Practical Strategies
FOR TEACHING STUDENTS WITH ATTENTION-DEFICIT HYPERACTIVITY DISORDER
in General Physical Education Classrooms

By Christopher F. Mulrine and Ismael Flores-Marti

Due to federal mandates, physical educators are now being asked to teach a wide range of students spanning the entirety of the learning continuum in their classes. These mandates support and encourage students with disabilities to learn and grow in inclusive settings along with their general education peers (Harvey, Yssel, Bauserman, & Merbler, 2010). Students diagnosed with attention-deficit hyperactivity disorder (ADHD) in particular, who are inattentive or have trouble following directions, can pose a challenge to physical educators; but there are strategies that physical educators can use to help these students reach their full potential.
What Is Attention-Deficit Hyperactivity Disorder?

Attention-deficit hyperactivity disorder (ADHD) is diagnosed when an individual has chronic and serious inattentiveness, hyperactivity, and/or impulsivity that are present in multiple settings and give rise to social difficulties (Hallahan, Kauffman, & Pullen, 2012). It is a pervasive pattern of inattention (trouble paying attention to details, difficulty sustaining attention, problems with organization, distractibility), hyperactivity (fidgeting, leaving seat at inappropriate times, talking excessively), and impulsivity (problems waiting for one's turn, interrupting). Students with ADHD can be diagnosed as the predominantly inattentive type, predominantly hyperactive-impulsive type, or combined type. Between 3% and 7% of the school-age population has been diagnosed with ADHD, and it is identified more frequently in boys than in girls. The cause of ADHD is unknown, but recent research shows a strong genetic or biological link. Research suggests the presence of neurological dysfunction in several areas of the brain that may affect cognitive functioning, found in such areas as the prefrontal lobes (executive control functions), basal ganglia (coordination and control of motor behavior), cerebellum (also for coordination and motor behavior), and the corpus callosum (communication between brain hemispheres; Hallahan et al., 2012). Researchers state that problems with neurological dysfunction can be observed in the classroom through diminished self-regulation and/or executive control abilities, such as the inability to wait for one's turn, to refrain from interrupting conversations, to follow rules and instructions, and to control emotions and impulsive responses.

Benefits of Exercise for Students with ADHD

Physical education teachers should be aware of the effect of exercise, substantiated by research, on classroom learning for students with ADHD. According to Bruen (2012), engaging in physical activity requires concentration and paying attention to one's bodily movements. Sports such as martial arts, ballet, yoga, dance, or any physical activity that requires deep concentration, memorization, and sequencing of behaviors can help a person with ADHD focus their attention. For example, when teaching dance, the teacher must be aware of certain modifications for students with disabilities, such as using a slower beat, which is easier to follow than a faster beat, and teaching movements that are repetitive and easy to memorize, like four claps followed by four raises of the knees.

Exercise helps students cope more effectively with stress, have a more positive identity, and have clearer thought and improved memory (Akanhe, Van Wyk, & Osagie, 2000). Exercise can increase mental performance in the parts of the brain involved in memory, attention, spatial perception, language, and emotion (Olsen, 1994), and there are indications that movement can strengthen learning and memory, as well as boost motivation and morale (Jensen, 2005). Other evidence indicates that exercise activities used throughout the day can help improve academic performance and can reduce disruptive classroom and social behavior problems (Barkley, 2004). Teachers should provide physical activity opportunities during the day to help students focus better and stay on-task for longer periods of time. In related research, Archer and Kostyczka (2011) found that “physical exercise reduces stress, negative affect, anxiety, and depression, as well as self-destructive behavior; it is also linked with a decrease in negative behaviors (e.g., bad conduct), poor impulse control, and inattentiveness, and has thereby proved beneficial for alleviation of ADHD symptom profiles” (p. 209).

Safety is always a priority for physical education teachers working with students with ADHD. In the context of exercise, safety can be an issue if the instructions for a given task are not clear or if the environments where these exercises take place are not safe. Physical educators must provide an environment free of hazards and must communicate clear directions and demonstrations of the task for students to perform the task safely. Furthermore, rules and routines should be consistent in the gym throughout the school year. Clear consequences should accompany the rules, and they must be understood by all students at the beginning of the school year.

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Educational Considerations for Teaching Students with ADHD in the General Physical Education Classroom

Physical education has many benefits for students with ADHD. It can reinforce calmness, reduce stress and anxiety levels, increase self-esteem, and encourage healthy social interaction and academic performance (Wake, 2010). Children with ADHD may appear to have an excessive amount of energy and physical education can provide one outlet through which they can release that energy. The characteristics associated with ADHD, however, can be troublesome to physical education teachers. Inattention, hyperactivity, and/or impulsivity make it difficult for students with ADHD to focus their attention long or well enough to learn. The confidence level of the general physical education (GPE) teacher plays a large role in the success or failure of students with ADHD in the GPE classroom. According to Block and Obrusnikova (2007), some limitations in confidence seem to stem from GPE teachers’ concerns about their ability to accommodate students with disabilities, the time required to prepare classroom peers for the acceptance of the person’s disability, limited training, and class size. The specialized needs of students with ADHD will require adaptations and modifications in teaching.
styles. These will include collaborative partnerships and the need to implement various behavior management practices and specific academic-learning strategies.

Collaborative Partnerships

Inclusion affects how the physical educator and general education teacher collaborate to best teach a student with ADHD. Collaboration between the general educator, special educator, and physical educator is important and widely recognized as a prerequisite for inclusive education. Physical educators need to adjust to these changing roles and plan developmentally appropriate activities to address the needs of students with disabilities (Webb, Webb, & Fults-McMurtry, 2011). They are encouraged to carefully consider their role in facilitating the inclusion of students with disabilities in the general education classroom (Polloway, Patton, & Serna, 2008). Truly inclusive schools have a unified educational system in which general and special educators collaborate to provide effective programs and services for all students (Burstein, Sears, Wilcoxen, Cabello, & Spagna, 2004). This partnership needs to address the nature of a disability and discuss curriculum, equipment, and/or instructional modifications, as well as advocacy strategies as a means to foster successful inclusion in their physical education classes (Block & Obrusnikova, 2007).

Behavioral Interventions

The educational considerations for students with ADHD suggest a high degree of classroom structure including the development of behavioral management practices, such as functional assessments, contingency-based self-management programs, and teacher-directed activities (Hallahan et al., 2012). Behavioral management practices should focus on the behavioral characteristics associated with the disorder—specifically behavioral inhibition, which can manifest itself as an executive function deficit that does not permit individuals to self-regulate their behavior, control their emotions, or exhibit goal-directed behavior (Bankley, 2004), which can result in an inability to resist potential distractions while working and/or to delay immediate gratification in order to work for larger, long-term rewards (Trip & Alsop, 2001).

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General physical educators need to be aware of the continuum of strategies used to address common and more intensive behavior problems. The common classroom management principles of setting clear expectations, fostering respect and communication, establishing a positive classroom learning environment, as well as eye contact, simple verbal reminders, proximity, class grouping, and teacher praise are still effective methods to encourage appropriate behavior and discourage inappropriate behavior. However, if the behaviors are more serious, schools across the country are implementing practices such as positive behavior intervention and supports (PBIS) and functional behavior assessments (FBA).

A PBIS is a school-wide plan of action to help prevent academic and behavioral problems by establishing a positive school culture and by teaching and supporting appropriate behaviors that enable academic and social success (Heward, 2013). This plan looks at why the behaviors are occurring in the broad contexts of home, school, and classroom and then manipulates the environments to decrease or eliminate the behaviors.

The PBIS interventions are grouped by intensity. The first level, called primary prevention, is used to address schoolwide and classroom interventions and is effective for 80% of students. Behavioral expectations are defined, taught, and rewarded. Primary procedures include the classroom management strategies mentioned previously, as well as teaching self-management of behavior through self-monitoring and self-evaluation. The secondary prevention interventions are designed for those students for whom the primary prevention was not sufficient. This intervention is more intense and is done in smaller groups. Examples of secondary prevention strategies include pairing students with the intention of reinforcing behaviors, a token-economy system, or a behavioral contract. Tertiary prevention is the third level and is a more intense, individualized intervention. It is created for the 5% of students whose behavior problems are chronic or exceptionally serious (Friend & Burack, 2009). Tertiary prevention often involves the use of an FBA and a behavior improvement plan (BIP) as part of a child’s individualized education program. An FBA is the process of gathering and analyzing information about the student’s behavior and accompanying circumstances to determine the purpose or intent of the behaviors. A BIP will be created with individualized strategies on how to reduce problematic behaviors.

Academic Interventions

There are many academic interventions physical education teachers can use to help students with ADHD. These interventions are not new. Many are currently in use, and they remain solid, reliable teaching strategies. Other academic interventions used in special education that can be useful for physical education teachers are the universal design for learning (UDL), response to intervention (RTI), and differentiated instruction (DI).

The UDL is a set of principles for curriculum development that give all individuals equal opportunities to learn. There are three qualities of lesson planning for effective universal design to support various levels of underlying functional abilities. These modification areas are: (1) equipment, (2) rules, and (3) instruction (Lieberman, Lytle, & Charcq, 2008). Content can be delivered using multiple instructional approaches. Physical educators can apply approaches
like station teaching, cooperative learning, and guided discovery as different methods to deliver their content. For example, in station teaching, specific short tasks can be designed to teach the same skill, broken into its elements, in a variety of contexts (stations) or to teach a variety of skills as they relate to a specific sport (kicking and shooting in soccer). The shortness and the variety of the tasks presented can engage students for a longer period of time.

In cooperative learning, a task with a specific goal can be presented to the students broken up in small groups. Consequently, the group has to work together to reach the goal established within the task. This interaction has the potential to keep all of the students' focus on reaching the goal(s). Activities can include rotation of demonstrators, rotation as captains, help with assessments, taking attendance, managing equipment, and leading the warm-up and cool-down. During each lesson, each week, or each unit, the teacher can rotate the leadership roles (Lieberman, Arndt, & Daggett, 2007). Another example of UDL is to consider the level of attention and self-responsibility of the student with ADHD. Variations for skill components can include the use of instructional assistants to cue and help students to stay on task, peer helpers, visual and written task directions, independent station work, or mini-games (Lieberman, Arndt, & Daggett, 2007).

Response to intervention (RtI) is another technique currently being used in classrooms. It is a multtier approach to the early identification and support of students with learning and behavior needs, in which students are provided with interventions at increasing levels of intensity to accelerate their rate of learning. As with PBIS, there are three tiers in the RTI model. According to Stephens, Silliman-French, Kinnison, and French (2010), Tier 1 of RTI is used for the entire class to help reduce or eliminate negative behaviors. For example, if a student demonstrates a lower level of physical fitness than that of his or her peers based on the number of sit-ups performed in two minutes, a Tier 1 strategy would be for the GPE teacher to conduct a two-minute timing of sit-ups twice per week. Tier 2 consists of more intense specialized strategies with the general physical educator providing additional support to students with poor skills through consultation provided by the Adapted Physical Education (APE) teacher. A Tier 3 intervention is more intense and may include additional instruction each week while systematic, individualized, progress monitoring continues to document the effectiveness of the interventions provided (Stephens et al., 2010).

Physical educators can also use the methods of DI when planning their lessons. Whether teachers differentiate content, process, products, or the learning environment, the use of ongoing assessments and flexible grouping makes this a successful approach to instruction (Tomlinson, 2000). There are several stages in which lessons can be planned to help students with ADHD in general education classrooms learn better:

- **Stage I:** pre-planning, by dividing or chunking the instruction into meaningful units;
- **Stage II:** introduction of the day's instructional objectives, thus providing a "road map" with clearly stated lesson goals and outcomes;
- **Stage III:** modeling or demonstrating the activity so students have a clear understanding of what it should look like;
- **Stage IV:** guided practice, where students practice the activity being taught while the teacher provides feedback;
- **Stage V:** independent practice, where the students should be able to understand and perform the activity required; and
- **Stage VI:** closure and review to make sure the students understand what has been taught or to repeat concepts if needed (Tomlinson, 2000).

Specifically related to the physical education classroom, Flores, Beyer, and Vargas (2012) provide several recommendations for teaching students with disabilities in the GPE classroom. These are proximity control; encouraging attention and engagement; providing explicit instruction; differentiating learning activities; organizing the learning environment; establishing, teaching, and reinforcing classroom rules; and encouraging attention and engagement when working with students with disabilities. Working in pairs can facilitate this technique because there is a level of independence with the students' work that should be reinforced through feedback and prompts from the teacher. These interventions are also known as teaching styles (Mosston & Ashworth, 2002) and teaching strategies (Rink, 2010). These styles and/or approaches allow the teacher to plan for a lesson requiring students to perform physical skills or do work in different contexts. First of all, the teacher should assess the students' instructional level in subject areas and then provide individualized interventions to fit their specific levels. One of the instructional modifications resulting from such assessments might include the need for direct instruction at their level of performance, followed by the application of activities that provide frequent practice, repetition, and feedback (Tresco, Letter, & Power, 2010). In the DI or command style, the teacher is in control of the lesson. The teacher designs the tasks, which will be highly structured for students' learning, and provides specific demonstrations, cues, and corrective feedback throughout the lesson.
Table 1. Practical Examples while Using Different Teaching Styles and Instructional Approaches

<table>
<thead>
<tr>
<th>Teaching Strategy</th>
<th>Teaching Style</th>
<th>Practical Example: Soccer Dribbling</th>
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<tbody>
<tr>
<td>Direct Instruction</td>
<td>Command Style</td>
<td>Students with or without ADHD hear the specific description and demonstration to dribble a soccer ball using the instep from Point A to Point B. The teacher continuously provides cues, feedback, and prompts throughout the lesson. The teacher must be proactive throughout the lesson to keep the focus of all students. Other strategies, like close proximity and eye contact, could be used to decrease inappropriate behavior.</td>
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<tr>
<td>Peer Teaching</td>
<td>Reciprocal</td>
<td>Students work in pairs with one student as the coach and the other performing the skill. The task is to weave between cones using the instep of their feet. The teacher’s role is to make sure the feedback provided between the students is accurate and congruent with the task. The continuous practice with a peer might help the students focus on the task.</td>
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<tr>
<td>Guided Discovery</td>
<td>Guided Discovery</td>
<td>In groups of three, students have to discover how to perform a kick so the soccer ball travels on the ground and perform a kick where the ball travels in the air. The answer must be related to point of contact. This problem presented by the teacher could help students focus on the task by trying multiple kicks while observing the behavior of the ball in the air or on the ground.</td>
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<tr>
<td>Station Teaching</td>
<td>Inclusion</td>
<td>Multiple stations are designed for students to practice the same skill in different contexts. Task sheets can be provided for each station. Students will feel a sense of responsibility by understanding and practicing the task in small groups.</td>
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Two of the techniques identified by Flores et al. (2012) — providing explicit instructions and establishing, teaching, and reinforcing rules — can be directly applied when using the command style in a lesson. Table 1 presents a practical example of these strategies. Another style or strategy is called peer teaching (Rink, 2010) or reciprocal teaching (Mosston & Ashworth, 2002). Students work in groups of two and provide feedback to one another throughout the lesson. Each student is in charge of his or her own progress and the teacher provides very clear goals for the students’ achievement (see Table 1). In guided discovery, problem-solving tasks are given to students that will challenge them to solve the problem and will also help them develop coping strategies because the tasks are completed in small groups. In station teaching, students with ADHD can move quickly and safely from one task to another and have the option of performing each task individually.

Conclusion

Physical education is important for all students, especially those diagnosed with ADHD. It is a challenge for teachers to apply their pedagogical content knowledge and managerial knowledge when teaching students with ADHD. The strategies listed in this article provide the tools for teachers to successfully include students with disabilities in their classes. When the GPE teacher has an understanding of the behavioral and academic challenges faced by these students and an understanding of their educational considerations, they will increase their confidence and help all students reach their full potential.

References


30 Strategies


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To learn more about this topic, refer to this American Alliance for Health, Physical Education, Recreation, and Dance resource at http://www.aahperd.org/shop: Designing and Implementing Effective Adapted Physical Education Programs.

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