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## *Introduction to Movement With Purpose*

- ⇒ Is movement becoming a necessity in today's classroom?
- ⇒ How often do students need to move and are attention spans rapidly shrinking?
- ⇒ What are the six purposes of movement?
- ⇒ Can I incorporate the purposes of movement in my classroom and are there practical, hands-on examples showing me how?
- ⇒ What is the framework for movement with purpose?
- ⇒ Where do I go from here?

### **IS MOVEMENT BECOMING A NECESSITY IN TODAY'S CLASSROOM?**

As the responsibilities of the educator continue to grow, one might ask, how do I fit it all in? The demands are time consuming as teachers make an effort to accomplish the following:

- Differentiate instruction
- Teach to the standards

## 2 The Kinesthetic Classroom

- Incorporate data-driven instruction
- Improve standardized test scores
- Vary assessments
- Create modifications to meet student needs

Although the weight of these challenges is great, the most difficult task may be educating the child as a whole with the intention of generating productive, successful members of society. This assumes the educator's role goes beyond teaching academic content. They must also teach life skills such as these:

- Communication
- Anger management
- Decision making
- Conflict resolution
- Behavior management
- Health and well-being

These skills have become part of today's curriculum. Is society changing? How is the rapid growth in technology affecting the way children's brains think and learn? These questions are important to consider as we watch students grow and develop. Technology is presenting information to the brain in an exciting and stimulating manner. Is education keeping up with this current trend?

Movement in the classroom provides both teacher and student with a stimulating classroom environment. Allowing students to get out of their seats to move while learning provides the novelty and change the brain seeks. It also provides the opportunity for students to grow cognitively, physically, mentally, emotionally, and socially. There are many incentives to use movement to accomplish the various challenges faced on a day-to-day basis. By using movement, academic standards can be met, test scores can be improved, and important life skills can be developed.

To obtain the benefits of movement in a classroom setting, an understanding of the six different purposes for getting students out of their seats must be gained. A developed appreciation of how to use movement to accomplish distinct goals offers the opportunity to actively engage students in the learning process. Students will no longer sit and listen for the entire period; they will move to learn academic concepts, people skills, and higher-level thinking strategies. Six specific purposes for movement in the classroom will be clearly explained in this chapter. By building an awareness of the many opportunities that movement provides, it is feasible to believe that movement is becoming a necessity in today's classroom.

## HOW OFTEN DO STUDENTS NEED TO MOVE?

For many children, spending too much time watching television, playing video games, or surfing the Internet will have a detrimental effect on their attention span (Healy, 1990). Determining a child's attention span is difficult because it can vary from child to child and subject to subject. Therefore, no conclusive study has consistently measured a child's ability to stay focused on a particular task. Typically, children's attention spans are related to their age. On average, it has been reported to be three to five minutes per year (Schmitt, 1999). For example, kindergarten students' attention spans may range from approximately 15 to 20 minutes. Many theorists have also concluded that the average attention span of an adult is 15 to 20 minutes. These findings have been debated because the individual's level of interest must be taken into consideration. It appears as though the research is showing us the attention span of an adult can be comparable to that of a child—or are we suggesting that students have a longer attention span than they actually do? Because researchers have not yet incorporated all the factors affecting attention span, their findings are more useful, at this point in time, for creating general guidelines than for determining the attention span of any one individual.

Trying to determine how often students need to move in a particular class period or throughout the day is not an easy task. Children who are raised in stimulating, active environments produce more neural connections in the brain (Bruer, 1991). When the body is inactive for 20 minutes or longer, there is a decline in neural communication (Kinoshita, 1997). The following considerations must be weighed:

- How many of my students are diagnosed with attention deficit disorder (ADD), attention deficit hyperactivity disorder (ADHD), or other learning disabilities?
- What appears to be the average attention span of the students in my classroom when they are interested in the topic and/or activity?
- What appears to be the average attention span of the students in my classroom when they are not interested in the topic and/or activity?
- How much material can I cover in a particular time where my students can comprehend, process, and retain the information?
- How many learners in my classroom prefer kinesthetic learning?

Though no one particular existing formula can be used to determine how often students need to move, evidence is making it clear that movement allows students to refocus and strengthen their ability to pay attention. Researchers at the University of Illinois found that school-age students were better able to allocate attentional resources following vigorous walking (Mitchell, 2009). These same researchers also found a “meaningful difference”

## 4 The Kinesthetic Classroom

in reading, spelling, and math achievement tests following exercise. The important question to consider is, who is responsible for student learning states? If a child is not paying attention in class, who is at fault, the teacher or the student—perhaps both? Students must take some responsibility to develop self-discipline while using strategies to stay focused and on task. On the other hand, teachers are in charge of creating and facilitating an environment that engages, motivates, and challenges the learner. If a student's mind begins to wander during class time, then it is possible the lesson and/or the way it is being taught is simply not holding the child's interest.

Because it can be difficult to determine how often and how long students should move in a given time, it is critical to search for signs that students are losing focus. The following list provides some examples of signs students display when they are having difficulty staying focused:

- Staring off into space
- Fidgeting, wiggling hands and feet
- Humming
- Doodling
- Talking to a neighbor
- Shouting answers before the question is completed
- Acting out by breaking class rules
- Displaying attention-getting behaviors
- Failing to follow directions accurately or completely
- Inability to finish activities
- Interrupting others

Identifying these signs will assist in determining when students need to move their body so they can refocus and reenergize their brain. Ideally, a teacher who uses the six purposes of movement effectively and consistently can prevent students from becoming distracted and losing their attention. Students who use their body while gaining knowledge are actively engaged in the learning process. If attention span is rapidly shrinking, it is reasonable to believe the six purposes of movement may be the perfect resource for combating this concern.

## WHAT ARE THE SIX PURPOSES OF MOVEMENT?

### Purpose 1: Prepare the Brain

Can certain physical movements actually stimulate and prepare the brain for learning? This concept examines what is called whole-brain learning and is derived from research on how the brain learns. As part of this conceptual framework, many researchers and theorists believe that specific, directed physical movements help prepare the brain for leaning

or improve brain function. Although some view this research as young and inconclusive, others feel it is a solid combination of brain science and common sense. One of the goals of a brain-compatible classroom is to establish a brain-friendly learning environment. Some of these characteristics are listed next:

- Establishing safe and supportive surroundings
- Offering a rich, stimulating atmosphere
- Providing a community approach
- Creating opportunities for group learning
- Making sure students are hydrated
- Allowing the brain to make connections while purposefully using transfer
- Incorporating rehearsal and practice
- Working within memory time and capacity limits
- Incorporating movements that facilitate cognition

As brain researchers continue the important work of understanding how children learn, there are signals that brain development is enhanced through movement. Preparing the brain for learning incorporates specific brain-compatible movements that improve neural connections. In other words, neurons (brain cells) can communicate more effectively so cognitive abilities are heightened. Although the research is promising, the philosophy presented in this book supports the notion that these specific movements may stimulate the brain as intended but also serve as effective brain breaks and activities that support exercise and fitness. Therefore, a win-win approach is established.

It is believed the way we think, learn, and remember can be directly influenced by the physical movements in which we participate (Ratey, 2008). There are specific programs that provide evidence that these activities are beneficial and effective in preparing the brain and enhancing the learning process. Two specific examples, *action based learning* and *learning readiness PE*, will be discussed in the following chapter. Exercises that cross the midline of the body along with movements that stimulate the vestibular system and improve spatial awareness will be emphasized. The classroom activities found in Chapter 4 can be used to develop this purpose of movement.

Each hemisphere of the brain controls the opposite side of the body. A thick bundle of 250 million nerve fibers called the corpus callosum connects the two hemispheres and allows them to communicate. Crossing the midline, also known as cross laterals, refers to moving the arms and/or legs across the body from one side to the other. These integrative movements help students prepare for learning by forcing the hemispheres to work together, assisting in energy and blood flow, decreasing muscle tension, and stimulating and focusing the brain to improve concentration

## 6 The Kinesthetic Classroom

(Dennison & Dennison, 1988; Hannaford, 1995; Promislow, 1999). The eyes also move in various pathways similar to the limbs (Dennison & Dennison, 1988). This is called visual tracking. Tracking is the ability of the eyes to follow an object. If brain hemispheres are not efficiently communicating with each other, reading can be difficult. Although there is limited technical research on these movements, the logic supporting them is very powerful (Jensen, 2000).

Many children who experience learning disabilities struggle with crossing the midline of their body. These students will often have difficulty with reading and writing (Pica, 2006). By incorporating cross-lateral movements into your classroom regimen, you may help improve these skills. Although there is no guarantee, these activities can't hurt and will probably energize your students (Jensen, 2000). Although humans do not strictly prefer the left or right hemisphere, most people have a dominant side. Cross-lateral activities can help students use both sides of their brain while improving skills they are lacking. Learning how to read and write, thinking clearly, and problem solving are skills that involve both hemispheres of the brain.

The vestibular system provides the brain with meaningful information. This visual system is related to motion or the position of the head and body in space. The vestibular system accomplishes two major tasks. First, it contributes to an individual's sense of equilibrium and conveys information to the muscles and posture. Second, it controls eye movements so images remain steady and in focus. This explanation helps to rationalize a connection between the vestibular system and academic skills. The vestibular system is most critical for cognition and is the first sensory system to develop (Jensen, 2000). As a result, it serves as an organization tool for other brain processes while playing a key role in perception. Therefore, balance problems can hinder brain function.

Spatial awareness allows us to sense both objects in the space around us and our body's position in space. Without this awareness, students may have difficulty with the following:

- Reading
- Organizing written work
- Understanding abstract math concepts
- Reproducing patterns and shapes

Studies have suggested a connection between abstract thinking and a well-developed sense of spatial awareness. The developing brain needs to activate this system adequately so movement and cognitive growth can develop (Jensen, 2000). Various spinning, balancing, jumping, rolling, turning, and combination activities can help develop and improve the vestibular system and spatial awareness. Movements that stimulate the inner ear alert the brain to sensory stimuli (Hannaford, 1995). The more

senses that are used for learning, the more likely information will be stored and retrieved from memory.

### **Purpose 2: Provide Brain Breaks**

The goal of a brain break is exactly what it sounds like: to give the brain a break from academic content. This can be a frightening proposition because of the pressure to cover a large amount of material in a given time; there is just no time to give the brain a break. Or is there? Often, the demand to get through material is so great that teachers catch themselves starting to simply “cover” material. Are students learning the material that is required of them? Maybe it is time to examine and prioritize students’ needs for learning.

The important role that repetition plays in learning a concept goes without question, but what else does the brain need? Consider how the brain actually learns from a physiological standpoint. Approximately 90% of the oxygen in our body/brain is stale unless we take a deep breath, yawn, or get up and move. A lack of oxygen can result in confusion and concentration and memory problems (Blaydes Madigan, 1999). This needs to be contemplated as we facilitate learning. Here are some reasons to include brain breaks during lessons:

- To give the hippocampus, in part responsible for short-term memory and navigation, time to process information
- To lessen feelings of being overwhelmed by content
- To provide the opportunity for laughter and fun
- To refocus the brain as students return to the content
- To develop social skills
- To reenergize the body and the brain

### **Purpose 3: Support Exercise and Fitness**

Does it seem reasonable to ask a teacher that does not have a background in physical education to bring fitness into their classroom? If your initial response is no, consider the following questions:

- Are we raising the first generation of children who may not outlive their parents? Many experts have claimed this to be possible. As an educator, does that thought concern you?
- Would increased activity in the classroom help control the significant rise in the obesity epidemic?
- How much time do students receive physical activity or physical education class in your school?
- Has recess been decreased or taken away from children?
- If students sit from the time they enter class until they leave, what message is being sent?

- Is there something I can do in my classroom to encourage fitness along with a healthy, active lifestyle?
- What kind of role model am I in regard to supporting the health and well-being of my students?

The idea of adding exercise and fitness to your classroom is a new phenomenon that is getting attention. The importance of this concept varies from state to state and school to school. Although some schools are limiting the amount of activity students receive, others are creating laws that students must receive 30 minutes of continuous physical activity every school day (Winterfeld, 2007). Ideally, this movement would come from a physical education teacher and/or class. Unfortunately, space and time make this nearly impossible. Hence, classroom teachers are encouraged to open their minds to the idea of exercise in the classroom.

This purpose of movement need not be made into a tribulation, as it does not suggest that teachers engage students in a full body, head-to-toe workout. Simply getting students up on their feet and doing several quick exercises may be all it takes. In 60 seconds or less, you can have your students participate in a physical activity, such as jogging in place, which can refocus their brain while giving it a burst of fresh oxygen. Think of the critical message a student receives about fitness if exercises are performed in every class they attend. Researchers suggest that physically fit children perform better in the classroom. Research also shows a correlation between academic skills and physical fitness scores. Therefore, if students perform well on physical fitness assessments, they may also score well academically (Ratey, 2008). Recent studies in both California and Texas suggest that physically fit students do better on standardized tests. It is irresponsible to ignore this research any longer. Incentives for exercise and fitness in the classroom include the following:

- Providing a brain break
- Energizing the body and refocus the brain
- Improving students' health and well-being
- Improving academic achievement through enhanced brain function
- Improving fitness levels
- Improving mental/emotional well-being
- Learning more efficiently
- Reducing stress

#### **Purpose 4: Develop Class Cohesion**

How important is the emotional climate in a classroom related to students' ability to learn new information? It is imperative to consider how the brain prioritizes information. The information most crucial to the brain is related to survival. If a student's survival needs are not met, the brain is

not in a position to work at optimal levels. The second most important information to the brain is that which generates emotions. What is the emotional state of students in your classroom, and can you manage this state? If students are feeling stressed or uncomfortable, it is very difficult for the brain to learn new information. The parts of the brain that use higher-level thinking strategies and critical-thinking skills shut down when an individual's emotional state is compromised. The third priority of the brain is receiving data for new learning. Therefore, the emotional climate in your classroom plays a major role in a student's ability to learn new information (Sousa, 2006).

What key ingredients help produce an environment that may enhance the classroom's mental and emotional state? Humor and/or music can have a great effect on the emotional state of students. However, movement is the number one manager of student learning states (Jensen, 2000). Is it possible that movement will have that much effect on one's learning state? Think back to the last time you sat for a long period to learn something new. What was your emotional state?

How students get along with one another while in your classroom plays a direct role in their learning state. If your classroom is viewed as a fun, safe environment where students are kind and supportive of one another, learners have a greater chance of finding academic success. Consider a classroom that is strictly business. In this environment, there is no time to build social skills and develop class cohesion. Will students learn and grow at optimal levels in this situation? Which learning environment would you personally desire?

Taking time to engage students in movement activities that will develop class cohesion is important. Some benefits for engaging students in class cohesion activities are listed below:

- Providing the brain with a much needed break
- Improving communication and listening skills
- Providing an opportunity for problem solving and higher-level thinking
- Offering an environment that promotes laughter and fun while engaging learners
- Improving motivation and discipline
- Heightening students' interest in attending and participating in class
- Building relationships and a general concern for one another
- Developing a sense of belonging
- Improving self-esteem

### **Purpose 5: Review Content**

Many teachers spend a respectable amount of time reviewing previously taught concepts. Why not review material through movement? Movement is exciting and can make learning fun, engaging, and emotional.

When cognitive information is linked with movement, retaining, and recalling, the data become easier (Hannaford, 1995). Memories and neural pathways fade when they are not used (Jensen, 1998). Providing multiple opportunities to review content is essential to the learning process. Therefore, reviewing concepts can take place at the beginning, middle, and end of each lesson. Combining the review of material with movement can easily be implemented throughout lessons.

The beginning of any given lesson is often spent reviewing previously taught material. If students are moving during content review, they will awaken their bodies as well as their brains. How much time should be spent reviewing material at the beginning of class? The first 10 minutes is ideal for teaching new concepts (Sousa, 2006) when the brain is typically focused and ready to learn something fresh. Therefore, spending a long time reviewing previously taught concepts at the beginning of the lesson may not be the best use of time. However, a quick movement activity that allows students to review information and focus the brain can be very effective. An activity of this type can motivate and prepare the brain to dive into something new.

Reviewing material during the middle of class by using movement is ideal. Benefits of reviewing content through movement include the following:

- Providing an opportunity to use repetition to improve retention
- Allowing time for the brain to process and consolidate new information
- Presenting time for the brain to rejuvenate
- Improving motivation and discipline
- Waking up the body and brain as they begin to feel tired and sleepy
- Creating a fun and exciting learning environment
- Allowing students the chance to engage in a social environment

Previously taught material is often covered toward the end of a lesson. The last five minutes of class time is actually a great opportunity for teaching another new concept or reminding the brain of the most important concept that was taught during the current lesson. Does movement make sense here? It depends on how long your students have been sitting. If movement was used throughout the lesson, it may not be necessary. However, if students have been sitting for a long time, it may be the perfect opportunity to review content using movement.

### **Purpose 6: Teach Content**

Can I teach this academic concept through movement? This is an important purpose of movement to consider. Allowing students to use movement to grasp a new concept may be extremely beneficial and aid in

retention of material. *Learning by doing* can be a very powerful example of implicit learning. Eric Jensen (2000) describes a few reasons for increasing the amount of implicit learning in a classroom setting:

- More information can be absorbed and may last longer.
- Every age group can learn and obtain implicit knowledge.
- There is a cross-cultural transmission.
- Bridges may be formed that connect the body and brain.

Recall the first time you learned something new. Compare times when you heard information explicitly, perhaps through a lecture, versus a time when you learned something implicitly, like riding a bike. Think about the process of learning. Did using your body to ride the bike actually help you to learn the concept? If someone just lectured to you about how to ride the bike, would you be able to ride it? Implicit learning activates the body and brain simultaneously so both learning and the retention of information take place with greater ease.

Movement should be considered whenever teaching a new concept or standard. Using movement and physical activity in the learning process will help many students recall information more efficiently (Blaydes Madigan, 1999). This does not mean getting students on their feet to move into cooperative learning groups for an activity, going to the board to write something, or moving students' seats. Think deeper; this refers to actually experiencing the academic concepts by using the body. Here are a few simple examples:

- Understanding a comma: Students walk while saying a sentence and pause to represent the purpose of a comma
- Understanding number sequence: Students stand up and represent a number sequence by using their bodies
- Understanding a war: Students role-play the war
- Understanding an atom: Students become the atom

This challenge may vary from subject to subject. Keep in mind, movement does not need to replace your usual way of teaching a given concept. If you traditionally lecture, have students discuss the topic, read, or complete a worksheet; these methods can still be used effectively. However, these methods can be altered or shortened so there is time to allow students to learn the concept through movement. Here are some benefits for teaching new content through movement:

- Increase understanding and retention
- Improve social skills and class cohesion
- Increase learner motivation
- Provide opportunities for problem solving and higher-level thinking
- Stimulate the brain/body connection

## **CAN I INCORPORATE THE PURPOSES OF MOVEMENT IN MY CLASSROOM AND ARE THERE PRACTICAL, HANDS-ON EXAMPLES SHOWING ME HOW?**

*Yes! You can do this!*

You may be saying to yourself right now, “This sounds great, but can I do this?” Some apprehension might stem from the following questions:

- Do I have the personality to make this work?
- Can I still have effective classroom management?
- Will movement make learning more efficient?
- Will I have enough space?
- Will I be able to maintain a safe environment?

The answer to all of these questions is yes! Although these concerns are genuine and understandable, they can be overcome through time, patience, and solid proof that movement is one of the most effective ways to teach, and reach, students of all ages and abilities.

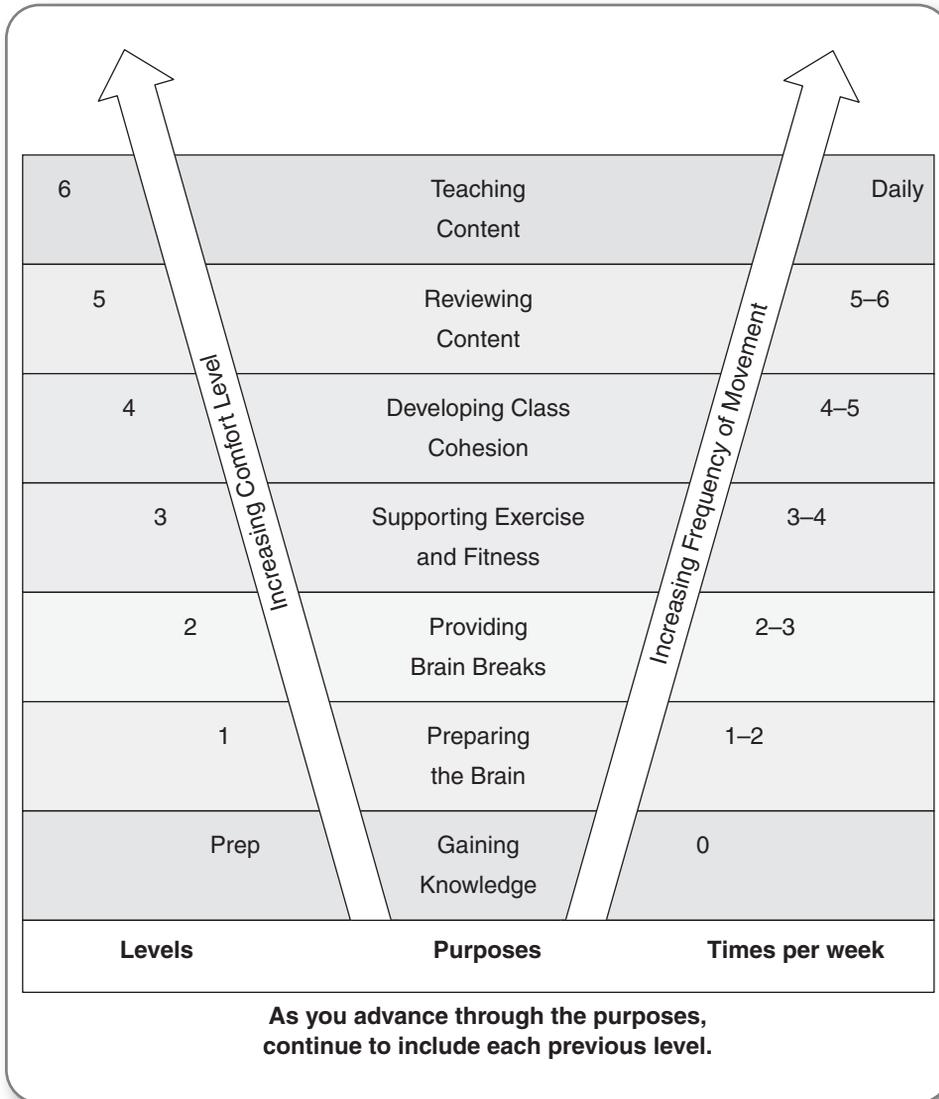
Please refer to the graphic organizer (Figure 1.1). There are three important areas to consider on this chart: (1) the educator’s individual comfort level, (2) how to use movement, and (3) a suggested order in which the purposes of movement might be implemented. Progress through the levels of this chart should occur at an individual rate that feels comfortable. Personality type and experience with movement could result in a personal alteration in the chart. For example, if you do not exercise on a regular basis, you may feel more comfortable developing class cohesion before you are ready to support exercise and fitness. Educators who consider themselves advocates of movement may be more inspired to move through the levels at a quicker pace. However, you must choose the pace that is right for you!

If the concept of movement in a classroom is difficult for you to grasp, you need to start slowly, trying simple activities that will help you increase your comfort level. Any given activity may have more than one purpose. For instance, the purpose of students participating in 10 chair-dips is to support exercise and fitness. However, this quick activity also provides a brain break. This graphic organizer serves as a guideline for the order in which the purposes of movement might be explored. Purposes were placed in this order based on the following considerations:

- Teacher preparation
- Amount of class time activity/purpose might take
- Level of creativity
- Potential classroom management challenges
- Challenge level for implementation

## WHAT IS THE FRAMEWORK FOR MOVEMENT WITH PURPOSE?

Figure 1.1 Movement With Purpose



The first level is known as the prep stage. This is where knowledge development and an understanding of the six purposes of movement are critical. The more you learn, the more eager you will be to try movement activities in your classroom.

Level 1 (preparing the brain), Level 2 (providing brain breaks), and Level 3 (supporting exercise and fitness) are the easiest places to start. These three purposes of movement are the least risky and require little or

no creativity on behalf of the teacher. They demand little planning time and can be performed quickly. If you are nervous or hesitant to move students, try engaging them in an activity that prepares the brain for learning or a brain break once a week for a month. Take note of how your students respond to the activities. Remember to pay attention to student learning states before and after the movement. Look for signs that show your students are benefiting from the activities. Watch for any improvements in test scores or motivation in your classroom.

Once you recognize the benefits of movement, you will become more comfortable and encouraged to increase the frequency of movement in your classroom. Level 4 (developing class cohesion) and Level 5 (reviewing content) may take a little more planning and classroom management. As you explore these two purposes, you will rejoice as your student's test scores increase while you continue to reach state and national standards. You will notice that you are not falling behind in your content and students are eager to learn in an interconnected environment.

The most difficult and perhaps most important purpose of movement is Level 6 (teaching content). This purpose requires time, effective classroom management, planning, and creativity. You may want to try this later, once your confidence has strengthened. Take small steps and start slow. Remember the very reason you became a teacher and the importance of providing a positive learning experience. Teachers want to reach as many students as they can, and movement is a teaching tool that simply cannot be ignored.

## **WHERE DO I GO FROM HERE?**

The remaining chapters of this book will focus on the brain/body connection, classroom management, safety, and various examples on how to incorporate the six purposes of movement in an academic setting. This book can be used as a resource for ideas or a simple tool that provides knowledge and support. It is important, however, that you begin to consider and critique your lessons. This process will allow you to create and design lessons in which movement can best serve you and your students.

Thinking outside the box is encouraged when it comes to the concept of movement in a classroom. Some will have a natural ability to do this. On the other hand, this will be a true challenge for others. Be patient and understand that this style of teaching will not develop overnight. Time and trial and error are two key components that are essential for future success. It is likely that you will involve students in movement activities that do not go the way you planned. Don't give up! Allow yourself to learn from mistakes. As improvement happens, you will be able to implement the six purposes of movement into your classroom with ease. The work that you may have to do to get to that point may be easier said than done; however, the rewards will be endless, and your students will thank you for years to come!

## Chapter 1 Recap

- Educators can accomplish their goals in the classroom while incorporating the six purposes of movement. Movement is becoming a necessity in today's classroom.
- Teachers need to look for signs that students are losing focus. Movement can regain that focus and possibly prevent students from losing it in the first place.
- Purpose 1: Preparing the brain for learning incorporates specific brain-compatible movements that can improve neural connections.
- Purpose 2: Providing brain breaks can give the brain the opportunity it needs to process and consolidate information.
- Purpose 3: Supporting exercise and fitness encourages healthy living. Based on current research, physically fit children perform better academically, and therefore, providing exercise in the classroom can help to improve school performance.
- Purpose 4: Developing class cohesion through movement activities can prepare the brain for learning new information.
- Purpose 5: Reviewing content through movement during the lesson is an ideal way to use repetition to improve retention.
- Purpose 6: Teaching content through movement will help many students of all ages and cultures understand and retain information.
- Look ahead for information on the brain-body connection, classroom management, safety, and multiple examples on how to incorporate the six purposes of movement into a classroom setting. Prepare to be patient, creative, and ready to think outside the box.