TEACHING PHYSICAL EDUCATION:
ELEMENTARY CLASSROOM TEACHERS’ PERCEPTIONS

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By

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ABSTRACT

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The present study focused on elementary classroom teachers' perceptions of their ability to teach physical education. Participants (N=15) K-second grade teachers and (N=3) principals completed questionnaires, indicating a positive perception of their ability to teach physical education. Correlational analysis indicated a positive perception (r=.769, p<.01), toward teaching physical education, even lacking an established curriculum. A need for more training opportunities was also expressed. This study provides support for the hypothesis that preparation for teaching physical education is related to a positive perception in the ability to teach physical education. Data indicates further research is needed to determine if increased training would improve the implementation of quality physical education at the elementary school level.
Introduction

Physical Activity and Children

Researchers in the public health community believe that time spent by children in physical education classes can contribute to an increase in physical activity; preventing illness, decreasing health care costs, and promoting general health (Keating, 1999). For young people to adopt physically active habits they need to receive consistent messages about their importance across a variety of community settings and from a variety of sources (Biddle, Gorely, & Stensel 2004). Children aged six to nine are in a time of change in relation to physical activity and eating patterns, as the routines of middle childhood, including school and extra-curricular activities, are being established (Ball, O’Connor, Abbott, Steinbeck, Davies, Wishart, Gaskin, & Baur, 2001). Because children are in a state of growth and change, the elementary school years are the best time to establish positive health habits. As children aged four to seven are in a period of adiposity rebound, a time in which adiposity begins to rise again in preparation for puberty, this is a critical time to target the management and prevention of obesity (Ball et al., 2001).

Physical activity habits may be responsible for decreasing a host of health problems that occur in adulthood (Biddle et al., 2004 and Boreham & Riddoch, 2001). Lower physical activity levels may contribute to the prevalence of childhood obesity, primarily in boys (Ball et al., 2001). By developing physical activity habits at this time, it may be possible to avoid additional accumulation of fat mass beyond that needed for maturation during puberty. Very little is currently known about how physical activity
Interventions may influence the health of children (Saakslahti et al., 1999). Physical activity includes exercise, sport, dance, as well as other movement forms (NASPE, 2004). Moderate to vigorous activity (MVPA) is another term that is often used to describe what type of activity children should be engaged in during their physical education classes. Moderate physical activity is defined as an activity that is equal in intensity to brisk walking. Activities that are of moderate intensity can be performed for relatively long periods of time without fatigue (NASPE, 2004). Vigorous physical activity is movement that expends more energy or is performed at a higher intensity than brisk walking. Vigorous physical activity can be done for a relatively long period of time or may be so vigorous that they require frequent rests as necessary (NASPE, 2004).

Little information on physical activity intervention in children is available, but guidelines have been developed by the National Association for Sport and Physical Education (NASPE) to address the physical activity needs of children ages 5-12:

- Accumulate at least 60 minutes, and up to several hours, of age appropriate physical activity on all days of the week. Physical activity should include moderate to vigorous physical activity and be intermittent in nature (NASPE, 2004).

- Participate in several bouts of physical activity, each lasting 15 minutes or more each day (NASPE, 2004).

- Participate each day in a variety of age-appropriate physical activities designed to achieve optimal health, wellness, fitness, and performance benefits (NASPE, 2004).
Discourage extended periods (two or more hours) of inactivity during daytime hours (NASPE, 2004).

Health Relationships and Physical Activity

According to the Healthy People 2010 report (USDHHS, 2000), the top two leading health indicators for chronic medical conditions are lack of physical activity and overweight or obesity. Overweight in children is defined as a body mass index (BMI) at or above the 95th percentile of the 2000 CDC BMI for age growth charts (CDC, 2004). Nationally nine million children over the age of six are considered obese, by the American Obesity Association standard, children aged six to eleven with a body mass index at or above the 95th percentile (AOA, 2006), the another 15% are borderline or at risk of becoming obese, and considered overweight (Crute, 2005). Health care costs associated with obesity have tripled in the last twenty years growing from $35 million in 1984 to $127 million in 2004 (Crute, 2005). The percentage of overweight and obese children has increased sharply, moving from the low of 5.7% of all children ages 6-18 being overweight in 1976-1980 to 16% among the same age group from 1999-2002 (CDC, 2004; NHNES, 1999-2002). Due to the increase in overweight and obese children, doctors have also seen an increase in health problems not normally associated with children. Health problems on the rise in children are type II diabetes and cardiovascular disease and 60% of children aged 5-10 have at least one cardiovascular disease risk factor (Crute, 2005). A strong relationship exists between cardiovascular fitness and Coronary Heart Disease (CHD) risk in children (Boreham & Riddoch, 2001) which appears to be mediated by fatness. Although there is limited research to suggest causation, Riddoch & Boreham (1995) noted that CHD risks were associated with
fatness. High leptin concentrations have been associated with increased risk of coronary artery disease and have been shown to decrease as total body mass decreased (Gutin & Owen, 1999).

Children who were classified as overweight or obese scored lower on tests of motor skill than children who were classified as normal–weight or underweight (Graf et al., 2004). Lower levels of endurance and fitness have been observed in overweight children. Using a six minute run test as part of the CHILT-project an inverse correlation between BMI and endurance was noted, as children classified as obese and overweight scored lower on the six minute run than children classified as normal-weight or underweight (Graf et al., 2004). Datar and Sturm (2004) investigated the relationship between physical education in elementary school and body mass index. Gutin and Owens (1999) also reported subjects did have a rebound in fat mass levels after cessation of the physical training program. Body composition was also effected by physical training, with a mean reduction of 1.6% for all subjects (Gutin & Owen, 1999). Girls participating in physical education class in Kindergarten maintained a lower body mass index than girls not participating in physical education classes (Ball et al., 2001). By increasing physical activity in this age group, a decrease in obesity among girls in this age group is possible (Datar & Sturm, 2004). Physical activity level and energy expenditure during physical activity, in boys aged six to nine, were found to be inversely related to fat mass and percentage of body fat by Ball et al. (2001).

During the course of the Children’s Health Intervventional Trial (CHILT) project, associations between body mass index (BMI), motor skill, and leisure habits were examined (Graf, Koch, Kretschmann-Kandel, Falkowski, Christ, Coburger, Lehmacher,
Bjarnson-Wehrens, Platen, Tokarski, Predel, & Dordel, 2004). Data from Graf et al. (2004) emphasize the necessity and importance of promoting an active and healthy lifestyle by increasing moderate to vigorous physical activity each day to 60 minutes and reducing sedentary time.

**Physical Education and Activity Levels**

Physical education lessons taught by elementary physical education specialists are more effective in increasing physical activity than those lessons taught by the elementary classroom teacher (Sallis and McKenzie, 1997, van Beurden et al., 2003 and McKenzie, et al., 1997). Studies indicate that physical education classes are the one institutional setting where students are most consistently active (Sallis & McKenzie, 1997) and can provide students opportunities to develop fundamental motor skills and contribute to needed physical activity time (van Beurden, Barnett, Zask, Brooks, & Beard, 2003). Knowing that overweight and obese children have a greater difficulty developing motor skills, it becomes even more important for them to be stressed during physical education classes at the elementary level.

The National Association for Sport and Physical Education (NASPE) guidelines (2005) and California Physical Education Model Content Standards for K-12 Public Schools (2005) provide standards to build a quality physical education program. Standards based education is supported by most disciplines and reinforced through national legislation such as No Child Left Behind (USDE, 2002). Specific physical education standards can guide an elementary classroom teacher in building a quality physical education program. Quality physical education programs are also supported by
documents such as The Healthy People 2010 report (USDHHS, 2000) and The National Center for Chronic Disease Prevention and Health Promotion (USDHHS, 1996).

Faucette and Patterson (1989) observed students and teachers in the fourth and fifth grades in 20-minute intervals of their physical education class, finding that only 23.8% of students were physically active, using the NASPE definition of physical activity, over the course of a physical education lesson. In a study following the implementation of the SPARK program, it was again found that the untrained classroom teachers had only 16.5% of physical education time spent engaged in moderate to vigorous physical activity (MVPA) and vigorous activity (VA) (McKenzie, Sallis, Faucette, Roby, & Kolody, 1993). This is far short of the recommendation made by Healthy People 2000, suggesting that 50% of physical education time be spent engaged in MVPA (USDHHS, 1996). During each class, an average of five minutes was spent in very active exercise and 12 minutes performing MVPA (Mutyala, 2003). Twelve minutes in MVPA described in the study is equivalent to 37% of the class time being spent in MVPA, this is again short of the 50% that is recommended by Health people 2000 and 2010. Any intervention to improve physical activity levels in young people, must be clearly defined and have measurable goals (Biddle et al., 2004).

Physical Education and Physical Activity in the California Public Schools

California Education Code Section 51210 (elementary minutes requirement); calls for a minimum of 200 minutes of physical education every 10 days at the elementary school level (California Department of Education, 1999). There are no waivers granted to elementary school students allowing them to opt out of physical education classes (California Department of Education, 1999). In January 2005, the state of California
adopted K-12 content standards for K-12 (CDE, 2005). The California Physical Education Content Standards are grade level specific and developmentally appropriate standards developed specifically for K-12 students in CA schools. Responding to the growing body of research supporting the benefits of physical activity, the California Legislature amended Section 60800 of the *Education Code* which states in part: "It is the intent of the Legislature that school administrators, physical educators, health care services personnel, classroom teachers, secondary school coaches, health educators, and counselors, whose central task is to foster the physical and mental well-being of children, are encouraged to make a firm commitment to incorporate into the curriculum, when appropriate, the health and performance benefits of regular appropriate physical activity" (SB 896, Chapter 1066, Statutes of 1998), (California Department of Education, 1999).

Yet, physical education in California is primarily taught by elementary classroom teachers, and studies (Faucette, et al., 2002; Faucette and Patterson 1989; Xiang, Lowy, and McBride, 2002), have reported pre-service and in-service elementary classroom teachers did not feel adequately prepared to teach physical education to their students. Further findings report classroom teachers’ implementation of physical education is not of the quality or quantity to produce motor skill development or fitness (McKenzie, et al., 1993). According to the California Department of Education, 51% of the reviewed school districts with elementary students failed to meet minimum physical education standards as prescribed by state law (Goldstein, 2006). Often because the classroom teacher has had limited training in physical education (McKenzie, et al., 1993). To aid elementary classroom teachers in teaching physical education, many schools have begun to look at
curriculum programs designed by experts in the field of physical education. The SPARK (Sports, Play, and Active Recreation for Kids) program has been specifically studied in California due to the lack of physical education specialists in the state (McKenzie, et al., 1997). SPARK was designed to implement physical education curriculum that would promote high levels of physical activity, while developing skill ability and fitness (Faucette et al., 2002). This was accomplished by developing curriculum for classroom teachers to follow as well as support services that included instruction from physical education specialists (Sallis & McKenzie, 1997), designed to meet NASPE standards and aid in increasing MVPA during physical education lessons. In looking at class’s taught by classroom teachers, research findings suggest very little time is being devoted to physical activity (van Beurden et al., 2003; Faucette et al., 2002; Huddleston, Mertesdorf, & Araki, 2002; Sallis & McKenzie, 1997; McKenzie et al., 1993). Minutes mandated for physical education are often fulfilled by recess time, nationally only 8% of elementary schools offer physical education on a daily basis (Crute, 2005).

Non-Physical Education Specialists Preparation in California

Of the 23 campuses in the California State University system, 22 of them offer degrees leading to a multiple subject credential and the multiple subject credential itself. All of the programs fulfill requirements by the state of California to comply with the No Child Left Behind (NCLB) mandates (California Commission on Teacher Credentialing, 2005). It is important to note that there are no specific guidelines in NCLB that apply to physical education (U.S. Department of Education, 2002). Of the 22 campuses, 14 require only one course related to physical education. One CSU program offers physical
education classes as suggested electives, but not required as part of the undergraduate degree. Two CSU campuses require two physical education courses, one course specifically in physical education and one based on physical movement, which includes a choice between physical education and dance. One campus requires three courses in Physical Education and Health; two classes are physical education based and one is health education, which is a requirement for any clear California credential. Only one of the 22 campuses offers a physical education component that is comparable to all of the other subject matter offered, including five courses based strictly on physical education. At one campus, all health education components are separate from physical education components.

It is important to note that all of the courses in physical education that are required or suggested were part of undergraduate programs. Undergraduate curriculum courses also vary by institution. In research conducted by Humphries and Ashy (2002) on undergraduate physical education methods courses, it was indicated that while physical education methods courses very widely, little information was found on the curriculum of these courses. At 20 of the 22 CSU campuses there is a physical education concentration for liberal studies majors pursuing a multiple subject credential.

Areas of concentration offer students the opportunity to get more specialized training and knowledge in an area of their choice. Areas of concentration require anywhere from 18 to 20 units of course work in the area of choice. Perspective teachers who choose to take advantage of the concentration in physical education are exposed to a more comprehensive coverage of theories, concepts, and activities needed to teach physical education effectively. It is important to note at all the campuses that offer the
concentration option in physical education, no activity courses are counted as part of the concentration, all courses must be theory or practice based. Students choosing the physical education concentration are exposed to the physical education teacher education (PETE) program. PETE program's provide students with mentorship and supervised student teaching field experiences that are specifically physical education directed. Studies done on PETE programs have shown that students who receive a more directed type of training feel better prepared to teach physical education (Collier & Herbert, 2004; Matanin & Collier, 2003; Barrette & Fiorentino, 1993; Strand, 1992). Most students pursuing a multiple subject credential do not choose a physical education concentration. Students participating in the physical education concentration, specifically PETE programs, are often given opportunities to test their ability to teach physical education by participating in field experiences teaching lessons at the elementary school level (Collier & Herbert, 2004; Matanin & Collier, 2003).

Teacher preparation programs are the primary means by which teachers are prepared to enter the classroom. Yet in many cases the elementary school teacher has had little more than a physical education methods course and is then expected to design and implement a physical education program for their students. Better training in the area of physical education is needed to promote and increase physical activity among elementary school students, (Faucette, et al., 2002; Faucette & Patterson 1989; Xiang, Lowy, & McBride, 2002; van Beurden et al., 2003). One course in physical education may not be enough to adequately prepare the elementary classroom teacher for the responsibility of physically educating their students (Faucette, et al., 2002; Faucette & Patterson 1989; Xiang, Lowy, & McBride, 2002; van Beurden et al., 2003).
In the late 1990's California began to pursue alternate methods of credentialing teachers (Shaker, 2000). Programs such as CalStateTEACH made an impact on how elementary classroom teachers earned teaching credentials. CalStateTEACH is a credentialing program that originated due to a shortage of elementary classroom teachers being prepared in California. CalStateTEACH was designed to allow individuals the ability to work as an intern on an emergency credential, while completing a certified credential program in a distance learning style (Shaker, 2000). Principals of many schools became very interested in CalStateTEACH because it would allow unlicensed teachers already in the classroom to complete a credential program with out returning to a traditional credential program setting (Shaker, 2000). CalStateTEACH has been criticized because of it's similarity to an apprenticeship model, but Shaker (2000) emphasizes the resources of a traditional setting in a distance learning format. Because the format for CalStateTEACH is based upon on the job training, it is important that there is support for teachers in planning physical education lessons. With these teachers working so hard to learn how to teach every subject required, supplemental help in physical education lesson planning can only help their practice.

DeCorby et al. (2005) identified specific barriers and constraints that prevent elementary classroom teachers from delivering quality physical education. The specific areas included a lack of knowledge and training, gender, safety, poor planning of facility space, lack of funding, and a lack of supporting extra curricular activities. But the study did not leave the elementary school classroom teacher without any hope of improvement; the findings did suggest that with help from a consulting physical education specialist they could improve their daily practices. It is important to the elementary classroom
teacher to have help in developing quality lessons if they have had insufficient training to
do so on their own. With the help of a physical education specialist to design and guide
the elementary classroom teacher, physical education content can be made much more
structured, organized, and beneficial to the overall health of students (DeCorby et al.,
2005). Questionnaire data collected following participation in SPARK programs indicate
classroom teachers became increasingly confident in their abilities to implement a
physical education program (Faucette et al., 2002).

In-services and training can be done once classroom teachers are already in the
field. Many studies have shown that with proper training and support, classroom teachers
can increase physical activity time and provide opportunities for motor skill and fitness
development (van Beurden et al., 2003; Faucette et al., 2002; Sallis & McKenzie, 1997;
McKenzie et al., 1993). These studies, along with those that investigated classroom
teacher’s confidence in their ability to teach physical education, suggest elementary
classroom teachers need more training to effectively teach physical education. Finding
the right combination of curriculum at the pre-service level, and providing training and
support services at the in-service level, can create programs that effectively teach
classroom teachers the skills needed to provide quality physical education. The National
Institute of Child Health and Human Development’s Study of Early Child Care and
Youth Development Network, concluded that in order to meet Healthy People 2010
standards, physical education classes should be standardized, staff development at the
elementary school level is needed, and the frequency of moderate to vigorous physical
activity should be increased (Mutyala, 2003).
Studies done on the attitudes and intentions of teacher’s to teach physical education, indicate that a positive attitude toward physical activity and physical education is related to an effective presentation of physical education to elementary school students (Huddleston, Mertesdorf, & Araki, 2002; Kulinna, Silverman, & Keating, 2000; Martin, et al., 2001; Matanin & Collier, 2003). These studies have also given indications that many preexisting beliefs held by the pre-service teacher do affect their ability to teach physical education if no other experiences with physical education are acquired prior to them beginning their full time teaching. Preliminary discussion in relation to the research indicates that even with a positive attitude toward physical activity, many of the classroom teachers felt inadequately trained. Elementary classroom teachers can be an effective tool to promote or enhance physical education. Elementary classroom teachers who are educated to the purpose, benefits, and characteristics of quality physical education are more likely to become advocates for physical education and support physical education specialists when they are available (Mccullick & DeMarco, 2003).

Significant correlations between teachers’ leisure time physical activity and behavior during class suggested that more active teachers spent more minutes per week teaching physical education and a greater proportion of lesson time promoting physical fitness (McKenzie et al., 1999). Elementary classroom teachers, who are more engaged in providing instruction, including prompts and feedback, are more likely to increase the quality of instruction during physical education lessons (McKenzie et al., 1999). In order to accomplish this goal more research is needed to determine how adequately prepared the classroom teachers are to teach physical education.
Physical education classes can provide students access opportunities to be physically active and helpful in reducing the habits of inactivity that contribute to higher than normal weight gain and obesity. With so little training, it is unreasonable to expect elementary classroom teachers to have the necessary tools to teach physical education effectively on a daily basis (McCutlick & DeMarco, 2003). Even following a field-based elementary physical education methods course, many pre-service classroom teachers surveyed indicated they were unwilling to teach elementary physical education (Xiang et al., 2002).

**Purpose Statement**

The purpose of this study was to determine elementary classroom teachers' perceptions of teaching physical education; and the impact of pre-service physical education methods course(s) and training, equipment and facilities provided by their districts or schools on the implementation of quality physical education at Kindergarten through second grade level. The goal was to learn how classroom teachers felt when faced with teaching physical education
Method

Participants and Setting

Administration of the survey was done through the online survey management service Survey Monkey.com, allowing the participants to complete the survey at any computer, at their convenience during the period of data collection. Sixteen teachers and three principals participated in the study.

Elementary Classroom Teachers

Participants completing this survey consisted of 15 full-time, credentialed, Kindergarten to second grade elementary classroom teachers who were currently working at two public schools in Southern California. Participants had a minimum of one year teaching experience and were the primary provider of physical education. No delimitation’s were placed on the age, ethnicity, or gender of the participants. There were no delimitation’s on the number of years of teaching experience. All participants were informed of the purpose of this study, participated in voluntarily, and could withdraw at anytime, for any reason, without consequence.

Elementary School Principals

Participants completing the Elementary School Principals survey consisted of three principals from two schools. Each participating principal had at least one year experience as a site administrator or assistant site administrator. Each principal was responsible for the structure of the curriculum programs used at their site. There were no delimitation’s placed on the age, ethnicity, or gender of the participants. All participants were informed of the purpose of this study, and they participated voluntarily, and could withdraw at anytime, for any reason, without consequence.
Instrument

The survey questionnaires (appendixes A and B) were developed by expanding on questions from a previous survey conducted by Xiang, Lowy, & McBride (2002) investigating the impact of a field-based elementary physical education methods course on pre-service classroom teachers’ beliefs. The instrument used was submitted and approved for use by the Committee for the Protection of Human Subjects at California State University, Northridge.

Elementary Classroom Teachers

Teachers’ questionnaire consisted of 42 questions on demographic data # 1-2, information on teaching experience #3-8, personal physical activity #9-12, sports participation #13-18, personal physical education experiences #19-20, their ability to teach physical education #21-39, perceptions of physical education #40, and in-service and training #41-42. Questions were written in a mix of closed form, providing the participants with likert-style answers that could be quickly and easily categorized and two open ended questions for participants to explain why the previous answer was chosen. A sample of the questionnaire is included in the Appendix A. Categories for questions were established as, personal demographics, experience, personal activity, sports participation, personal physical education experiences, teaching physical education, perceptions of physical education, in-service and training.

Elementary School Principals

Principal’s questionnaire consisted of 28 questions on demographic data, information on administrative and teaching experience, school staffing, perceptions of the staff’s ability to teach physical education, physical education curriculum, and equipment and
facilities quality and availability. Questions were written in a mix of closed form, providing the participants with likert-style answers that could be quickly and easily categorized and two open ended questions for participants to explain why the previous answer was chosen. A sample of the questionnaire is included in Appendix B. Categories for questions were established as, personal demographics # 1-2, experience #3-5, school demographics #6-8, physical education implementation # 9-27, perceptions of physical education #28.
Procedures and Data Collection

Permission to recruit participants for this study was obtained from the assistant superintendent of instruction in the participating school district. Principals were contacted by the assistant superintendent of instruction to inquire about their interest. Interested participating principals were then contacted by the researcher to begin the research process. Participating principals at each school then contacted the teachers at the Kindergarten through second grade level to inquire about their interest in participating.

Elementary Classroom Teachers

Principals at the participating schools contacted their staff of Kindergarten to second grade teachers to inform them of the study proposal and provide them the cover letter and inquire if they would participate in the study. Perspective teacher participants had one week to decide if they would participate and inform their principal. Email addresses for all participants were provided to the researcher by the participating principals. Participants were sent the survey as an attachment to an email and asked to complete the survey at their convenience. Responses were returned via email through the Survey Monkey website. Completed surveys were gathered from the Survey Monkey website by the researcher. Participants were able to request a hard copy of the survey to complete and hard copies were dropped off at the school site and picked up by the researcher upon completion.

Elementary School Principals

Each principal was contacted by the researcher and given a cover letter introducing the proposed study. Follow up phone calls were made by the researcher within one week.
to confirm participation by the principal and selected teachers. Participants were then sent the survey as an attachment to an email using the survey management service SurveyMonkey.com. All surveys were returned via email through the Survey Monkey website. All completed surveys were gathered from the Survey Monkey website by the researcher. Participants were allowed to request a hard copy of the survey to complete. Hard copies were delivered to the school site and picked up by the researcher when completed. No names were placed on the surveys to preserve the anonymity of the participants. Any reference made to the surveys in this or any further publication will use pseudonyms to identify participant’s responses and any quotes used. After the close of the survey, the information collected was analyzed, and findings used in the completion of this research study.
Data Analysis

Data was analyzed using excel and SPSS 14.0 to obtain descriptive statistics and determine any significance through linear regression. Data was considered significant at the .01 level. Data were coded for both the principal and teacher surveys.

Elementary Classroom Teachers Coding

See Appendix C for full information on the coding of each question for the teachers survey.

Elementary School Principals Coding

See Appendix C for full information on the coding of each question for the principals survey.
Results

Positive and negative attitudes toward physical education were evaluated using a list of statements about physical education. A complete list of these statements can be seen in question number 28 of the principal survey (Appendix B) and question number 38 of the teacher survey (Appendix A). Eight of the statements are rated positive and four of the statements are rated negative. Responses from both principals and teachers indicated an overall positive attitude toward physical education.

![Attitudes Toward Physical Education](image)

Figure 1. Teacher’s agreement with positive and negative statements about physical education.

As shown in figure 1, ninety-three percent agreement was indicated by teachers on the following positive statements:

- Contribute to the development of the whole child (1)
- Give Children a fun break from regular school activities (2)
- Provide children with opportunities to learn about health and physical fitness (3)
- Teach motor skills like running, jumping, and throwing (4)
- Develop social skills, such as sharing, taking turns, and cooperating with classmates (5)
- Give students opportunities to play games and sports (6)
- Provide opportunities for physical activity (8)
- Be an integral part of school education (11)

Agreement with the negative statements was lower with fifty-three percent in agreement with statement 7, and twenty percent in agreement with statement 9.

- Give students opportunities to be with friends, talk, laugh, and be silly (7)
- Be a form of structured recess (9)

No respondents were in agreement with the following statements;

- Have no place in the elementary curriculum (10)
- Be excluded from elementary school programs (12)

![Attitudes Toward Physical Education](image)

Figure 2. Principal’s agreement with positive and negative statements about physical education.
Agreement with the positive statements from the principal survey was similar to the teacher’s responses. All principals indicated agreement with the following positive statements;

- Contribute to the development of the whole child (1)
- Provide children with opportunities to learn about health and physical fitness (3)
- Teach motor skills like running, jumping, and throwing (4)
- Develop social skills, such as sharing, taking turns, and cooperating with classmates (5)
- Give students opportunities to play games and sports (6)
- Provide opportunities for physical activity (8)
- Be an integral part of school education (11)

Statement 2, Give children a fun break from regular school activities, had the lowest agreement among the principals with one principal in agreement with this statement. No agreement with the negative statements was indicated by the principals.

Personal physical activity habits and participation in sports indicated teachers are activity participating in physical activity. Data indicated 80% of the teachers participated in physical activity two or three days per week. Of those who participated in physical activity two or three days per week, 75% participated for 31-60 minutes. Intensity level for teacher’s physical activity varied with 20% participating at a low intensity, 80% at a moderate intensity. One teacher indicated they participated at a vigorous intensity. Prior sports participation, both interscholastic and intramural, was indicated by teachers. Interscholastic sports participation, in which one schools team participates against
another schools team, indicated 60% of teachers had not participated in interscholastic sports activities and 40% had participated interscholastic sports activities. Intramural sports participation, in which teams compete within their own school, indicated 67% had not participated in intramural activities and 33% had participated in intramural activities.

All of the principals surveyed responded that their staff was teaching physical education three days per week for 16-30 minutes per session. Results from the teachers (Appendix C) varied from one to five days and on those days from 0-15, 16-30, and 31-45 minutes. For example, teacher I responded that physical education was taught five days per week for 0-15 minutes per session. This indicates that over a period of ten days, a maximum of 150 minutes were devoted to physical education. Teachers N, L responded physical education was taught three days per week for 16-30 minutes per session. This indicates that over a period of ten days 96-180 minutes were devoted to physical education. Teacher A responded physical education was taught five days per week for 16-30 minutes per session. This indicates that over a period of ten days 160-300 minutes were devoted to physical education.
Figure 3. Days per week teachers presented physical education lessons

Figure 4. Minutes devoted to physical education per class session

Differences in responses between the teacher and principal surveys were also shown in the teacher’s confidence in their ability to teach physical education. One hundred percent of the principals (N=3) surveyed rated their confidence in the ability of
their teachers to teach physical education as average. Teacher’s confidence in their ability varied. When asked to rate their confidence in their ability to teach physical education, the teachers (N=15) rated themselves as

- Very confident 0%
- Confident 13%
- Average 60%
- Incompetent 20%
- Very incompetent 7%

No school involved in the study had access to a physical education specialist to assist in teaching, planning, or curriculum development. Curriculum used for physical education varied by campus and teacher. All of the principals surveyed responded that there was no adopted physical education program or curriculum used at their elementary school campus. Sixty-six percent (N=15) of the teachers surveyed responded they were using no specific prewritten physical education curriculum. One teacher at campus A responded that they had developed their own physical education block plan for the year that focused on a particular skill each month. Another teacher at campus A responded that at times they did use a prewritten physical education curriculum, but did not specify the name or what they planned or presented specifically. At campus B three teachers responded that they were using the SPARK program as the curriculum guide for physical education. When asked if they would like help planning physical education lessons, 73.3 % of teachers responded yes. The relationship between the use of a physical education curriculum and the rated confidence in the ability to teach physical education,
Table 1 indicated a positive relationship between confidence and the current curriculum that was being used, \( r = .769, p < .001 \).

Table 1. Relationship between the use of physical education curriculum and rated confidence in the ability to teach physical education

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<td>.264</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>8.400</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data indicated differences in respondents' access to and knowledge of equipment and facilities available for use when teaching physical education. A full list of equipment and facilities available to teachers and available according to principals can be seen in Appendix D. Teachers indicated that they had knowledge of some of the available equipment and facilities, but it was not in complete agreement with the principals listed equipment and facilities available for physical education lessons. Responses in regard to facilities:

- "We do not have access to any grassy field." – Teacher K
- "No enough equipment, one ball per class." – Teacher M
- "The MPR, though big, is used for lunch, so is not used very often for physical education." – Principal C

Responses in regard to equipment:

- "I could expand my scope of teaching with a class set of more varied equipment." – Teacher J
- "Playground has limited facilities." – Teacher C
• “Some equipment is locked up in the equipment room. A big problem is having enough time for set up and clean up.” – Teacher B

Teachers indicated that issues with construction were hindering access to equipment and facilities at both schools. Teachers at campus A indicated that issues with modernization were hindering access to equipment and facilities. Teachers at campus B indicated that issues with grounds keeping and the fact that the facility is newly constructed, prohibited the use of the grass field at the campus. Principals also indicated that construction was a limiting factor in storage of equipment and use of facilities space.

Training and in-service opportunities are rare for the elementary classroom teacher according to the respondents. Both principals and teachers responded that there had been no in-service or training opportunities offered by the district or school site during the school year that focused on physical education. When asked if in-service training would be helpful in planning and teaching physical education at the elementary school level, 60% responded it would be very helpful and 40% responded it would be somewhat helpful. Attending local, state, or national workshops or conferences was also indicated to be helpful to the elementary classroom teachers physical education planning and implementation (table 2), 57% of the respondents indicated that attendance of local, state, or national physical education workshops would be very helpful, 36% responded it would be somewhat helpful. Results are slightly lower for physical education conference attendance with 43% responding attendance would be very helpful and 43% responding attendance would be somewhat helpful.
Table 2. In-service and training components rated helpfulness in teaching physical education

<table>
<thead>
<tr>
<th>Component</th>
<th>Very helpful</th>
<th>Somewhat helpful</th>
<th>Not helpful</th>
<th>Not used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson Planning with PE specialist</td>
<td>57%</td>
<td>36%</td>
<td>7%</td>
<td>0%</td>
</tr>
<tr>
<td>Observation of PE specialist</td>
<td>29%</td>
<td>64%</td>
<td>7%</td>
<td>0%</td>
</tr>
<tr>
<td>Team teaching with PE specialist</td>
<td>62%</td>
<td>23%</td>
<td>15%</td>
<td>0%</td>
</tr>
<tr>
<td>In-service/Training on Elementary PE</td>
<td>57%</td>
<td>43%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Use of pre-written curriculum</td>
<td>50%</td>
<td>43%</td>
<td>0%</td>
<td>7%</td>
</tr>
<tr>
<td>Textbooks</td>
<td>14%</td>
<td>36%</td>
<td>43%</td>
<td>7%</td>
</tr>
<tr>
<td>Attending PE workshops</td>
<td>57%</td>
<td>36%</td>
<td>7%</td>
<td>0%</td>
</tr>
<tr>
<td>Attending PE conferences</td>
<td>43%</td>
<td>43%</td>
<td>14%</td>
<td>0%</td>
</tr>
<tr>
<td>Principal/administrative support</td>
<td>46%</td>
<td>31%</td>
<td>15%</td>
<td>8%</td>
</tr>
<tr>
<td>Teachers aide during PE</td>
<td>43%</td>
<td>36%</td>
<td>14%</td>
<td>7%</td>
</tr>
</tbody>
</table>

Though no in-service opportunities were available, most teachers had previously taken at least one course in physical education during some point in their preparation to teach at the elementary school level. When surveyed on the previous courses taken in teaching physical education at the undergraduate level, 40% of teachers had taken no courses in physical education as part of their undergraduate program. Data indicated that 40% of the respondents had taken at least one course in teaching physical education at the undergraduate level. At the credential preparation level this number was reduced significantly, with only 13% of the respondents indicating they had taken no course related to the teaching of physical education. Responses indicate that at the credential
preparation level, 80% of the respondents took at least one course related to the teaching of physical education. Only 20% of respondents indicated that teaching physical education lessons at this stage was very helpful in developing their ability to teach physical education, 40% indicated it was somewhat helpful, 26% indicated it was not helpful, and 14% did not participate in teaching physical education at this level. Table 3 contains information on the helpfulness of the components of the physical education methods courses taken by the teachers surveyed.

Table 3. Rated helpfulness of components of physical education methods course taken during teacher preparation

<table>
<thead>
<tr>
<th>Component</th>
<th>Very helpful</th>
<th>Somewhat helpful</th>
<th>Not helpful</th>
<th>Not part of course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures on methods and theories</td>
<td>15.5%</td>
<td>15.5%</td>
<td>46%</td>
<td>23%</td>
</tr>
<tr>
<td>Readings from textbooks</td>
<td>0%</td>
<td>46%</td>
<td>31%</td>
<td>23%</td>
</tr>
<tr>
<td>Lessons/activities presented by professors</td>
<td>31%</td>
<td>38%</td>
<td>8%</td>
<td>23%</td>
</tr>
<tr>
<td>Creating and presenting lessons to peers</td>
<td>0%</td>
<td>62%</td>
<td>23%</td>
<td>15%</td>
</tr>
<tr>
<td>Observations of physical education classes</td>
<td>31%</td>
<td>38%</td>
<td>15.5%</td>
<td>15.5%</td>
</tr>
<tr>
<td>Teaching elementary PE</td>
<td>15.5%</td>
<td>46%</td>
<td>15.5%</td>
<td>23%</td>
</tr>
<tr>
<td>Analysis of videotaped physical education classes</td>
<td>7%</td>
<td>31%</td>
<td>31%</td>
<td>31%</td>
</tr>
<tr>
<td>Reflective journals</td>
<td>8%</td>
<td>0%</td>
<td>46%</td>
<td>46%</td>
</tr>
</tbody>
</table>

30
Discussion

Physical Activity and Elementary School Children

Results indicated that little pre-written curriculum was used by the participating teachers. Resources are available to elementary school teachers to purchase pre-written curriculum, or use National Association for Sport and Physical Education (NASPE) guidelines and California Physical Education Content Standards, to follow if they would like to build their own program. Four basic guidelines have been developed by NASPE to address the physical activity needs of children ages 5-12 (NASPE, 2004). These guidelines can be used to evaluate any curriculum in use and create curriculum that meets state and national standards. Two surveyed teachers responded that they used their own pre-written curriculum, but did not mention any standards that guided the way they had written the program they were using. Two teachers responded they were using a purchased pre-written physical education program, brought with them from previous campuses where they had worked, called SPARK (Sports, Play, and Active Recreation for Kids). SPARK was designed to implement physical education curriculum that would promote high levels of physical activity, while developing skill ability and fitness (Faucette et al., 2002). Use of this type of curriculum increases the chances that there is a focus on standards and specific movement and health-related fitness goals during the physical education lesson. The SPARK curriculum also emphasizes a higher number of minutes be spent in physical activity. This can only be ensured if teachers receive the proper training to implement the program correctly and have follow-up instruction and assistance following the initial training.
According to the California Education Code, elementary school students must participate in a minimum of 200 minutes of physical education every 10 days (California Department of Education, 1999). Data indicated that this is not happening in every class at the campuses surveyed (Appendix C). For example, teacher I responded that physical education was taught five days per week for 0-15 minutes per session, indicating that over a period of ten days, a maximum of 150 minutes were devoted to physical education. At 150 minutes spent in physical education this is short of the 200 minutes mandated. To reach the 200 minute total, 20 minutes each day should be devoted to physical education. Minutes mandated for physical education are often fulfilled by recess time, as nationally only 8% of elementary schools offer physical education on a daily basis (Crute, 2005). Only 13% of the teachers surveyed taught physical education five days per week. While 67% of teachers indicated they taught physical education for 16-30 minutes per session, the number of days per week this was done does not total the 200 minute mandate. For example, teachers L and N responded physical education was taught three days per week for 16-30 minutes per session, indicating over a period of ten days 96-180 minutes were devoted to physical education. Day’s per week spent in physical education varied with 27% teaching physical education one day per week, 33% two days per week, and 27% three days per week. Even if the full 30 minutes possible was spent in physical education, for the teacher who holds physical education class three days per week, the total time spent over a ten day period is 180 minutes. This time line does not take into account time to move students between locations, set up and tear down facilities, distribute and collect equipment, explain the lesson, and give students the opportunity to participate in the activity. Of the 30 minutes allotted to physical education
in this scenario, once all of the procedural time is taken into account, total activity time would be less than 30 minutes. This is not an unusual finding, Mutyala, 2003, indicated about six percent of elementary school children had daily physical education and on average has physical education classes two days per week, totaling 69 minutes per week.

**University Curriculum and Teacher Preparation**

Previous studies have suggested that one course in physical education may not be enough to adequately prepare the elementary classroom teacher for the responsibility of physically educating their students (Faucette, et al., 2002; Faucette & Patterson 1989; Xiang, Lowy, & McBride, 2002; van Beurden et al., 2003). Only one of the 22 campuses in the CSU system offers a physical education component that is comparable to all of the other subject matter offered which includes five courses based strictly on physical education (The California State University, 2005). From the data collected, many teachers attended schools that required fewer classes in the area of physical education than in other subject matter areas to attain their undergraduate degrees. Forty percent of teachers surveyed had taken no courses in physical education as part of their undergraduate program. This may be due to the fact that students who go on to pursue a multiple subject credential have majored in liberal arts or early childhood education. When looking at the suggested course listings for these majors at each CSU campus, most do not require more than one physical education course, one CSU program offers physical education classes as suggested electives, but not required as part of the undergraduate degree (California State University, Chico 2002). With little background knowledge in physical education methods or curriculum development it maybe difficult to teach physical education, as part of student teaching or while working on the multiple
subject credential (McKenzie, et al., 1993). When a physical education methods class is offered it is a general course, such as physical education for children, and this course is limited to one semester or quarter. With a limited amount of time to study physical education methods and curriculum, a single course may not be adequate in preparing an elementary classroom teacher to develop a physical education program that teaches to the standards currently adopted by NASPE and used throughout the state of California to create curriculum for programs at the middle and high school level (Faucette, et al., 2002; Faucette & Patterson 1989; Xiang, Lowy, & McBride, 2002; van Beurden et al., 2003).

Currently none of the CSU campuses require courses in physical education as part of completing the multiple subject credential program, but there are optional courses in physical education methods that are available if the pre-service teacher chooses to take them. In preparation to teach physical education 40% of the teachers surveyed had taken at least one course in teaching physical education at the credential level. At the credential level a physical education methods course may include a student teaching component. During the student teaching process, physical education may also be part of the teaching assignment. Student teaching experience can be helpful in learning how to put together a physical education program that is based on the NASPE standards or California Physical Education Content Standards. Based on previous research, not all of these student teaching experiences are helpful in motivating elementary classroom teachers to develop a standards based curriculum. According to Xiang et al., following a field-based elementary physical education methods course, student teachers surveyed indicated they were unwilling to teach elementary physical education (2002). With a negative response to teaching physical education as a student teacher, it is unlikely that this view will
change once the teacher is working full time at the elementary school level. The curriculum of the physical education methods course taken also made a difference in how confident the teachers surveyed felt. Data from this study indicated 86% of the teachers surveyed found that teaching physical education classes was helpful in developing their ability and confidence. Further research is needed to know what portions of physical education methods courses are most helpful in preparing elementary classroom teachers.

Survey data collected about the physical education methods courses taken by the teachers indicates that not all components of the course were helpful in developing their ability to teach physical education (Table 3). Areas of the curriculum that were based on lectures and textbooks were found to be much less helpful than those based on the application of teaching physical education. Forty percent responded that lectures on physical education methods and theories were not helpful in developing their ability or confidence to teach physical education, while 69% responded that lessons or activities presented by professors were helpful. This data indicated that an approach that gives specific lessons and activities that can be used in the classroom are more helpful than reading or hearing about them. Observations of physical education were also mentioned as helpful components of a course in physical education methods. It is important to note that there was a difference in the helpfulness of observations based on if they were seen in person or on video tape. When seen on video tape 7% indicated that this method was very helpful and 31% somewhat helpful, but when the observation was done in person 31% found them very helpful and 38% somewhat helpful. By being there in person to see how physical education classes are structured and implemented, the experience was more helpful in the teacher’s future planning of their own physical education lessons.
Elementary Classroom Teachers and Physical Education Training

No campus involved in the study had access to a physical education specialist to assist in teaching, planning, or curriculum development. The principals participating in the study all reported that there was not a physical education specialist position funded by the school district. With much less training in physical education than a physical education specialist, an unreasonable expectation may be placed on the classroom teacher to teach physical education on a daily basis (McCullick & DeMarco, 2003). There is training that can be done with classroom teachers to help develop the skills needed to provide a quality physical education program for their students. All of the participants surveyed responded that in-service training in physical education would be helpful. Ninety-three percent of the teachers surveyed responded that using a pre-written curriculum would be helpful. In many cases when pre-written curriculums are used by districts there is an in-service component that goes along with the program. Programs such as SPARK, CATCH, and Move it, Groove it all have in-service and training components that accompany the written curriculum. Previous studies such as DeCorby et al. (2005), note that specific barriers to teaching physical education exist for the elementary classroom teacher. In-service and training programs will have to be directed at specific issues facing the elementary classroom teacher, such as limited facilities and equipment, time allotted to physical education, curriculum development, and classroom management in the physical education setting. With training that is specifically directed toward the issues that make teaching physical education difficult, elementary classroom teacher can be come for confident in their ability to teach physical education. Faucette et al., 2002, indicated that in the first year of a training program for SPARK, teachers had
difficulty implementing the program, but after a second year of directed training and support in physical education, those concerns had diminished. Further research is needed in the development and implementation of training and in-service programs and their effectiveness.

**Elementary Classroom Teachers Beliefs, Perceptions, and Intentions**

Responses from both principal’s and teachers indicted an overall positive attitude toward physical education. Some studies, Huddleston, Mertesdorf, & Araki, 2002; Kulinna, Silverman, & Keating, 2000; Martin, et al., 2001; Matanin & Collier, 2003, have all given indications that preexisting beliefs held by teacher’s affect their ability to teach physical education. The teachers surveyed indicated a positive attitude toward physical education. Responses indicate there is a general agreement that physical education is needed to develop motor and social skills, as well as provide students with opportunities for physical activity, physical fitness, and health education. Ninety-three percent of teachers surveyed agreed with the statement that physical education should be an integral part of school education. Xiang et al., 2002, suggested that because classroom teachers spend most of the school day with their students, that they influence students’ attitudes toward health and fitness as well as the importance of physical activity. With a high number of teachers surveyed having a positive perception of physical education and a belief that it should be a part of elementary education, it is more likely that this attitude will be passed on to their students. A positive perception of physical education and the ability to teach it does not always lead to a quality physical education program. DeCorby et al., 2005, indicated that though the grade 1-3 teachers had a positive orientation toward physical education, there were still issues with training, knowledge of physical education
content, facilities, equipment, and implementation of physical education at the classroom level. Further research on these campuses would be needed to conclude if the positive attitude held by the teachers was also held by the students in their classes.

Personal physical activity habits and prior knowledge of sports can influence the perception of physical activities importance. McKenzie et al., 1999, indicated that classroom teacher’s who participate in substantial amounts of physical activity; teach physical education differently than those who are less active. In the current study, teachers indicated modest to average physical activity levels outside of the classroom setting. None of the teachers indicated a sedentary orientation or a negative perception of physical activity. With a positive perception of and participation in personal physical activity, it is more likely they will pass on this belief to students. Further research on personal physical activity habits and teacher’s classroom performance during physical education lessons would be needed to conclude if a strong relationship exists.

All principals were very cooperative and interested in a study of this type being done on their campuses. The principals’ positive attitudes toward the study also carried over to their survey responses. All principals surveyed agreed with all of the positive belief statements listed. This indicates an overall positive attitude toward physical education on their campuses. All of the principals also indicated an average confidence in the ability of their teachers to teach physical education. With the positive beliefs and attitudes that are shown by the principals, it is more likely that they will be supportive of the development of quality physical education programs. More research will need to be conducted in this area to conclude whether there is any relationship between principals’
attitudes and the development of quality physical education programs at the elementary school level.
Conclusion

Many factors contribute to the perception of a teacher's ability to teach their students any subject. Physical education has many factors that make it a different from teaching in the classroom setting, these factors can be challenging for anyone who is untrained in physical education theory and methods. With the renewed focus on health and physical activity in California public schools, physical education classes are taking on more importance. With this change in focus on physical education it is important to learn what factors affect how elementary school classroom teachers create and implement physical education lessons for their students.

During the course of this study, conclusions about the perceived ability of classroom teachers' competence in teaching physical education have been investigated. Teachers and principals provided information about their personal experiences that shaped the way they approached physical education curriculum and its implementation. Data indicated that many factors are related to perceptions of the ability to teach physical education. Issues involving personal physical activity, teacher preparation, facilities, equipment, administrative support, in-service training, and attitude toward physical education all had effects on the perception of the ability to teach physical education.

Key focus areas for improvement are physical activity, physical education, teacher preparation, curriculum development, and in-service and training opportunities. By focusing research in these areas future study can attempt to learn how and why elementary classroom teachers develop their ability to teach physical education and how this affects the perception of their ability to do so. Research on the role of principals and school site administration is also needed to determine if it has an impact on the
perception of the ability of the classroom teacher to teach physical education. Issues of scheduling, facilities, equipment, support, and in-service and training opportunities are all areas that could benefit from future study.
References


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Appendix A

Elementary Physical Education Questionnaire

Directions: Please answer each question truthfully. There are no correct or incorrect answers. If you have any questions, please ask.

Personal Demographics

1. Sex ___ (male) ___ (female)

2. Race (check one): Anglo-American _____ African-American _____
   Hispanic-American _____ Asian-American _____
   Other (please specify) ____________________________

Experience

3. College Major: ________________________________

4. Number of years teaching: ______________________

5. How many courses in teaching physical education did you take as part of your undergraduate degree program?
   _____ 0 _____ 1 ____ 2 ____ 3 or more

6. How many courses in teaching physical education did you take as part of your teacher preparation program?
   _____ 0 _____ 1 ____ 2 ____ 3 or more

7. What grade are you currently teaching: ______ Kindergarten _____ First Grade
   _____ Second Grade _____ Other (please specify): ____________________________

8. For how long have you been teaching at this level?
   _____ 0-3 years _____ 4-6 years _____ 7-9 years _____ 10 or more years
Personal Activity

9. How would you classify your physical activity level? _____ Very active
   _____ Moderately Active  _____ Slightly Active  _____ Sedentary

10. How many days per week do you participate in physical activity? _____ 0-1
    _____ 2-3  _____ 4-5  _____ 6 or more

11. How many minutes do you exercise per session? _____ 0-30  _____ 31-60
    _____ 61 or more

12. What level of intensity are your exercise sessions? _____ Low
    _____ Moderate  _____ Vigorous

Sports Participation

13. Have you ever participated in interscholastic sports (basketball, volleyball, swimming, etc) or activities (dance, colorguard, etc)? _____ (Yes) _____ (No)
   (Interscholastic means your school team competed with other school teams)

14. If yes, how long _______ yrs.

15. If yes, at what level? _____ High School
    _____ University/College
    _____ Both

16. Have you ever participated in intramural sports (basketball, volleyball, swimming, etc) or activities (dance, colorguard, etc)? _____ (Yes) _____ (No)
   (Intramural means you compete but the teams are within your own school)

17. If yes, how long _______ yrs.

18. If yes, at what level? _____ High School
    _____ University/College
    _____ Both
Personal Physical Education Experiences

19. How would you rate your experiences in physical education when you were in elementary school?

_____ Very positive _____ Positive _____ Average _____ Negative
_____ Very Negative _____ No experience

20. What about your experience in physical education made you choose your answer to #19? (check all that apply) _____ Fun _____ Competition

_____ Enjoyment of sports _____ A break from class activities
_____ Making Friends _____ Embarrassing _____ Difficult _____ Boring
_____ Too many students _____ Teacher conduct _____ Student conduct

Teaching Physical Education

21. Do you teach physical education as part of your curriculum?

_____ Yes _____ No

22. How confident do you feel in your ability to teach physical education?

_____ Very Confident _____ Confident _____ Average
_____ Incompetent _____ Very Incompetent

23. How many days per week do you teach physical education?

_____ 0 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5

24. How many minutes per session do you teach physical education?

_____ 0-15 _____ 16-30 _____ 31-45 _____ 46-60 _____ 1 hour or more

25. How many students do you typically have in your elementary school class?

_____ 20-24 _____ 25-34 _____ 35-44 _____ 45 or more

26. How many students do you typically have when teaching physical education lessons?

_____ 20-24 _____ 25-34 _____ 35-44 _____ 45 or more
27. What activities do you currently teach as part of your elementary physical education curriculum?

[ ] Sports related (basketball, baseball, soccer, etc.)

[ ] Fitness based (running, stretching, resistance training, etc.)

[ ] Skill based (throwing, striking, jumping, etc.)

[ ] Games (kickball, tag, dodge ball, relays, etc.)

[ ] None  [ ] Other (please specify): ______________________

28. What equipment do you have to teach physical education lessons at the elementary school level?

[ ] Basketballs  [ ] Soccer Balls  [ ] Volleyballs  [ ] Softballs

[ ] Foam Balls  [ ] Cones  [ ] Playground Balls  [ ] Buckets

[ ] Hula Hoops  [ ] Portable Stereo  [ ] Pre-recorded Music

[ ] Bean Bags  [ ] Jump Ropes  [ ] Tumbling Mats

[ ] Foam Noodles  [ ] Poly Spots  [ ] List any other:

29. Rate the quality of equipment:  [ ] Very good  [ ] Good

[ ] Average  [ ] Poor  [ ] Very Poor

30. Is the quality of equipment adequate to teach physical education at the elementary school level?  [ ] Yes  [ ] No

31. If no, why not?
32. What facilities are available for you to teach physical education lessons at the elementary school level?  
   ______ Classroom  ______ Multi-purpose Room  
   ______ Gymnasium  ______ Grass Field  ______ Basketball Courts  
   ______ Playground  

33. Rate the quality of facilities:  
   ______ Very good  ______ Good  
   ______ Average  ______ Poor  ______ Very Poor  

34. Do the facilities and equipment available affect what or how you teach physical education lessons at the elementary school level?  
   ______ Yes  ______ No  

35. Please explain how:  

36. Do you use any type of prewritten elementary physical education curriculum?  
   ______ Do not use a prewritten curriculum  ______ SPARK  ______ CATCH  
   ______ Go Girl Go  ______ Written by district physical education specialist  
   ______ Other (please specify):  

37. Do you feel you need assistance in planning or teaching physical education lessons at the elementary school level?  
   ______ Yes  ______ No
Perceptions of Physical Education

38. Complete the following statement checking all that apply: Elementary Physical Education Should:

______ Contribute to the development of the whole child

______ Give children a fun break from regular school activities

______ Provide children with opportunities to learn about health and physical fitness

______ Teach motor skills like running, jumping, and throwing

______ Develop social skills, such as sharing, taking turns, and cooperating with classmates

______ Give students opportunities to play games and sports

In-service and Training

39. How many physical education in-services do you attend each school year?

______ 0-1  ____ 2-3  ____ 4 or more

Please rate question 40 using the following scale:

1  2  3
Very Helpful  Somewhat Helpful  Not Helpful

40. How helpful were the following in developing your ability to teach physical education as an elementary classroom teacher?

a. Lectures on physical education methods and theories  (___)

c. Readings and assignments from textbooks  (___)

d. Lessons and activities presented by professors for use in elementary physical education  (___)

e. Creating and presenting elementary physical education lessons to peers  (___)

f. Observations of elementary school physical education classes  (___)
g. Teaching elementary school physical education classes
b. Analysis of videotaped sessions of physical education classes
h. Reflective journals

**Please rate question 41 using the following scale:**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Helpful</td>
<td>Somewhat Helpful</td>
<td>Not Helpful</td>
</tr>
</tbody>
</table>

41. How helpful would each be in planning and teaching physical education lessons at the elementary school level?

- _____ Lesson planning with the assistance of an Elementary Physical Education Specialist
- _____ Observation of an Elementary Physical Education Specialist
- _____ Team teaching with an Elementary Physical Education Specialist
- _____ In-service training on teaching Elementary Physical Education
- _____ Use of a pre-written Elementary Physical Education Curriculum
- _____ Other (please explain)
- _____ Textbooks on teaching Elementary Physical Education
- _____ Attending local, state, or national Physical Education workshops
- _____ Attending local, state, or national Physical Education conferences
- _____ Principal/administrative support
- _____ Teachers aide during physical education class

42. Is there any other in-service or training that would be helpful in planning or teaching physical education at the elementary school level?
Appendix B

Elementary Physical Education Questionnaire for the Principal

Directions: Please answer each question truthfully. There are no correct or incorrect answers. If you have any questions, please ask.

Personal Demographics

1. Sex ___ (male) ___ (female)
2. Race (check one): Anglo-American _____ African-American _____
   Hispanic-American _____ Asian-American _____
   Other (please specify) __________________________

Experience

3. Number of years as a principal: ______________________
4. Number of years teaching: ______________________
5. Subject: ______________________

School Demographics

6. How many students attend your school? _____ 200 or fewer _____ 201-400
   _____ 401-600 _____ 601 or more
7. How many teachers are on your staff? _____ less than 10 _____ 11-20
   _____ 21 or more
8. How many students are in a typical class? _____ 20-24 _____ 25-34
   _____ 35-44 _____ 45 or more

Physical Education Implementation

9. Does a physical education specialist work on your campus? _____ Yes _____ No
10. Is the physical education specialist a credentialed teacher? _____ Yes _____ No
11. Does a psychomotor specialist work on your campus?  ______ Yes ______ No

12. Do you require classroom teachers to provide physical education to their students?  ______ Yes ______ No

13. How many students are in the physical education class?  ______ 20-24 ______ 25-34 ______ 35-44 ______ 45 or more

14. How many days per week is physical education required?  ______ 0-1 ______ 2-3 ______ 4-5

15. How many minutes are the required physical education classes each day?  ______ 0-15 ______ 16-30 ______ 31-45 ______ 46-60 ______ Over 1 hour

16. How many minutes per week do students spend in physical education? (Does not include recess)  ______ 0-60 ______ 61-90 ______ 91-120 ______ 121-150 ______ 151-180 ______ 181 or more

17. How confident do you feel in your classroom teacher’s ability to teach physical education?  ______ Very Confident ______ Confident ______ Average ______ Incompetent ______ Very Incompetent

18. Does your school follow an elementary physical education program?  ______ Yes ______ No

19. If yes, select any of the following that apply:  ______ SPARK ______ CATCH ______ Go Girl Go ______ Written by district physical education specialist ______ Other (please specify): ___________________
20. What equipment is available to teach physical education lessons at the elementary school level?

_____ Basketballs  _____ Soccer Balls  _____ Volleyballs  _____ Softballs
_____ Foam Balls  _____ Cones  _____ Playground Balls  _____ Buckets
_____ Hula Hoops  _____ Portable Stereo  _____ Pre-recorded Music
_____ Bean Bags  _____ Jump Ropes  _____ Tumbling Mats
_____ Foam Noodles  _____ Poly Spots  _____ List any other:

21. Rate the quality of equipment:  _____ Very good  _____ Good
_____ Average  _____ Poor  _____ Very Poor

22. What facilities are available for to teach physical education lessons at the elementary school level?

_____ Classroom  _____ Multi-purpose Room  _____ Gymnasium
_____ Grass Field  _____ Basketball Courts  _____ Playground

23. Rate the quality of facilities:  _____ Very good  _____ Good
_____ Average  _____ Poor  _____ Very Poor

24. Do the facilities and equipment available affect what or how physical education lessons are taught?

_____ Yes  _____ No

25. Please explain how:
26. Are any in services offered to staff on physical education?

   Yes   No

27. If yes, how many per school year?  0-1  2-3  4 or more

Perceptions of Physical Education

28. Complete the following statement checking all that apply: Elementary Physical Education Should:

   ______ Contribute to the development of the whole child
   ______ Give children a fun break from regular school activities
   ______ Provide children with opportunities to learn about health and physical fitness
   ______ Teach motor skills like running, jumping, and throwing
   ______ Develop social skills, such as sharing, taking turns, and cooperating with classmates
   ______ Give students opportunities to play games and sports
   ______ Give students opportunities to be with friends, talk, laugh, and be silly
   ______ Provide opportunities for physical activity
   ______ Be a form of structured recess
   ______ Have no place in the elementary curriculum
   ______ Be an integral part of school education
   ______ Be excluded from elementary school programs
Appendix C

Coding used for teachers and principals survey data.

**Elementary Classroom Teachers Coding**

Categories established were personal demographics, questions 1-2 consist of questions related to gender and race. Coded 1 for male and 2 for female. Race was coded in order appearing on the survey; Anglo-American coded 1, African-American coded 2, Hispanic coded 3, Asian-American coded 4, and any others listed were given a number of 5 or higher.

Experience, questions 3-8, consisted of information on college major, the number of years teaching, grade level taught, and the number of courses taken in physical education. Participants were asked to list their specific major and years of experience in the classroom based on a four point likert scale. Questions on experience were coded from the lowest numbered answer, being coded 1, to the highest, being coded 4.

Personal Activity, questions 9-12, consisted of questions on personal activity level, time spent in exercising, and intensity of exercise. Participants were asked to note their level of personal activity using a three or four point likert scale. Questions on personal activity were coded from the lowest numbered answer, being coded 1, to the highest, being coded 3 or 4, depending on the number of answer options. Very active, coded as 1, moderately active, coded as 2, slightly active, coded as 3, sedentary, coded as 4.

Vigorous, coded as 1, moderate coded as 2, low coded as 3.

Sports participation, questions 13-18, consisted questions on sports participated in, number of years experience, and level of play. Sports participation questions were coded as follows; all yes or no questions were coded 1 for yes and 0 for no. The number of
years at each level, were noted along with the level of participation, high school, university/college, or both. This was done for both interscholastic and intramural participation.

Personal physical education experiences, questions 19-20, consisted of questions on teachers' personal experience during the physical education classes they had participated in. Personal experience questions were coded as follows; no experience coded as 0, very positive, coded as 1, positive, coded as 2, average, coded as 3, negative, coded as 4, and very negative, coded as 5. The reason for choosing a positive or negative experience was listed with the percentage for each response listed.

Teaching physical education, questions 21-37, consisted of questions on their ability to teach physical education, time spent in physical education, numbers of students taught, activities taught in physical education, equipment and facilities available, curriculum taught, and assistance in planning. Questions on teaching physical education were coded as follows; all yes or no questions coded 1 for yes and 0 for no. Multiple choice questions were coded from the lowest numbered answer, being coded 1, to the highest, being coded 5 or 6, depending on the number of answer options. Very confident, coded as 1, confident, coded as 2, average, coded as 3, incompetent, coded as 4, and very incompetent, coded as 5. Very good, coded as 1, good coded as 2, average coded as 3, poor coded as 4, and very poor, coded as 5. One open ended question were not coded, but compared to all other open ended responses. The names of curriculum programs, types of equipment, and facilities will be referenced by their names with percentages for each answer given noted.
Perceptions of physical education, question 38, consisted of a series of statements about physical education. Participants were instructed to check each statement they agree with. Answers are coded from 1 to 12 in the order listed on the survey.

In-service and training, questions 39-42, consisted of questions on the number of in-service and training opportunities offered, rating the effectiveness of in-service and training opportunities. Questions on in-service and training were coded as follows; the lowest numbered answer, being coded 0, to the highest, being coded 2. The scaled questions were coded as follows; not part of the course, coded as 0, very helpful, coded as 1, some what helpful, coded as 2, not helpful, and coded as 3, incompetent. One open-ended question was not coded, but was transcribed and compared to all other open-ended responses for this question to create a list of possible in-service opportunities.

**Elementary School Principals Coding**

Categories established were personal and professional demographics, physical education implementation, and perceptions of physical education. Personal demographics, questions 1-2, consisted of gender and race. Experience, questions 3-5, consisted of information on the number of years as a principal, number of years teaching, and the subject they formerly taught. School Demographics, questions 6-8, consisted of information about the numbers of students and staff at each campus. Data gathered was coded from the lowest numbered answer, being coded 1, to the highest, being coded 3 or 4, depending on the number of answer options. Physical Education Implementation, questions 9-27, consisted of questions about the availability of a physical education specialist or psychomotor specialist, availability of equipment and facilities, number of minutes and days per week spent in physical education, numbers of students participating,
teachers' ability to teach physical education, curriculum used, and in-service opportunities offered. Data was scored as follows; all yes or no questions coded 1 for yes and 0 for no. Questions were coded in order of their placement on the survey, 1 through up to 8.

Answer choices for the likert style questions were coded as follows; very confident, coded as 1, confident, coded as 2, average, coded as 3, incompetent, coded as 4, and very incompetent, coded as 5. Very good, coded as 1, good coded as 2, average coded as 3, poor coded as 4, and very poor, coded as 5. One open ended question were compared to all other respondents. Use of curriculum programs, types of equipment, and facilities were referenced by name with percentages for each answer given noted. Perceptions of physical education, question 28, consisted of a series of statements about physical education. Participants were instructed to check each statement they agree with. Answers were coded from 1 to 12 in the order listed on the survey.
Appendix D

Days Per week and minutes per session of Physical Education

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Days Per week</th>
<th>Minutes Per Session</th>
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</thead>
<tbody>
<tr>
<td>Teacher A</td>
<td>5</td>
<td>16-30</td>
</tr>
<tr>
<td>Teacher B</td>
<td>2</td>
<td>0-15</td>
</tr>
<tr>
<td>Teacher C</td>
<td>1</td>
<td>16-30</td>
</tr>
<tr>
<td>Teacher D</td>
<td>2</td>
<td>16-30</td>
</tr>
<tr>
<td>Teacher E</td>
<td>1</td>
<td>16-30</td>
</tr>
<tr>
<td>Teacher F</td>
<td>1</td>
<td>16-30</td>
</tr>
<tr>
<td>Teacher G</td>
<td>3</td>
<td>0-15</td>
</tr>
<tr>
<td>Teacher H</td>
<td>1</td>
<td>16-30</td>
</tr>
<tr>
<td>Teacher I</td>
<td>5</td>
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<tr>
<td>Teacher J</td>
<td>3</td>
<td>16-30</td>
</tr>
<tr>
<td>Teacher K</td>
<td>2</td>
<td>31-45</td>
</tr>
<tr>
<td>Teacher L</td>
<td>3</td>
<td>16-30</td>
</tr>
<tr>
<td>Teacher M</td>
<td>2</td>
<td>0-15</td>
</tr>
<tr>
<td>Teacher N</td>
<td>3</td>
<td>16-30</td>
</tr>
<tr>
<td>Teacher O</td>
<td>2</td>
<td>16-30</td>
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</table>
Appendix E

Equipment and facilities available to elementary classroom teacher for physical education lessons.

Table 4. Equipment used by teachers for physical education lessons

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<thead>
<tr>
<th>Equipment</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Basketballs</td>
<td>33%</td>
</tr>
<tr>
<td>Soccer Balls</td>
<td>40%</td>
</tr>
<tr>
<td>Volleyballs</td>
<td>20%</td>
</tr>
<tr>
<td>Softballs</td>
<td>13%</td>
</tr>
<tr>
<td>Foam balls</td>
<td>40%</td>
</tr>
<tr>
<td>Cones</td>
<td>40%</td>
</tr>
<tr>
<td>Polyground Balls</td>
<td>93%</td>
</tr>
<tr>
<td>Buckets</td>
<td>0%</td>
</tr>
<tr>
<td>Hula Hoops</td>
<td>20%</td>
</tr>
<tr>
<td>Portable Stereo</td>
<td>53%</td>
</tr>
<tr>
<td>Pre-Recorded Music</td>
<td>33%</td>
</tr>
<tr>
<td>Bean Bags</td>
<td>53%</td>
</tr>
<tr>
<td>Jump Ropes</td>
<td>80%</td>
</tr>
<tr>
<td>Tumbling Mats</td>
<td>0%</td>
</tr>
<tr>
<td>Foam Noodles</td>
<td>0%</td>
</tr>
<tr>
<td>Poly Spots</td>
<td>0%</td>
</tr>
<tr>
<td>Other</td>
<td>7%</td>
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Table 5. Facilities used by teachers for physical education lessons

<table>
<thead>
<tr>
<th>Facility</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>Classroom</td>
<td>73%</td>
</tr>
<tr>
<td>Multipurpose Room</td>
<td>26%</td>
</tr>
<tr>
<td>Gym</td>
<td>0%</td>
</tr>
<tr>
<td>Grass Field</td>
<td>53%</td>
</tr>
<tr>
<td>Basketball Courts</td>
<td>40%</td>
</tr>
<tr>
<td>Playground</td>
<td>100%</td>
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Table 6. Equipment availability according to principals

<table>
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<tr>
<th>Equipment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basketballs</td>
<td>100%</td>
</tr>
<tr>
<td>Soccer Balls</td>
<td>100%</td>
</tr>
<tr>
<td>Volleyballs</td>
<td>100%</td>
</tr>
<tr>
<td>Softballs</td>
<td>33%</td>
</tr>
<tr>
<td>Foam balls</td>
<td>0%</td>
</tr>
<tr>
<td>Cones</td>
<td>100%</td>
</tr>
<tr>
<td>Polyground Balls</td>
<td>100%</td>
</tr>
<tr>
<td>Buckets</td>
<td>0%</td>
</tr>
<tr>
<td>Hula Hoops</td>
<td>100%</td>
</tr>
<tr>
<td>Portable Stereo</td>
<td>100%</td>
</tr>
<tr>
<td>Pre-Recorded Music</td>
<td>0%</td>
</tr>
<tr>
<td>Bean Bags</td>
<td>0%</td>
</tr>
<tr>
<td>Jump Ropes</td>
<td>100%</td>
</tr>
<tr>
<td>Tumbling Mats</td>
<td>66%</td>
</tr>
<tr>
<td>Foam Noodles</td>
<td>0%</td>
</tr>
<tr>
<td>Poly Spots</td>
<td>0%</td>
</tr>
<tr>
<td>Other</td>
<td>33%</td>
</tr>
</tbody>
</table>

Table 7. Facilities available to teachers for physical education lessons according to principals

<table>
<thead>
<tr>
<th>Facility</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom</td>
<td>33%</td>
</tr>
<tr>
<td>Multipurpose Room</td>
<td>100%</td>
</tr>
<tr>
<td>Gym</td>
<td>0%</td>
</tr>
<tr>
<td>Grass Field</td>
<td>66%</td>
</tr>
<tr>
<td>Basketball Courts</td>
<td>100%</td>
</tr>
<tr>
<td>Playground</td>
<td>100%</td>
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</table>