CHAPTER

1

Why Teach Physical Education?

Welcome to one of the most exciting and interesting courses you will take en route to becoming a teacher! You have chosen a career as a classroom teacher, and you may be wondering why you are taking a course that prepares you to teach physical education to your future students! Although most schools have elementary physical education teachers, few schools offer physical education more frequently than twice a week for the children. As you will learn in this course, a strong physical education program can have major effects on the growth and development of the child in all three domains of learning: psychomotor, cognitive and affective. It is, therefore, very important that you, as the classroom teacher, understand and believe in the importance of physical education to ensure participation at an optimal level for your pupils, and, that you learn many ways to incorporate physical activity in the classroom for them as well!

The following document provides some startling facts regarding physical activity and the youth of the 90's. Read it carefully so you can compare it to the even MORE startling facts that you will find after the document.

PHYSICAL ACTIVITY AND THE HEALTH OF YOUNG PEOPLE FACT SHEET

BENEFITS OF REGULAR PHYSICAL ACTIVITY

- Helps build and maintain healthy bones and muscles[1]
- Helps control weight, build lean muscle, and reduce fat[1]
- Reduces feelings of depression and anxiety and promotes psychological well-being[1]

LONG-TERM CONSEQUENCES OF PHYSICAL INACTIVITY

- Physical inactivity and poor diet together account for at least 300,000 deaths in the United States each year. Only tobacco use contributes to more preventable deaths.[2]
- Physical inactivity increases the risk of dying prematurely, dying of heart disease, and developing diabetes, colon cancer, and high blood pressure.[1]

OVERWEIGHT AND OBESITY

- The percentage of children and adolescents who are overweight has more than doubled in the past 30 years; most of this increase has occurred since the late 1970s.[3]
- Of U.S. children and adolescents aged 6–17 years, about 4.7 million, or 11%, are seriously overweight.[3]
- Obese children and adolescents are more likely to become obese adults, overweight adults are at increased risk for heart disease, high blood pressure, stroke, diabetes, some types of cancer, and gallbladder disease.[6]

PARTICIPATION IN PHYSICAL ACTIVITY BY YOUNG PEOPLE

- Nearly half of young people aged 12–21 do not engage in vigorous physical activity on a regular basis.[7]
- Participation in all types of physical activity declines strikingly as children and adolescents get older. For example:
- Regular participation in vigorous physical activity has been reported by 69% of young people aged 12–13 but only 38% of those aged 18–21.[7]
- Seventy-two percent of 9th graders participate in vigorous physical activity on a regular basis, compared with only 55% of 12th graders.[8]

PHYSICAL ACTIVITY AMONG YOUNG PEOPLE IN THE UNITED STATES

TYPES OF ACTIVITIES	1992 NATIONAL HOUSEHOLD BASED SURVEY OF YOUTHS AGED 12–21	1995 NATIONAL SCHOOL BASED SURVEY OF STUDENTS IN GRADES 9–12
Regular vigorous physical activity	54%	64%
Almost daily light to moderate activity	26%	21%
Regular strengthening/toning activities	46%	50%
Regular stretching activities	48%	53%

a. Participation in activities that make them sweat and breathe hard for at least 20 minutes on at least 3 of the 7 preceding days.
b. Walking or bicycling for 30 minutes or more on at least 5 of the 7 preceding days.
c. Participation in activities such as push-ups, sit-ups, and weightlifting on at least 3 of the 7 preceding days.
d. Participation in activities such as toe touching, knee bending, and leg stretching on at least 3 of the 7 preceding days.

PARTICIPATION IN PHYSICAL EDUCATION CLASSES

- Forty percent of U.S. high school students are not enrolled in a physical education class; 19% of 9th graders and 58% of 12th graders are not enrolled.[8]
- The percentage of students who did not attend a daily physical education class rose from 58% in 1991 to 75% in 1995,8,9 in 1995, 59% of 9th graders and 87% of 12th graders did not attend a daily physical education class.[8]
- In 1991, 19% of students enrolled in a physical education class reported that they did not exercise for 20 or more minutes in an average physical education class; this figure rose to 30% in 1995.[8,9]
- Only 19% of all high school students are physically active for at least 20 minutes in a daily physical education class.[8]

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And now here is the news that is even worse: The American Heart Association (AHA) has compiled some alarming facts that truly emphasize the need for physical activity for American children. Citing the National Health and Nutrition Examination Study 1992-2002, AHA states that the percentage of overweight teenagers reflects a **250%** increase from numbers gathered in 1970. In addition, children of today already possess many of the risk factors for poor health. Inactivity is one of the primary sources of this problem (www.americanheart.org/presenter.jtml?identifier=771). Just as research has shown that overweight teenagers tend to become overweight adults, our concern becomes that of the health status of overweight and obese children in the elementary schools. According to the President's Council on Physical Fitness and Sports, the number of children who are overweight has doubled since 1980. Citing studies, the President's Council indicates that children should be involved in physical activity for at least one hour per day. Quality physical education programs of at least 30 minutes per day should be implemented (Lee, Wechsler, & Balling, 2006).

The United States Department for Health and Human Services (USDHHS), in the document entitled "Overweight and Obesity: A Vision for the Future," states that there is a definite need for quality daily physical education at all grade levels in schools. This report reaffirms the information provided above regarding the need for 60 minutes a day of physical activity for school-age children (http://www.surgeongeneral.gov/topics/obesity/calltoaction/fact_vision.htm). We are currently in a crisis situation with childhood obesity and we need to address the issue as being partially a school related responsibility. Along with teaching children about proper nutrition, we certainly can be the site for exercise and physical education that these children need.

We also must keep in mind that children within typical body composition ranges also need the same amount of physical activity to grow strong and healthy. Physical fitness is essential for lifelong learning and wellness. As shown in the following paragraph, fitness and intellectual peformance go hand-in-hand: The schools must provide the resources to encourage healthy minds and bodies. It should be the goal of every school district to graduate physically educated individuals ho know the importance of physical activity to healthy lifestyles.

A recent study completed in California correlated the results of the 2001 Stanford Achievement Test and Fitnessgram scores of children in grades 5, 7 and 9. According to education officials in California, this study has established the evidence that there is a direct relationship between academic performance and fitness levels of youth today. Findings that were extremely important indicated that physically fit children made the highest gains in academic achievement as well. With statistics like these, it is hard to deny the importance of sound physical education programs to our children. The contribution that physical education can make to the total child is to motivate him/her to participate in physical activity for a lifetime.

Most states recommend quality daily physical education for elementary school students. Unfortunately, due to budget and facility constraints, school systems cannot provide space nor staff for full-time certified physical educators. Most situations call for the physical educator to teach 2–3 30-minute classes of physical education per week, per grade. At this point it becomes the responsibility of the classroom teacher to provide additional time in physical education or physical activiy for his/her students. Many classroom teachers do not feel comfortable in this role and often the supplementary physical education does not

occur. Therefore, it is the intent of this text to provide you with a basic understanding of physical education and the role it plays in the growth and development of the child. Working within the framework of this text should help you to become comfortable in providing appropriate activity for your students, ensuring that they receive adequate levels of physical activity throughout their school days.

Defining Physical Education

Physical education has been defined in many ways over the years. Current definitions remain varied. According to Nichols (1994), physical education is "the aspect of education in the schools designed to develop skillful, fit and knowledgeable movers through a series of carefully planned motor activities" (p. 4). Pangrazi and Dauer (1995) state that physical education is "education through movement" (p. 1). Kirchner & Fishburne (1995) state that physical education is an instructional program which contributes to the children's education to "enhance children's physical fitness and well-being and to teach them a wide variety of motor skills" (p. 4). Wall and Murray (1994) define physical education through the roles it plays in the education of the child. These roles include learning of motor skills, improvement of motor abilities, and enhancement of physical fitness. To be physically educated, according to Mueller (1990), is "to know the joy and exhilaration of moving well, and to experience the fun and freedom of any movement . . . it involves being whole, able and competent as a person, it is one aspect of becoming whole and progressing toward one's full potential" (pp. 100–101). Finally, the National Association for Sport and Physical Education (NASPE, 1995) which is a branch of the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD), has defined the physically educated person as "one who has learned skills necessary to perform a variety of physical activities . . . is physically fit . . . does participate regularly in physical activity . . . knows the implications of and the benefits from involvement in physical activities . . . and . . . values physical activity and its contributions to a healthy lifestyle" (p. 1).

The NASPE definition relates to the ultimate outcome: a positive feeling regarding physical activity and the physical education program will result in the students becoming a physically educated person. Since physical education is one of the important processes contributing to the evolution of the physically educated person, a combination of so many expert opinions yields the following: Physical education is a subject with the ultimate goal of developing a physically educated human being who possesses the physical coordination, knowledge, skills and level of fitness necessary to maintain a healthy lifestyle in which active leisure activities are important.

Keeping in mind that the ultimate outcome would refer to the "finished product," the high school graduate, you should note that elementary physical education represents the FIRST STEP in that process. By the end of the elementary years, children should have sufficient skill to be called efficient movers, should have a sound grasp of basic sport skills and should have the knowledge and means to become physically fit. The responsibility for these outcomes rests not only with the physical educator but with you as the child's most important influence during his/her time with you.

The Three Domains of Learning

During your educational career you have heard about the three domains of learning: cognitive (intellectual), affective (emotional) and psychomotor (physical). All three domains are intertwined in most learning experiences, and therefore, you should consider each domain when creating learning activities in physical education. You should review the definitions of each domain before attempting to make the connection to the applicability of these domains to physical education.

COGNITIVE DOMAIN

Learning in the cognitive domain has been defined as changes in the mental structure allowing for behavioral changes. These changes occur in the brain of the child and enable him/her to retain and use new knowledge. Perception is a key process in cognitive learning (Eggen & Kauchak, 1994).

AFFECTIVE DOMAIN

The affective domain is primarily concerned with the child's value structure. Attitudes and feelings are developed and expressed within this domain (Eggen & Kauchak, 1994). The development of self-concept, or attitude toward self, is of primary importance in the affective domain.

PSYCHOMOTOR DOMAIN

Learning in the psychomotor domain centers on acquiring the physical coordination and skill necessary to be successful in movement endeavors. These movement endeavors are to range from the fine-motor skills of writing or drawing to the large muscle activities involved in exercise or play (Eggen & Kauchak, 1994). The word itself, psychomotor, implies the relationship between mind (psycho-) and action (motor). Although other areas of the school curriculum directly affect development in the cognitive and affective areas, the psychomotor domain is principally influenced by physical education. Furthermore, the psychomotor area is further divided into two domains: fitness and motor skill.

The Three Domains As Related To Physical Education

Since most people envision a physical education class as one in which students are constantly in motion, it is understandable that the psychomotor domain is recognized as being of primary importance. However, all that occurs in physical education is NOT physical! For example, the child THROWS (psychomotor) a ball at a target, he/she LEARNS (cognitive) through experimentation how much force to impart to the ball in order to hit the target, and when the ball does hit the target the child FEELS (affective) successful. Or, as the child progresses in gymnastics and BECOMES SKILLFUL (psychomotor) in numerous moves, he/she CHOREOGRAPHS (cognitive) a routine to perform with those moves, and RECEIVES PRAISE (affective) from parents and friends. Every

accomplishment in physical education represents an intertwining of the three domains of learning.

Today's physical education should be designed to stimulate growth and maturation in each of the three domains. Physical skills must be taught that will enhance a child's ability to be an efficient mover, and, therefore, a good player: one who is readily accepted as a playmate or team member. Activities should be stressed that will lead the child to maintain good fitness levels, and through these activities the child should be able to learn about fitness concepts. Today's elementary physical education should be developmentally appropriate with activities and tasks selected that match the size and abilities of the child, allowing for a steady progression in learning in all three domains. Programs must be success-oriented so that the child will learn to enjoy and appreciate physical activity. Today's elementary physical education should recognize the child as an individual among many other individuals, and should center on the goal of creating the physically educated individual.

Importance of Physical Education

Immediately after birth, learning by the infant occurs as a result of his/her interaction with the environment. During the Sensorimotor Period, the first stage of the cognitive development theory of Piaget, the infant spends the first two years of life learning through interactions with people and objects, through movement and exploration (Gabbard, 2003, 1992; Payne & Isaacs, 2001, 1995, 1991). At this time intelligence is not demonstrated through paper and pencil tests but, instead, through movement skills. Prior to formal schooling the majority of the child's time is spent learning through play. It is during this period that movement, exploration of the environment, and play are essential aspects of cognitive learning for the child.

Once the child enters the world of formal schooling, the mode of learning changes. The cognitive skill of reading replaces much of the physical exploration in learning about the world. Children remain sedentary for much of the day as they acquire and process new information. It seems as if this would be an abrupt transition from the active learning style experienced in the very early years.

It is commonly believed that if a child has fun while learning, that learning will be retained longer by the learner. Since play is a priority of children, learning through playful movement makes infinite sense. Teachers need to capitalize on the child's innate desire to play, to move, and to learn. Combining the three (playing, moving, and learning) will help the child to make the transition and to learn actively in the process. Cognitive skills are more likely to be retained if learned through activity: for example, jumping on colored squares, circles, triangles and diamonds will contribute to color and shape recognition as well as to the psychomotor skill of jumping.

Physical education itself allows the teacher to accomplish a number of goals. Daily physical education offers a balance between physical activity and less active deskwork. This balance helps the child to remain alert and ready to learn, whether in the classroom or in the physical education environment. According to Sylwester (1994) exercise creates an increase in endorphin release in the brain—this chemical response makes the child feel good about

himself/herself and contributes directly to the ability to solve problems in possibly stressful situations. Sylwester suggests participation in whole body activity to relieve stress and to precede actually dealing with those situations, i.e. testing.

Through physical education the child will gain an understanding and appreciation of fitness. Fitness, in turn, results in positive feelings toward self as well as providing the energy resources to study efficiently. The development of efficient motor skills contributes to a positive self-concept of being a good player. Bass (1985) reported that a running program was found to increase attention span in learning disabled children each day the running was completed. It has been noted in the past literature (in Bass, 1985) that running has many psychological benefits, including relief of depression, anxiety, anger and aggression, as well as producing "a euphoric high." Most children love to run and physical education activities can lay the groundwork for a positive outlook on running as a health-enhancing mode of maintaining good health.

Physical activity in the appropriate amounts is necessary for bones and muscles to develop to their full potentials. Physical activity also provides many opportunities for children to learn about themselves, their own abilities, and the abilities of others. Play represents physical activity that contributes to the socialization of the child. This type of interactive participation is important to the child, especially during the growing and learning years. Physical education is a course that provides for learning both about and through physical activity.

COGNITIVE DEVELOPMENT THROUGH MOVEMENT

Researchers have spent years trying to find a definite link between physical activity and cognitive growth. It has been determined that the performance of physical skills is related to academic readiness, but not directly related to the ability to read, as had been hypothesized. Therefore the relationship between physical activity and cognitive ability has proven to be indirect (Gabbard, LeBlanc & Lowy, 1987; Gallahue, 1987).

Before actual academic learning can take place efficiently, the child's perceptual systems must be functioning at appropriate levels. Children refine such perceptual systems through exploration and use in the environment as they progress through the initial learning stages. The more practice the child has in perceiving and in reaching to his/her perceptions, the more efficient the perceptual systems will become. Therefore, refinement of the perceptual systems is important for further cognitive development, and refinement is accomplished through active involvement with the environment.

Research has shown that children do learn academic concepts effectively through the medium of structured movement experiences (Gabbard, et al., 1987). Several books have been published regarding the relationship between movement and learning. Authors of these texts advocate teaching language arts, mathematics, social studies, and science through movement tasks and activities.

The physical education class itself can be used to promote cognitive learning. For example, scoring contributes to knowledge of mathematics, learning dances and games from different countries contributes to social studies, and learning about and refining of motor skills such

as throwing, catching or kicking contribute to knowledge of physics as pertaining to force production, force absorption, and inertia (Gabbard, et al., 1987; Gallahue, 1987; Kirchner & Fishburne, 1995; Nichols, 1994; Pangrazi & Dauer, 1995).

AFFECTIVE DEVELOPMENT THROUGH PHYSICAL ACTIVITY

The development of the self-concept of a child begins at birth when primary caretakers respond to the needs of the infant. As the child ages, he/she learns about self-worth through interactions with other persons. Since play is the primary medium for interaction during childhood, the child learns a lot about himself/herself while interacting with playmates. Children value other players who are skilled and competent; the child who is a good mover is more likely to be chosen as a playmate than is a poorer mover. Success in games allows the child to feel pride, contributing to his/her positive self-concept.

In the physical education class students are given the special opportunity to not only work on their own individual skills but also to work with others as a team. Getting along with coworkers and working together as a team in order to make a project successful are very important skills involved in the world of work. Students in the physical education setting are given the opportunity to develop these skills on an almost daily basis while participating in physical education activities.

Through participation in play, children have opportunities to practice sportsmanship as well as to follow precise rules. Transfer of learning should occur: learning to play by the rules of a game is similar to following the rules of society. In addition, moral judgment is often developed through physical education activities in which children need to interact and make choices (Gabbard, et al., 1987; Gallahue, 1987; Nichols, 1994; Pangrazi & Dauer, 1995; Siedentop, Herkowitz & Rink, 1984; Wall & Murray, 1994). These kinds of activities contribute to the child's growth in the affective domain.

RELATIONSHIP OF PHYSICAL ACTIVITY TO PHYSICAL GROWTH

Physical activity is essential for physical growth to proceed at a normal pace and for the child to achieve his/her true potential as determined by heredity. When a child is born, bones are composed of a soft, cartilaginous material which ossifies (hardens) as a result of mild degrees of stress and strain from appropriate physical activity. Infants can often be seen in supine positions, waving arms and kicking legs repeatedly in rhythmic patterns. These actions serve as exercise for the infant. As the child ages and attains upright posture, physical activity causes the bones to strengthen and harden. Without such activity, growth may be stunted or retarded. Physical activity is necessary for bones to grow into their predetermined shapes and for ossification and mineralization to occur.

Crucial to bone growth is the growth plate that is located in the long bones of the arms and legs. The growth plate is situated between the shaft and the ends (epiphyses) of the bones. The plate consists of a layer of cells that continue to multiply as the bone increases in

length. If damage occurs to the growth plate of the long bone, growth may be stunted. Growth plates finally close at the end of puberty, and growth itself is minimal after that time, although some changes will occur into the twenties. It has been found that one week of inactivity will result in the loss of 50% of the calcium from a bone.

Muscles will increase in size with physical activity that is appropriate for muscular development. Muscles grow in width and breadth as the size of the fibers increase. Although boys have greater muscle mass than do girls, the factor of muscular strength is really not of concern to the teaching of physical education until approximately fifth or sixth grade when the girls go through puberty. Girls undergo a strength spurt just prior to puberty, whereas the boys experience the strength spurt at the end of puberty. At these times the physical educator should equate teams, or individuals, by size and weight for many activities.

Gains in height and weight are largely dependent on bone and muscle growth. Therefore, it is essential that appropriate physical activity be provided for the creation of healthy bone and muscle tissue. Knowledgeable teachers will be able to provide developmentally appropriate activities to accomplish this end.

In light of this information, one may conclude that exercise is of utmost importance for healthy growth (Gabbard, 2003, 1992; Payne & Isaacs, 2001, 1995, 1991; Pangrazi & Dauer, 1995; Siedentop, et al., 1984).

PHYSICAL FITNESS IN THE ELEMENTARY AGED CHILD

Due to information gleaned from a battery of tests in 1953 by Kraus and Weber, then President Eisenhower established the President's Council on Youth Fitness in order to help American youth become as fit as European youth. The Kraus and Weber studies had shown that American youth were out of shape and overweight. Many professionals and physical educators feel that today's situation is no better and, in fact, is getting even worse. The National Youth Fitness Study, a 1987 study by the Alliance for Health, Physical Education, Recreation, and Dance has shown that 40% of American Youth between the ages of 5 and 8 already demonstrate the possibility of having at least one of the risk factors associated with heart disease. Inactivity appears to be the most prominent problem. Unfortunately, for many students, physical education is the only time during the day that students partake in physical exercise. It is essential that children learn the importance of activity both within and outside the physical education class. Exercise not only reduces the risk of developing heart disease at a later age, but also helps reduce fatigue and obesity. Exercise also promotes normal growth and development of muscles and bones and helps prevent injuries through conditioning. Regular exercise has been found to promote self-esteem, self-discipline, and self-confidence. It has also proven to be helpful in dealing with tension, stress, and depression. There have been several studies relating exercise to a student's being able to become more alert and attentive to academics (Brzycki, 1995).

Physical fitness is a quality composed of the health-related components of cardiorespiratory (aerobic) endurance, muscular strength, muscular endurance, flexibility, and appropriate

body composition. In addition, physical fitness includes the components of motor fitness: agility, balance, coordination, power, and speed.

A child who is born under normal circumstances is basically physically fit. The environment in which he/she grows will determine the maintenance of fitness. If properly motivated the child can participate in numerous healthful activities to increase and maintain the quality of overall physical fitness. It makes sense to conclude that the child who feels well (healthy body) will be able to function well in life.

It is widely known that individuals need to participate in appropriate physical activity at least three non-consecutive days a week in order to affect their fitness levels. Therefore, if physical education is scheduled 2–3 times per week, it cannot directly influence fitness levels due to the vast content, in addition to physical fitness, that needs to be covered. Physical education can, however, teach children about fitness and how to increase and maintain sound levels of fitness on their own (Gabbard, et al., 1987; Kirchner & Fishburne, 1995; Nichols, 1994; Pangrazi & Dauer, 1995; Siedentop, et al., 1984).

Students need to have the power and responsibility to implement the physical fitness principles which they have learned not only for now but throughout their lives. You, as the classroom teacher, along with the physical education specialist, have one of the greatest and most unique opportunities to make a difference in your students' present and future fitness through teaching and encouraging lifelong fitness principles.

Summary

It is crucial that the classroom teacher understand the worth and importance of elementary physical education so that he/she will encourage participation by the children in healthy, active lifestyles. There are many benefits to physical education, and this belief needs to become a mutual understanding between the physical educator, the classroom teacher, and the students involved.

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