



## *Self-Regulation Strategy Development*

# as an Instructional Approach for MOTOR SKILL ACQUISITION

By Nichole D. Calkins

**P**hysical educators are charged with developing physically literate students who pursue a lifetime of physical activity. A major component of physical literacy is the ability to demonstrate competency in a variety of motor skills and movement patterns (SHAPE America – Society of Health and Physical Educators, 2014). Motor skill competency is essential to participation in a variety of physical activities. Even at a young age, children with better-developed motor skills spend more time in physical activity and notably less time in sedentary behaviors than do children with less well-developed motor skills (Williams et al., 2008).

A lack of confidence and ability in motor skills reduces the likelihood of an individual engaging in health-enhancing physical activity across their life span. Physical education may provide the only opportunity for many school-age students to develop proficient motor skills; therefore, physical educators must utilize effective strategies for motor skill acquisition to enhance physically active lifestyles. The purpose of this article is to explain how to incorporate self-regulation strategy development into the physical education setting and how students can benefit from such an approach.

## Defining Self-Regulation

Self-regulation is a component of social-cognitive theory, a behavior-change theory that has received empirical support demonstrating its effectiveness in increasing physical activity, improving nutritional habits, and enhancing athletic performance (Greaves et al., 2011). More specifically, self-regulation strategy is the strategic use of skills to plan, monitor, reinforce and adapt goal-directed behavior (Schunk & Zimmerman, 2008). As an instructional approach, self-regulation strategy development recommends that motor skills be taught through a sequential practice routine that includes strategies such as setting goals, monitoring performance, reflecting on performance, and making strategy attributions (Kolovelonis, Goudas, & Dermitzaki, 2010).

## Benefits of Self-Regulation in Physical Education

Various studies have validated the idea that individuals who utilize self-regulation strategies have a higher level of success in improving performance, because they typically demonstrate better time management, master learning methods more effectively, retain learned information longer, and persevere through challenging work (Bakracevic & Licardo, 2010; Duckworth, Grant, Loew, Oettingen, & Gollwitzer, 2011; Kitsantas & Zimmerman, 2002). The following are several potential benefits of implementing self-regulation strategy development in the physical education classroom.

### *Promotes self-directed learning and self-evaluative skills*

It can be difficult and time-consuming to provide descriptive feedback to more than 20 students of varying proficiency levels in a classroom setting. Students need the skills to give themselves feedback and self-direct their own practice sessions. Self-regulation strategy development encourages students to become more mindful of the specific errors they make and then take responsibility for developing effective ways to correct those errors (Cleary, Zimmerman, & Keating, 2006). In addition, it prepares students to become active problem solvers in sport as they think through ways to modify their skill performance.

### *Emphasizes quality over quantity skill practice*

Physical educators can reduce the time devoted to skill practice by infusing self-regulation strategies to enhance the quality

of attempts. Intentional practice on producing the correct form of a skill rather than increasing the number of attempts leads to greater skill improvement and higher on-target percentages (Cleary et al., 2006). For example, it is more effective to have students shoot 10 free-throws using self-regulation strategies than it is to have students shoot 20 free-throws without applying similar strategies for improvement.

### *Fosters a growth mindset*

Individuals with a growth mindset believe that their abilities can be developed through dedication and hard work, which fos-



ters a desire to persevere through challenges and seek ways to improve (Dweck, 2006). A key component of self-regulation is to reflect on performance and then adjust future attempts based on error detections. When individuals attribute poor outcomes to improper strategy use, as opposed to a lack of ability or luck, they are more likely to make changes and see improvements in their motor skill performance (Kitsantas & Zimmerman, 1998). Developing a growth mindset in physical education can motivate students to master skills and not give up when they are not immediately successful.

## Implementing Self-Regulation Strategy Development

One way that physical educators can use this instructional approach is by incorporating self-regulation strategy development in the instant-activity portion of a lesson during a manipulative- or invasion-games unit. Teachers can create stations for students to practice identified skills (e.g., soccer dribbling, free-throw shooting, underhand badminton serve) following a specified practice routine. Prior to utilizing a self-regulated practice plan, physical educators must teach age-appropriate skill cues and then post those skill cues as illustrated in Table 1, so that students can self-assess or assess one another on the critical elements of performing the skill. To help with establishing skill cues, Holt/Hale and Hall (2016) described critical elements for various skills within the lesson plans in their book *Lesson Planning for Elementary Education*. Teachers may also find WELNET® software ([www.focusedfitness.org](http://www.focusedfitness.org)) useful, as the rubrics module is a fully customized rubric system that includes preloaded definitions, critical elements and descriptors for 96 motor skills and 35 early-learner skills. Once the skill cues have been introduced, physical educators can teach students how to use a self-regulated practice plan. Figure 1 provides a sample practice plan for teaching a variety of motor skills. Once students know how to use the practice plan, educators can use it as an instant activity throughout a unit. Students can regulate their practice sessions by following the posted practice plan upon entering class.

**Table 1. Skill Cues for Basketball Free-Throw Shooting**

<b>Balance</b>	Feet are shoulder-width apart with a staggered stance and knees are bent.
<b>Elbow</b>	Elbow is underneath the ball in line with the basket.
<b>Eyes</b>	Eyes are looking at the basket.
<b>Follow-through</b>	Arm straightens and wrist snaps so fingers are pointed down and straight toward basket.

### Practice Plan

1. Rehearse the cues
2. Perform \_\_\_\_\_  
(fill in the task)
3. Reflect and adjust. Ask yourself:  
  
“Why do I think I missed that shot?”  
  
“What do I need to do to make the next shot?”

**Figure 1. Example of a self-regulation practice plan**

## The Instructional Process

1. *Rehearse the cues*: Instruct the students to rehearse the cues before they perform the task. Rehearsing the cues acts as a form of goal setting by reinforcing the intent of practice — developing skill proficiency. Students cannot monitor their performance and make changes to their performance if they are unaware of the steps to success.
2. *Perform the task*: Assign a specific task for students to complete such as, “Pass the volleyball to your partner five times” or, “Underhand serve the birdie into the hula hoop four times.” During this step, students could also record their attempts to track improvement and see personal growth across practice attempts.
3. *Reflect and adjust*: Design reflection questions for the activity that help students think about how they can identify form corrections and what they need to do to be successful on the next attempt. Direct students to answer reflection questions during post-performance to strategize how to improve their future attempts.

## Final Thoughts

Using self-regulation strategy development as an instructional approach to motor skill acquisition can increase students’ motor skill competence and confidence. Physical educators can utilize this approach in teaching a variety of motor skills. Students will benefit greatly from the opportunity to learn skills that they can apply outside of the physical education classroom to improve their performance and ultimately increase their physical activity levels.

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