Motivating Students to Be Active Outside of Class
A Hierarchy for Independent Physical Activity

GRANT HILL

This systematic, progressive method teaches students to take control of their learning in order to become more active.

Students of all ages engage in too little physical activity (Centers for Disease Control and Prevention [CDC], 2003). This is occurring despite the fact that children have extraordinary amounts of leisure time, as evidenced by the documented amount of time they spend watching television and using other electronic devices, such as Play Stations and the Internet (Sherman, 2000). The combination of a sedentary lifestyle and poor nutrition during the elementary school years has increased the incidence of chronic illnesses, such as type 2 diabetes, heart disease, and obesity (Prusak & Vincent, 2005; Shephard & Trudeau, 2005). In addition, sedentary habits formed during preadolescence tend to be difficult to change later in life, as demonstrated by researchers who have documented that the activity levels of both boys and girls decrease each year between fourth and 10th grade (Bradley, McMurray, Harrell, & Deng, 2000).

Opportunities for physical activity should be provided through recesses, lunch periods, organized fitness breaks, before- and after-school activity programs, and structured physical education classes taught by certified specialists (Ferrin & Amick, 2002). However, in many schools, physical education class time has been reduced or even eliminated (Annesi, Westcott, Faigenbaum, & Unruh, 2005). In fact, even if students are active 100 percent of the time in physical education class, it is unlikely that they will meet the CDC's recommendations for health-promoting levels of physical activity (Carroll, Loumidis, & Hart, 2001). In reality, students typically engage in only about eight minutes of healthful activity during a 40-minute lesson (Tudor-Locke, Ainsworth, & Popkin, 2001). Other factors that limit physical educa-
At the first level of the Hierarchy for Independent Physical Activity, students choose to participate in various activities such as jumping rope (above) and using stretch bands (right), in which they set goals and document their progress.

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Documentation of Daily Physical Activity

The first level of the Hierarchy of Independent Physical Activity requires students to document their daily physical activity in a journal, log, or homework calendar so that teachers can make sure that students are meeting the minimum activity-level standards. Log entries may include the student’s personal fitness program to allow for comparison of their daily output with their initial goals. Students may also wear pedometers and record the number of daily steps taken. These daily totals may be entered into an Excel spreadsheet and graphed. For pedometer steps, as with other logged activities, students can set goals and monitor their performance in relation to those goals (figure 1). Students can also select a class peer to serve as an “exercise buddy,” and they can monitor each other’s activity by entering scores and comments in each other’s journals. If students have access to heart monitors, they can record average heart rate, as well as the total amount of time they exercised in their
Figure 1. Pedometer Assignment

Directions: Use a pedometer to track your total number of steps, distance, and caloric output. In addition, provide a brief set of descriptive comments regarding specific activities performed each day.

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<thead>
<tr>
<th>Day</th>
<th>Steps Goal</th>
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<th>Total Distance</th>
<th>Caloric Output</th>
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Figure 2. Sample Homework Calendar Format (5th grade)

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<td>Speed</td>
<td>Play</td>
<td>Skate</td>
<td>Play</td>
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<td>rope</td>
<td>rope</td>
<td>bowling,</td>
<td>walk for 15</td>
<td>a game</td>
<td>walk,</td>
<td>a game</td>
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<td>while</td>
<td>rope</td>
<td>tennis,</td>
<td>minutes.</td>
<td>some kind</td>
<td>bike,</td>
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<td>moving</td>
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<td>badminton,</td>
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<td>for 15</td>
<td>or swim</td>
<td>of some kind for 15 minutes (specify which).</td>
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<td>forward</td>
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<td>table tennis,</td>
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<td>for 15 minutes.</td>
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<td>or Frisbee for 15 minutes.</td>
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<td>&quot;Horse&quot;</td>
<td>or run</td>
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<td>of soccer,</td>
<td>Toss&quot;</td>
<td>of some kind</td>
<td>or &quot;Around</td>
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<td>basketball,</td>
<td>with a</td>
<td>for 15</td>
<td>the World&quot;</td>
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<td>a partner using</td>
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<td>a Frisbee or</td>
<td>using a</td>
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<td>for 15</td>
<td>pedometer</td>
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<td>ball for 15 minutes.</td>
<td>Frisbee</td>
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<td>minutes (specify which).</td>
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<td>distance).</td>
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Note: Activities may be completed in random order. Parent/guardian initials are required in each box.

Teachers should also create age-appropriate homework calendars that provide specific physical activities and require parent or guardian verification that the activity was completed (Gabbel & Hamrick, 2001; Pangrazi, 2007). A homework calendar can also specify the amount of time that must be spent in activity as the primary requirement, but leave the choice of the activity up to the student (figure 2). Students could also practice various skills that are included on a checklist (figure 3). By practicing these skills outside of class, it is hoped that students will score higher when they are later assessed on those skills at school. Smith and Claxton (2003) stressed the importance of having students practice the skills of a current unit as homework. For example, a student may practice free-throw shooting or dribbling during a basketball unit, or heading or trapping during a soccer unit. Students could also be given credit for participating on a youth sport team, for bowling, or for working out at a fitness club.

Ideally students should have choices regarding their out-of-school physical activity, so they can engage in activities that they are likely to continue participating in as adults. Providing choice is also important in regard to gender equity,
Directions: Place a checkmark by each completed task. If you exceed the designated number of repetitions, write in the number you achieved. You will be formally assessed on each of these tasks at the end of the year, so be sure to provide accurate information.

Rope Jumping
- two feet/pendulum (5x)  
- two feet/forward (5x)  
- two feet/backward (5x)  
- each foot forward (5x)  
- crosshands (5x)  
- rocker step (5x)  
- heel click (5x)  
- double unders (5 consecutive times)  
- other (specify)  

Basketball
- V dribble (5x)  
- 6 lay-ins around cone (30 sec.)  
- Figure 8 ball handling  
- Walking under leg dribble (5x)  
- Candy Cane (ball around body 8 consecutive times from feet to head)  
- Ferris Wheel (bounce ball front to back through legs and flip back over shoulder for catch)  
- other (specify)  

Juggling
- one scarf (U)  
- two scarves (U,X)  
- three scarves (U,X,U)  
- scarves (10x)  
- one bag (U)  
- two bags (U,X)  
- three bags (U,X,U)  
- three bags (10x)  
- other (specify)  

Soccer
- 10 altering step kicks/wall  
- heading--pass from partner ten feet away (3x)  
- pass/trap with partner(10x)  
- juggling (5 consecutive times)  
- wall passes (15 in 30 sec. from 9 ft.)  
- other (specify)  

Hula Hoop
- toss in air and catch  
- spin and return  
- use as jump rope  
- spin around arm (5x)  
- spin around arm/exchange arm  
- toss/spin and dive through  
- spin around waist (10x)  
- spin around neck (5x)  
- other (specify)  

Volleyball
- serve underhand (wall) (5x)  
- serve overhand (wall) (5x)  
- bump to self (5x)  
- set to self (5x)  
- bump with partner (10x)  
- set with partner (10x)  
- bump/set with group (15 cons.)  
- other (specify)  

Paddles and Balls
- bounce off floor (5x)  
- bounce in air (5x)  
- alternate up/down (10)  
- thrust ball up and catch (5x)  
- forehead off wall (5x)  
- backhand off wall (5x)  
- partner rally off wall (10x)  
- hit off edge of racquet (5x)  
- other (specify)  

because boys tend to select team sports more often than girls, while girls typically are more drawn to activities such as aerobic dance and jumping rope (Bradley et al., 2000; Faucette et al., 1995). Students can also be given extra credit for walking or biking to school, because it has been found to increase average daily physical activity by almost a half hour (Strand, Riner, McIver, & Pate, 2005).

There are several reasons why independent practice of motor skills is important. These reasons include increased perceived competence, enjoyment, support from parents, and increased physical activity. Perceived competence appears to be of particular long-term importance, since it is a significant predictor of further involvement in an activity (Carroll et al., 2001; Wallhead & Buckworth, 2004). Assigned out-of-school physical activity also helps to publicize what is occurring in the class and may encourage other family members to engage in physical activity (Hart, 2001). Out-of-school physical activity appears to be of particular importance for females because they are typically less active than males (Faucette et al., 1995).
Figure 4. Creation of a Movement Pattern

Directions: Select a partner or work in groups of 3 or 4. Presentations will be due one month from today.
Choose one of the following options:

1. Dance, Dynoband, Basketball, Jump Rope, Hula Hoop, Wand, Flag, and Frisbee Routines
   Record a sound track (provide audio: iPod, cassette tape, or CD) that is 1 to 2 minutes in length. Create an original
   dance sequence that includes at least 6 different movements.

2. Dramatic Stories
   One group member reads a story about a physical activity while other group members provide corresponding
   movements. The story should be 1 to 2 minutes in length (you may also provide background music). This may
   be an original or an adapted story.

3. Video of Exercise or Activity
   Provide a video of your group engaged in an exercise routine or other type of synchronized activity
   (1-2 minutes in length).

Movement sequences will be evaluated on the following factors:
1. Inclusion of at least 6 different movements
2. Quality of movement—timing, balance, utilization of space, coordination
3. Synchronization of movement among group members
4. Energy and expression
5. Appropriateness of movements with selected narration and/or music

Creating Movement Patterns
The next level of the Hierarchy of Independent Physical Activity focuses on having students create movement sequences
that will later be performed in class, at assemblies, and at community functions (figure 4). An example of this is to have
students create a dance routine in which they choose the music as well as the basic movements. These dance routines
may be performed individually or in groups. When groups of two or more students are involved, students may use recess
and lunch time to practice. Some students may choose to work on their routine after school or at home.

Music can also be used as a background for basketball skills, Dynoband routines, and sequences involving other
apparatus such as hula hoops, jump ropes, flags, wands, and Frisbees. Specifications for these routines should be explicit
in regard to duration and the number of different moves required. Students may also be encouraged to create dramatic
stories in which a narrator reads the story and others act out the various movements. Or they can create video recordings
in which they showcase their home exercise programs or physical activity participation. Students could even design
neighborhood fitness trails and use pedometers to determine the distance. These fitness trails may require walking or running,
or include tasks to be performed at various locations along the way. Students can also research exercise programs
for various sports and then adapt them for their personal use. By having students create their own movement sequences,
their physical activity will become more personalized and, consequently, more enjoyable, making it more likely that
they will be active later in life (Prusak & Vincent, 2005; Shephard & Trudeau, 2005).

Students perform a synchronized exercise routine of their own creation.

Service and Leadership
The highest level of the Hierarchy of Independent Physical Activity requires students to provide service and leadership
to promote physical activity. By spending time helping others to be active, students should become more aware of the
concepts, strategies, and benefits associated with these activities. Students can volunteer to assist an activity leader at a
daycare center or a youth recreational center. Since, students as young as fifth grade have been shown to be accurate peer
monitors for fitness tests—such as the push-up and sit-up tests (Hill and Miller, 1997)—they can administer these tests
outside of school and be trained to administer other fitness tests such as the V-Sit-and-Reach test for hamstring flexibility
and the Pacer test for cardiorespiratory fitness. Students may also use simple sport-skill tests to assess basketball shooting, soccer passing and trapping, tennis wall volleying, and accuracy in Frisbee throwing. They can also teach movement skills and games to younger siblings, neighbors, and parents. Students can survey their neighborhood to determine the activity levels of friends and relatives in their community. They can also serve at various health and fitness fairs offered by the school or an organization within the community. Verification of this outside service should be provided by an adult.

**Final Thoughts**

Unless students engage in sufficient daily physical activity, they will not be able to lead a healthy lifestyle that will allow them to use the skills and knowledge they learned in other important school subjects (Shephard & Trudeau, 2005). The Hierarchy of Independent Physical Activity is valuable, not only because it identifies specific strategies to encourage independent physical activity, but because it provides a systematic, progressive method for teachers to help students progress, in stages, from inactivity to activity leadership (Pangrazi, 2007). By using the Hierarchy of Independent Physical Activity, teachers can better ensure that their students will develop an active lifestyle that will benefit them throughout life.

**References**


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