

A COMPILATION OF ELEMENTARY PHYSICAL EDUCATION GAMES AND
ACTIVITIES

by

YOUR NAME HERE

A master's project submitted in partial fulfillment
of the requirements for the degree

of

Master of Education

in

Physical and Sport Education

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2013

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Introduction

Physical Education is often one of the most exciting periods of the day for elementary school children. This is their opportunity to run, be active, and socialize in fun and interesting ways with their peers. Unfortunately, in many schools children only get this opportunity one or two days a week, which is not enough to promote healthy fitness levels. One way in which elementary physical education teachers can provide the most fitness in a limited time frame is to implement games that provide maximum participation and minimal wait time.

The National Association for Sport and Physical Education (NASPE), The U.S. Department of Health and Human Services as well as the Center for Disease Control and Prevention (CDC) recommend that children should engage in a minimum of 60 minutes, and up to several hours, of age-appropriate physical activity each day with limited prolonged inactivity. Accumulated minutes should come from a variety of moderate and vigorous aerobic activities, bone strengthening activities, and muscle strengthening activities. While aerobic activities should make up most of the 60 minutes, incorporating all three is important towards achieving health benefits (Center for Disease Control and Prevention, 2010). Research indicates that children have become less physically active in recent decades (Sollerhed & Ejlertsson, 2008). Mota (2012) found that “humans have been increasingly spending more time in sedentary behaviors involving prolonged sitting or no movement at all” (p. 120). Since children are not always getting the recommended minimum of physical activity throughout the day, it is important for physical education teachers to provide them with active games during their physical education class. Doing so can help increase a child’s enjoyment of physical activity and promote continued participation outside of physical education class.

Aerobic, muscle, and bone strengthening activities are all important to incorporate into the recommended 60 minutes. Aerobic activities, such as running, biking, hopping, skipping, and swimming, involve the use of large muscles moving for a continuous period of time and should comprise the bulk of the 60 minutes. These types of activities have three components: intensity (how hard) (moderate to vigorous), frequency (how often), and duration (how long). To achieve optimal health benefits the total amount of physical activity has proven to be more important than any one component (U.S. Department of Health and Human Services, 2008). Muscle strengthening activities also have three components: intensity (how much), frequency (how often), and repetitions (how many times). Muscle strengthening activities include climbing equipment, resistance exercises, modified push-ups, and sit-ups. The third type of activity, bone-strengthening, involves activities such as hopscotch, running, and jumping rope that produce force on the bones by impact with the ground. These activities can be aerobic and muscle-strengthening as well (U.S. Department of Health and Human Services, 2008).

An additional recommendation from the CDC is that 50% of physical education class be dedicated to moderate and vigorous physical activities (MVPA). Since the bulk of an individual's 60 minutes of physical activity is through aerobic MVPA it is important to include games that provide these elevated levels during physical education. The greater the time spent doing moderate to vigorous aerobic activities, muscle-strengthening, and bone-strengthening activities the more opportunity there is to achieve desired health benefits. The U.S. Department of Health and Human Services (2008) highlights the main benefits children will achieve through regular physical activity including "improved cardiorespiratory and muscular fitness, improved bone health, improved cardiovascular and metabolic health biomarkers and favorable body composition" (p. 9). Studies have shown the benefits of consistent active moving in physical

education, especially in elementary school, when children are beginning to develop lifetime skills and habits (Pate, O'Neill & McIver, 2011; Janz et al., 2010; Dauenhauer & Keating, 2011)

Problem Statement

McKenzie, Crespo, Baquero & Elder (2010) said "The 2006 School Health Policies and Program Study found that only 3.8% of elementary schools offered physical education on a daily basis, and even when offered daily is not providing enough physical activity to reach national recommendations" (p. 471). Since the data clearly shows that children are not getting enough time in structured physical education classes to reach recommended standards, physical education teachers must develop games in which their students are actively participating in both moderate and vigorous aerobic activities for the maximum time possible. Muscle and bone strengthening activities should be incorporated into lessons as well due to the positive benefits they have on children's fitness levels. Teachers should strive to develop their lessons with the goal of maximizing movement time and minimizing wait time by using a variety of games and activities students will enjoy as well as achieve health benefits. The objective of this creative project is to provide elementary physical education teachers with a collection of games and activities that include aerobic, muscle, and bone strengthening components designed to keep students actively moving.

Literature Review

Physical inactivity is the fourth leading risk factor for global mortality. Given that an estimated 3.2 million deaths worldwide are attributed to low physical activity, it is more important than ever to combat this epidemic as early as possible (World Health Organization, 2013). To address this alarming statistic, organizations such as the Center for Disease Control (CDC), the U.S. Department of Health and Human Services, and the National Association of

Sport and Physical Education (NASPE) have provided guidelines for parents and teachers to use and follow to assist children in adopting a more physically active lifestyle.

NASPE, a governing body for physical education, provides four guidelines for children ages 5-12:

- (1) Children should accumulate at least 60 minutes of physical activity per day including weekends.
- (2) Children should participate in several bouts of daily physical activity lasting 15 minutes or more.
- (3) Children should participate in a variety of age-appropriate activities.
- (4) Extended periods of inactivity are discouraged.

(National Association for Sport and Physical Education p. 3-4, 2013).

Likewise, the CDC recommends that during a physical education class, 50% of the class time should be dedicated to moderate to vigorous physical activity (Center for Disease Control and Prevention, 2011). To achieve these guidelines teachers must be aware of and comfortable providing instruction in a wide variety of age appropriate aerobic, bone-strengthening, and muscle strengthening activities.

A review article by Tudor-Locke, McClain, Hart, Sisson & Washington (2009) stated that “activity patterns of children have been described as intermittent or sporadic, possessing characteristically brief bouts of light and sedentary activity” (p.175). In any activity a child can go through a variety of physical exertion levels. Due to their shorter attention spans and lower physical endurance younger students (grades K-2) require frequent “rest” periods from vigorous activity. As they get older (grades 3-5) a higher level of endurance allows for more sustained physical activity (National Association for Sport and Physical Education, 2013). While studying gender differences in youth physical activity Trost et al. (2002) found that “there was a clear trend for greater participation in shorter 5 and 10 minute bouts of MVPA” (p. 354) which was consistent for both boys and girls. To promote maximum participation, activities should be

accumulated through several bouts with time for rest in between (Corbin, Pangrazi & Welk, 1994).

Moderate to vigorous physical activity (MVPA) is described by relative intensity- level of effort required to do an activity and absolute intensity- amount of energy used by the body per minute of activity. MVPA on a relative scale is around 5 to 8 on a 0 to 10 scale, while on an absolute scale MVPA is 3 to >6 METs or more times the intensity of rest (U.S. Department of Health and Human Services, 2008). Absolute intensity defines aerobic intensity using METs which is the ratio of the rate of energy expended during activity to the rate of energy expended at rest. This means that a 3 MET activity expends 3 times the energy used at rest. Relative intensity is expressed through percent of the maximum heart rate. To determine MVPA using relative intensity, individuals rate the amount of effort they put forth in the activity on a 0-10 scale, where 0 is the effort of sitting and 10 is maximal effort. Moderate intensity would be a 5 or 6 out of 10 (45-65% aerobic capacity), while vigorous intensity would be a 7 or 8 out of 10 (65-85% aerobic capacity) (U.S. Department of Health and Human Services, 2008).

There are many benefits to including muscle strengthening activities into a physical education program. Resistance training with body weight and age appropriate weight equipment is shown to enhance motor skill performance, balance, core strength, and muscle power (Faigenbaum & Myer, 2011). While not necessarily important to all children, muscle strengthening activities also prepare a child's body for sport participation when more force is put on the limbs and risk of injury is greater (Kraemer, Fry, Frykman, Conroy & Hoffman, 1989). Muscular strength enhancing activities help develop fundamental movement skills which when mastered increase the likelihood of positive lifestyle habits in adulthood (Faigenbaum & Myer, 2011).

Bone strengthening activities coincide with aerobic and muscle strengthening activities, if children are participating in any type of force producing physical activity they are improving their bone growth and strength (U.S. Department of Health and Human Services, 2008). The Iowa Development Bone Study measured the MVPA, fat mass and bone mineral content of 333 children at ages 5, 8 and 11. Results found that boys and girls in the highest quartile of MVPA at age 5 years had a lower fat mass at age 8 years and age 11 years, as well as 14% more bone mineral content than those in the lower quartile (Janz et al. 2010). In a review by Boreham & Riddoch (2001) it was found that “activities such as skipping, chasing and climbing provide a significant element of high impact movement and may be optimal for health” (p. 919).

Children spend nearly 40-45% of their waking hours at school, making it the primary environment for the teaching of and engagement of physical activity. To take advantage of this opportunity physical education programs should be geared towards providing students with a significant portion of their recommended 60 minutes of MVPA per day (Al-Nakeeb, Duncan, Lyons & Woodfield, 2006). In an article that reviewed physical education levels in elementary school, it was concluded that the average lesson duration was 33.7 minutes with students engaged in MVPA for a total of only 12.6 minutes. This represents only 37.4% of the class time being spent in MVPA, falling well short of the 50% MVPA recommended by the CDC (Fairclough & Stratton, 2006). This number, falling short of the CDC and NASPE guidelines, indicates that physical education teachers have an opportunity to introduce a greater number of games that utilize high activity participation and low wait time. This leads us to the objective of this creative project.

The benefits of adequate and appropriate physical activity in childhood are undeniable. Regular bouts of physical activity including aerobic, muscle, and bone strengthening activities

during childhood are favorable for developing a healthier lifestyle both in adolescence and adulthood (Center for Disease Control and Prevention (2011); National Association for Sport and Physical Education, (2013); U.S. Department of Health and Human Services, (2008)). Benefits such as improved cardiorespiratory fitness, muscular strength, bone health, and body composition are just some of the positive outcomes attributable to regular physical activity (Mota, 2012).

Procedures

The objective of this creative project was to provide elementary school physical education teachers with a wide variety of games and activities that will maximize the time their students are actively participating in a variety of physical activities during class. The vast majority of the games in this project were learned through personal experience, research, and collaboration with numerous elementary physical education teachers. Having over six years of experience working with and observing elementary physical education teachers around the New York State area, has provided great insight into what types of games are enjoyed by students that will provide them with positive aerobic fitness, muscle, and bone strengthening benefits. The games in this compilation were chosen because they offer students an intense and enjoyable workout, which should be a main objective in any physical education class.

The games are separated into the following 6 categories: big group games, cooperative games, fitness games, integrated games, sport lead-up games, and tag games. Provided with each game is the appropriate grade level (Kindergarten-5), necessary equipment, space requirements, modifications, procedure, and a diagram depicting the activity layout to make instruction as easy as possible for physical educators and classroom teachers, particularly those with no prior physical education teaching experience.

Evaluation

The objective of this project was to create a compilation of games and activities that incorporate a variety of age appropriate aerobic, muscle strengthening and bone strengthening components. To evaluate this creative project it will be emailed to two elementary physical education teachers who will review the games and activities and provide feedback on whether or not they reach the project objectives. The two elementary physical education teachers involved in evaluating the games are Francine Dianuzzo and Joe Lofberg who teach in the suburbs of New York City. Francine has been a physical education teacher for over 30 years in a high needs elementary school and Joe has been a physical education teacher for a little over 10 years. Once the project has been reviewed I will include the testimonials from Francine and Joe about how they felt the games covered the objectives and if this compilation is a resource they would use.

Discussion

The goal of this creative project was to assemble a collection of games and activities for elementary physical education teachers. When deciding what games to use for this project I consulted with past teachers, colleagues, and resources I have collected throughout my college and professional career. I chose games that dedicated most of the class time to active participation with bouts of rest interspersed as well as those that incorporate muscle and bone strengthening activities. For each game depicted in this compilation I have either observed or applied it while teaching physical education. The goal of physical education is to provide students with the knowledge, skills, and motivation to live a physically active lifestyle and these games assist in doing just that. By design, this project is open-ended and can be enhanced throughout my career by adding new and exciting games that offer the greatest benefits for my students.

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Post Project Evaluations

As a physical education teacher for the past thirty one years, it is with great respect that I am reviewing Lauren's master's project.

Lauren's goal for this project was to come up with a compilation of activities to be used in a physical education program that would promote physical wellness. Through the use of age appropriate aerobic, muscle strengthening and bone strengthening activities, Lauren has done an excellent job of preparing a guide that I believe would be beneficial to all physical education teachers.

One of the biggest challenges that physical education teachers face is not having enough time with our students to improve their level of fitness. Numerous reasons come into play, whether it is minimal contact time, school budget constraints, scheduling changes, etc. We must be able to find activities and challenges that will be most beneficial to our students. The activities have to be challenging, fun and incorporate fitness throughout the lesson.

Lauren's guide of activities does just that. She has included a wealth of activities that will challenge all students grades K-5. She has included games that may be used as instant activities as well as lead up games that will challenge the student's level of fitness throughout the game.

The games that Lauren has chosen to include in this project are age-appropriate and exciting to the students. I have used many of these games in my program throughout my career and they are played enthusiastically by all students. All of these games contain fitness components. The variety of tag games, large group games, fitness games and cooperative games encourage student movement throughout the class period. Many of the games include the use of exercises as a way of returning to an activity which will alleviate down time for the students. They are getting activity throughout the entire course of the class, maximizing physical benefit.

Lauren has also done a great job of including modifications so that each game may be made easier or more challenging depending upon the grade level. Many of the activities also include ideas that teach across the curriculum, whether it be Math, English/Language Arts, etc. in a fun and fit way. Many of the games included in Lauren's guide could also be used by classroom teachers to motivate instruction.

I believe Laurens goals were met with this guide and I look forward to trying some of her ideas in my own classes in the future.

Fran Dianuzzo

Physical Education Teacher
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I feel that the games and activities provided show a very well thought out base curriculum. These activities provide the students to work on muscle and cardiovascular strengthening as well as team building skills. The activities were age appropriate and allowed for the students to work to their fullest potential.

The TAG GAME section provides the students an opportunity to work on their locomotor skills (skipping, hopping, galloping, jumping, etc) and be able to follow strict and precise instructions. These activities are age appropriate and allow the students to interact properly. The BIG GROUP GAME'S and the SPORTS LEADUP ACTIVITIES allows for the students to work on their manipulative skills such as throwing, rolling and catching. The big group games allows for teams to use cooperation and team building skills. These games also allow for muscle and aerobic strengthening. The FITNESS GAMES is where the objective of aerobic and muscle strength is accomplished to its fullest. These appropriate activities allow the students to focus in on skills and routines that will allow them to fulfill the objective. The COOPERATIVE GAME activities provided the students a chance to work on teamwork and communication skills. These games also I feel met the need to helping the students achieve a cardiovascular workout.

Without a doubt these activities met the objectives and needs of the students. They provided aerobic and muscle strengthening as well as team building skills. As a teacher I would use these activities to help my student achieve their aerobic and muscular strengthening potential.

Joseph Lofberg

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