behavior is a result of the student's desire to avoid school-work. The time-out area should be a neutral environment and a student should be placed in it for only a short time. Time-out is ended based upon a pre-set (brief) time limit and the student's display of appropriate behavior. At the end of the time-out, a very brief discussion of what went wrong and how to prevent the problem in the future takes place between teacher and student. As was

the case for response-cost programs, while these procedures are effective with students with ADHD, it is recommended that they be used only with the most disruptive classroom behaviors and only when there is well-trained staff in the classroom.

## Summary

Students with ADHD are a heterogeneous group. There is no one intervention (or set of interventions) that will improve the classroom functioning of all students with this disorder. Thus, it is suggested that classroom modifications be tailored to the unique behavioral needs of each student. In developing these interventions it is perhaps best to begin by examining how the classroom environment might be changed to increase the probability of success for the student with ADHD. The next step is to consider the implementation of a contingency management system designed to provide external incentives for appropriate classroom behaviors. In doing so it is important to remember that behavior support programs must be consistently applied. Further, it is essential to avoid excessive use of negative consequences (such as reprimands, time-out) and to avoid the use of unrealistic standards that severely limit opportunities for success. In other words, it is essential that students be frequently reinforced for what we want them to do, rather than simply punished for what we do not want them to do.

## Resources

- Barkley, R. A. (1997). *ADHD and the nature of self-control*. New York: Guilford Press.
- Barkley, R. A. (1998). *Attention Deficit Hyperactivity Disorder: A handbook for diagnosis and treatment* (2nd ed.). New York: Guilford Press.
- Merculigiano, M., Power, T. & Blum, N. (1999). *Clinician's Practical Guide to Attention Deficit Hyperactivity Disorder*. NY: Brookes.
- Power, T., Karustis, J. & Habboushe, D. (2001). *Homework Success for Children with ADHD: A Family-School Intervention Program*. NY: Guilford Press.
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