# Strategies to Improve the Quality of Physical Education

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Establishing and implementing high-quality physical education (PE) programs can provide students with the appropriate knowledge, skills, behaviors, and confidence to be physically active for life. High-quality PE is the cornerstone of a school's physical activity program.

## Benefits of Physical Activity

- The U.S. Department of Health and Human Services (HHS) recommends that young people participate in at least 60 minutes of moderate to vigorous physical activity (MVPA) daily to obtain multiple health benefits, such as decreased likelihood of developing heart disease, type 2 diabetes, and obesity. For overweight and obese youth, physical activity can reduce body fatness.[1]
- Additionally, participation in physical activity is associated with academic benefits such as improved concentration,[2-3] memory,[4] and classroom behavior.[5-7]

## Insufficient Physical Activity Levels Among Youth

- In 2009, less than 20% of adolescents participated in physical activity for at least 60 minutes daily.[8]
- About one in four adolescents ***does not*** engage in 60 minutes of physical activity on **any** days of the week.[8]

## The Current State of Physical Education

Physical education (PE) is an effective strategy to increase physical activity among young people. HHS recommends that students engage in MVPA for at least 50% of the time they spend in PE class—one of the most critical outcome measures in determining the quality of a PE program.

- Nine studies have documented that, in typical PE classes, students engage in MVPA less than 50% of class time.[9-17]
- PE teachers use too much of their class time for activities related to administrative and management tasks (e.g., taking attendance, making announcements). Student MVPA rates are lowest during these types of activities. One study found that 15-26% of PE class time was spent on management tasks.[18]

## Improving the Quality of Physical Education

Studies have shown that programs designed to improve the quality of PE can increase the amount of time that students are engaged in MVPA to more than 50% of PE class time.[18-23] For example:

- The Child and Adolescent Trial for Cardiovascular Health (CATCH) intervention, implemented in 96 elementary schools in four U.S. cities, increased average percentage of time spent in MVPA during PE classes from 37.4% at baseline to 51.9% at follow-up.[19]
- A middle school PE intervention, implemented in six middle schools in four U.S. cities, led to an average of 58.7% of class time being spent in MVPA.[18]

# Key Strategies for Improving the Quality of Physical Education

Programs designed to improve the quality of PE have used **two key strategies** to increase student time in MVPA during PE class:

## 1) Implement a well-designed curriculum.

In PE, as in any other academic subject, the curriculum shapes instruction by mapping out for teachers what students should be taught and how their acquisition of knowledge and skills should be assessed. A 2006 CDC survey found that nearly half of the nation's schools do not even have a PE curriculum.[24] A high-quality, well-designed PE curriculum

- Is based on national, state, or local PE standards that describe what students should know and be able to do as a result of a high-quality PE program.
- Is designed to maximize physical activity during lessons and keep students moderately to vigorously active for at least 50% of class time.
- Includes student assessment protocols to determine if students are getting enough MVPA during PE and achieving learning objectives and standards.

Programs that increased students' time engaged in MVPA modified the PE curricula by

- Replacing games or activities that tended to provide lower levels of physical activity (e.g., softball) with activities that were inherently more active (e.g., aerobic dance, aerobic games, jump rope).[18-19,23,25]
- Adding fitness and circuit training stations to lesson plans.[18-19,22-23,25]
- Providing teachers with a menu of MVPA activities to help build more active lessons.[18,25]

CDC's *Physical Education Curriculum Analysis Tool* (PECAT) helps school districts conduct a comprehensive analysis of written PE curricula, based on evidence-based characteristics of effectiveness and the national PE standards. Results from PECAT can help schools enhance an existing curriculum, develop their own curriculum, or select a published curriculum for the delivery of high-quality PE in schools. The tool is available online at www.cdc.gov/healthyyouth/pecat.

## 2) Provide teachers with appropriate training and supervision.

Improving the qualifications and skills of PE teachers requires appropriate training and supervision. Well-designed professional development can help PE teachers increase the amount of time students spend in MVPA and decrease the amount of time spent on administrative and classroom management tasks.[18-19,25]

Programs that have increased students' time engaged in MVPA provided teachers with appropriate training and supervision by

- Training PE specialists and classroom teachers on ways to minimize time spent on classroom management, transitions, and administrative tasks.[25]
- Providing on-site consultation and regular feedback to teachers on their instructional strategies.[20-21]
- Training master PE teachers to teach and mentor other PE teachers about strategies for increasing MVPA during PE class.[18]

To increase the time that students spend engaged in MVPA during PE classes, all PE teachers should receive

- Targeted training on methods to increase the amount of class time students are engaged in MVPA. In 2006 less than half of the nation's PE classes had a teacher who had received this type of staff development.[24]
- Specific training about how to implement the PE curriculum they will be using.
- Annual professional development opportunities to enhance their instructional skills and techniques.
- Feedback through supervision and mentoring from master PE teachers.

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