

## Southern California Elementary Physical Education Specialists and Non-Specialists: Beliefs and Behaviors of the Ideal Purpose and Actual Function of Elementary Physical Education

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### Abstract

This study explored the beliefs and behaviors of elementary physical education providers in California relative to the purpose and function of elementary physical education. Research on these types of beliefs and behaviors is important because of the implications on physical education programs conducted in the elementary schools. Properly implemented physical education has been demonstrated to have a positive impact on the fitness levels and motor skill development of students, and such education may lead to the habituation of lifelong physical activity. Randomly selected teachers in southern California school districts completed a three-part questionnaire assessing their beliefs and behaviors regarding the ideal purpose and actual function of elementary physical education. Results of this study indicate that participants were aware of the importance of physical education, but overall, failed to exhibit behaviors that matched their beliefs. These results are pertinent because, in many school districts, primarily non-specialists will be providing physical education instruction at the elementary level. Understanding the beliefs of non-specialists will help university teacher education programs identify programmatic changes to better prepare elementary school teachers.

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*Keywords: physical education, specialists, non-specialists, elementary education*

### Introduction

There is a critical need for physical and fitness development in children. However, little emphasis has been placed on elementary physical education in the United States. The American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD) assessed physical education requirements in each of the 50 states and the District of Columbia. The results of the assessment indicated that only one state, Illinois, required daily physical education for all students (this requirement was later dropped) (AAHPERD, 1994; National Association for Sport and Physical Education [NASPE], 1998).

From an administrator's point of view, physical education has been seen as a somewhat dispensable part of the school curriculum and

the standards of excellence held for academic staff do not necessarily apply to physical education teachers (Sallis, McKenzie, Kolody, & Curtis, 1996). As a result, there are many non-specialists working in the field who may not have been adequately trained, or who may not have time to develop a quality curriculum. As a result, the status of physical education is further undermined, and it "does" become dispensable if it fails to teach students specific skills. However, there is a growing number of physical education providers who are attempting to address this dilemma by developing new curricula, new forms of assessment, and innovative teaching methods which, not only encourage physical fitness, but also aim to improve students' social skills and self-esteem (Corbin, 1995). Additionally, physical education specialists are working to create more "emotionally safe"

learning environments, where all students will feel challenged, but not be overwhelmed by the activities. At a time when the majority of Americans is not physically fit, and despite the well-known health risks associated with sedentary lifestyles, physical education must be considered an invaluable part of school curriculum, and physical education teachers should be required to meet high standards of expertise (Corbin, 1995).

NASPE (1995) listed descriptions and guidelines of what is considered a physically educated student. A quality physical education program focuses on health-related fitness, behavioral competencies and the motor skills needed for lifelong engagement in healthy and satisfying physical activity. NASPE (1998) asserted that quality physical education programs are integral to the total education of a child. Through the NASPE guidelines, a physical educator must teach toward educating the “whole child,” and that can be accomplished through four domains: psychomotor, cognitive, affective, and social. Physical education providers with strong beliefs about the true purpose of physical education may follow and meet these guidelines through their professional behaviors. If the common belief system set forth by NASPE is not present among physical educators, it will be difficult to produce physically educated students. However, none of this can occur without educators who have a solid foundation of what type of curriculum should be presented.

The distinguishing factors between physical education specialists and non-specialists are quite simple. The title of specialist refers to teachers who have completed the requirements of an accredited physical education program, are state certified/credentialed within the field of physical education, or are hired as full time physical education instructors. Specialists are said to have a bachelor’s degree in physical education, have had extensive practical experience, and are knowledgeable about cutting edge research in the field (Ross, Pate, Corbin, Delpy, & Gold, 1987). Conversely, the term non-specialist has come to refer to classroom teachers and other educators who are teaching

physical education but who do not have any significant training in the field, and who are, most likely, teaching physical education because of schools’ budgetary constraints or inadequate staffing (Bain, 1980; Magnotta, 1993).

It seems, on the surface, that in many aspects of elementary physical education there are distinct differences between specialists and non-specialists. The curricular choices, level of feedback, and academic learning time (ALT) are all critical issues to be studied. However, the basis for these differences may be easily explained. Is it possible these differences may be based on what the physical education teacher believe to be the purpose of elementary physical education?

What physical educators believe about the purpose of physical education is the most important aspect to examine within the overall belief system (Placek et al., 1994). Based, in part, from personal experiences in K-12 physical education programs, an educator’s beliefs about physical education purposes will likely influence the behavioral decisions those teachers make about curriculum and instruction (Pajares, 1992). Thus, these beliefs and behaviors can have a lasting impact on school physical education programs. Programs may be influenced by what teachers know about the health and movement capabilities of our nation’s children. Healthy People 2010 (U.S. Department of Health and Human Services [USDHHS], 1998) was released in order to focus public attention on the current health of our nation and to demonstrate ways to achieve a healthy lifestyle.

Elementary physical education programs grounded in the NASPE philosophy will help to promote several Healthy People 2010 goals such as health, well being, and academic achievement later in life (USDHHS, 1998). The Surgeon General’s Report (USDHHS, 1996) stated that an active lifestyle can drastically decrease the risk of many life-threatening diseases. Quality physical education programs may help elementary students develop a positive attitude about the importance of daily physical activity and establish the good habits of a physically fit person. Competent young movers may become

competent adult movers who may lead healthier, longer, and more satisfying lives (Gallahue, 1996). Therefore, physical educators should teach children to be skillful and knowledgeable movers. Personal beliefs about the purpose of physical education and the behaviors that emerge from those beliefs may aid in identifying those teachers who will enable students to become physically educated.

A review of the literature revealed minimal information pertaining to beliefs about the purpose of physical education among elementary physical education specialists and non-specialists. In fact, only six previous studies with participants in various teaching roles have been conducted on this topic. Those studies examined beliefs of physical educators, college professors, and physical education majors (future physical education specialists) about the purpose of physical education, while none of those studies focused on the beliefs of non-specialists or purposes specific for elementary physical education (Ennis, 1985; Goc-Karp, Kim, & Skinner, 1985; Hutchinson, 1991; Loucks, 1979; Placek et al., 1994; Wilson, 1969).

The purpose of this study was three-fold: a) to determine if there were differences/similarities in the beliefs about the ideal purpose of physical education among elementary physical education specialists and non-specialists; b) to examine differences/similarities in the actual function of elementary physical education classes as documented by individual behaviors of specialists and non-specialists; and c) to compare the differences/similarities between the ideal purposes and actual functions of elementary physical education for both specialists and non-specialists.

## **Methodology**

### **Study Population**

Participants for this study were elementary classroom and elementary physical education teachers from school districts within Southern California. A list of the names and schools of teachers responsible for teaching physical education at the elementary level was requested through the districts. Random sampling was then used to determine what schools and individual

teachers to poll. A total of 582 physical education instructors were selected (235 specialists and 347 non-specialists). The self administered questionnaire was administered as a means of collecting data for this cross-sectional research design. The questionnaire was sent out to the randomly selected physical education providers in Southern California. This study was approved by the Institutional Review Board and Doctoral Committee at the University of New Mexico. Prior to testing, subjects received explanations of the testing procedures and written informed consent was obtained from all participants.

### **Procedures**

In order to collect the quantitative data, a survey instrument was designed for this study. The questionnaire was designed to measure differences/similarities in beliefs and behaviors of physical education teachers regarding the ideal purpose(s) and actual function(s) of elementary physical education. The questionnaire was constructed during the summer and fall of 1999. In the construction of the questionnaire the items were generated from several sources.

### **Statistical Analysis**

As the questionnaires were completed and returned by the participants, the responses to the questionnaire were tabulated and subjected to statistical analysis. The data were analyzed using the Mini-Tab computer software package. Missing data were identified when the questionnaire was returned. Items were coded as missing if it was determined that the participant omitted an answer.

Descriptive statistics were used to describe and summarize the demographic information of the participants for Part I of the questionnaire. An independent t-test, sign test for the mean, and chi-square test were used to evaluate the specialists and non-specialists for homogeneity in basic structure: a) ethnicity, b) gender, c) education, and d) years of experience

Part II of the questionnaire addressed rating the ideal purposes of elementary physical education. Descriptive statistics were computed to

determine mean, standard deviation, and percentiles for all eight ideal purposes. When answering Research Question 1, "What are the differences/similarities held by elementary specialists and non-specialists regarding personal beliefs for the purpose of elementary physical education?" an independent t-test examined the differences/similarities between specialist and non-specialist participants. A level of significance of .05 was used to determine whether to accept or reject the research question.

Part III of the questionnaire addressed the actual purpose, or behaviors demonstrated by the teacher. Descriptive statistics were used to determine mean, standard deviation, and percentiles for both specialists and non-specialists. Research Question 2, "When considering the actual function of elementary physical education, what similar/different behaviors do specialists and non-specialists exhibit?" was also answered using an independent t-test to summarize the responses (5) belonging to each ideal. A level of significance of .05 was used to determine whether to accept or reject the research question. Finally, Research Question 3 asked: "What are the differences/similarities demonstrated by specialists and non-specialists to their respective beliefs about the ideal purpose and the actual function of elementary physical education?" A paired (dependent) t-test was utilized to check for consistency in responses to Ideal Purposes and Actual Functions for each group. A level of significance of .05 was used to determine whether to accept or reject the research question.

## Results

A total of 582 questionnaires were mailed to current teachers in elementary schools, 235 specialists and 347 non-specialists. One hundred and six participants returned the study questionnaire. Ninety-two questionnaires were

returned completed in entirety while 14 questionnaires were returned incomplete and were not included in the analysis. The response rate for this study was 15.8%.

The participants were divided into two groups, specialists (n = 39, 42.4%) and non-specialists (n = 53, 57.6%). Of the participants in the specialist group, 29 (74%) were females and 10 (26%) were males. In the non-specialists group, there were 42 (79%) females and 11 (21%) males. The participants surveyed were primarily Caucasian (n = 76), although people of other ethnicities did respond (n = 16).

The educational levels of both specialists and non-specialists varied from completion of a bachelor's degree to the completion of a master's degree. The participants were asked to list the college degree(s) received. All 39 (100%) of the physical education specialists received undergraduate degrees in physical education while non-specialists reported a wide assortment of undergraduate degrees earned.

Non-specialists reported on the number of undergraduate physical education classes required for degree completion. The range of classes was from zero to three. The number of years participants had been teaching (not specific to physical education) was reported in three sub-categories: a) 0-3 years, b) 4-7 years, and c) 8 or more years.

## Research Questions

Research question 1: "What are the differences/similarities held by elementary specialists and non-specialists regarding personal beliefs for the ideal purpose of elementary physical education?" was evaluated using a two-sample independent t-test for each of the eight sub-categories. The results are provided in Figure 1 and Table 1.

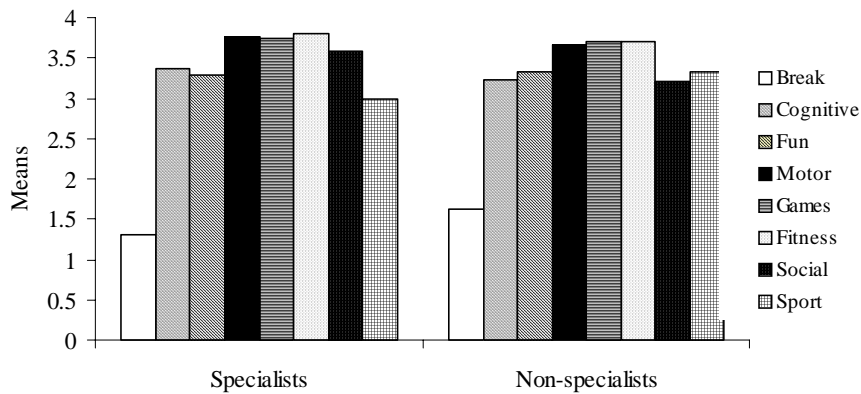


Figure 1

Mean responses of specialists and non-specialists for the ideal purpose of break, cognitive, fun, motor, games, fitness, social, and sport in elementary physical education.

Table 1  
Results for the Ideal Purpose of Elementary Physical Education

Category	Population	Mean	SD	p-Value
Break/Recess	Specialists	1.31	0.70	0.05
	Non-specialists	1.62	0.81	
Cognitive knowledge	Specialists	3.36	0.63	0.36
	Non-specialists	3.23	0.75	
Enjoyment/Fun/Recreation	Specialists	3.28	0.79	0.81
	Non-specialists	3.32	0.73	
Motor skill & movement forms development	Specialists	3.77	0.49	0.30
	Non-specialists	3.66	0.52	
Participate in games and physical activity	Specialists	3.74	0.50	0.68
	Non-specialists	3.70	0.54	
Physical fitness/Value lifelong physical activity	Specialists	3.80	0.57	0.40
	Non-specialists	3.70	0.50	
Social interaction/ Personal development	Specialists	3.60	0.60	0.01
	Non-specialists	3.21	0.63	
Sport skill development	Specialists	3.00	0.83	0.05
	Non-specialists	3.32	0.64	

Note. Ideal purpose was rated on a four-point Likert scale: 1 = No purpose, 2 = Tertiary purpose, 3 = Secondary purpose, and 4 = Primary purpose.

Both specialists and non-specialists appropriately identified that a break or recess period should not be considered a primary or secondary outcome of elementary physical education. Both groups accurately rated both motor skill development and physical fitness,

giving both high scores, indicating that both would be primary outcomes at the elementary level.

Research question 2: “When considering the actual function of elementary physical

education, what different/similar behaviors do specialists and non-specialists exhibit?" was examined using a two-sample independent t-test. Figure 2 and Table 2 include information for each category. The results for research question

two indicated that there were more differences than similarities in behaviors among specialists and non-specialists. Out of the eight categories six proved to be significantly different.

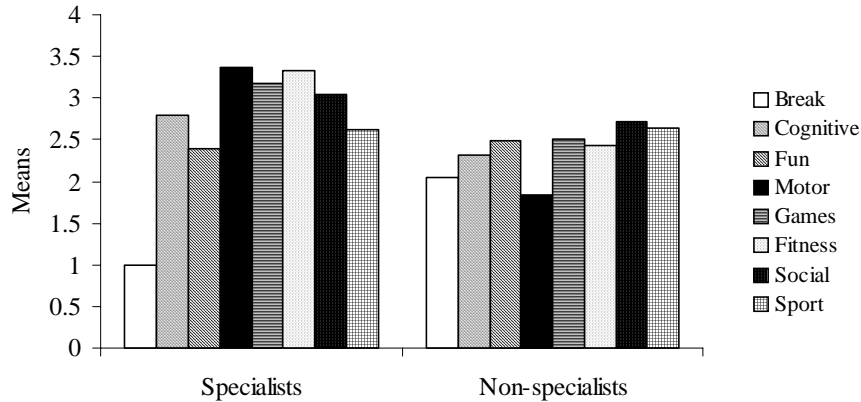


Figure 2

Mean responses of specialists and non-specialists for the actual function of break, cognitive, fun, motor, games, fitness, social, and sport in elementary physical education.

Table 2  
Results for the Actual Function of Elementary Physical Education

Category	Population	Mean	SD	p-Value
Break/Recess	Specialists	1.00	0.01	0.001
	Non-specialists	2.04	1.02	
Cognitive knowledge	Specialists	2.80	0.62	0.001
	Non-specialists	2.32	0.67	
Enjoyment/Fun/Recreation	Specialists	2.39	0.67	0.464
	Non-specialists	2.49	0.70	
Motor skill & movement forms development	Specialists	3.36	0.78	0.001
	Non-specialists	1.83	0.98	
Participate in games and physical activity	Specialists	3.18	0.45	0.001
	Non-specialists	2.51	0.72	
Physical fitness/Value lifelong physical activity	Specialists	3.33	0.58	0.001
	Non-specialists	2.43	0.75	
Social interaction/ Personal development	Specialists	3.05	0.65	0.024
	Non-specialists	2.72	0.74	
Sport skill development	Specialists	2.62	0.71	0.878
	Non-specialists	2.64	0.92	

Note. Actual function was rated on a four-point Likert scale: 1 = Rarely, 2 = Occasionally, 3 = Often, and 4 = Frequently.

Research question 3: “What are the differences/similarities demonstrated by specialists and non-specialists to their respective beliefs about the ideal purpose and the actual function of elementary physical education?” contrasted the mean scores for actual function of elementary physical education to the mean scores for the ideal purpose of elementary

physical education. Each group was analyzed independently, therefore, specialists and non-specialists were not compared. Specialist and non-specialists were analyzed using a paired t-test. The results for the specialists are in Figure 3 and Table 3, results for non-specialists’ are provided in Figure 4 and Table 4.

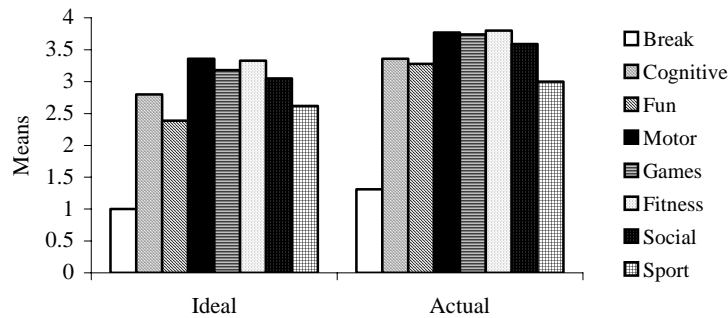


Figure 3

Mean responses of specialists for the ideal purpose and actual function of break, cognitive, fun, motor, games, fitness, social, and sport in elementary physical education.

Table 3

Results Comparing Ideal Purpose and Actual Function of Physical Education Specialists

Category	Population	Mean	SD	p-Value
Break/Recess	Ideal purpose	1.31	0.70	0.009
	Actual function	1.00	0.01	
Cognitive knowledge	Ideal purpose	3.36	0.63	0.001
	Actual function	2.80	0.62	
Enjoyment/Fun/Recreation	Ideal purpose	3.28	0.79	0.001
	Actual function	2.39	0.67	
Motor skill & movement forms development	Ideal purpose	3.77	0.49	0.001
	Actual function	3.36	0.78	
Participate in games and physical activity	Ideal purpose	3.74	0.50	0.001
	Actual function	3.18	0.45	
Physical fitness/Value lifelong physical activity	Ideal purpose	3.80	0.57	0.002
	Actual function	3.33	0.58	
Social interaction/ Personal development	Ideal purpose	3.60	0.60	0.001
	Actual function	3.05	0.65	
Sport skill development	Ideal purpose	3.00	0.83	0.012
	Actual function	2.62	0.71	

Note. Ideal purpose was rated on a four-point Likert scale: 1 = No purpose, 2 = Tertiary purpose, 3 = Secondary purpose, 4 = Primary purpose and Actual function was rated on a four-point Likert scale where 1 = Rarely, 2 = Occasionally, 3 = Often, 4 = Frequently.

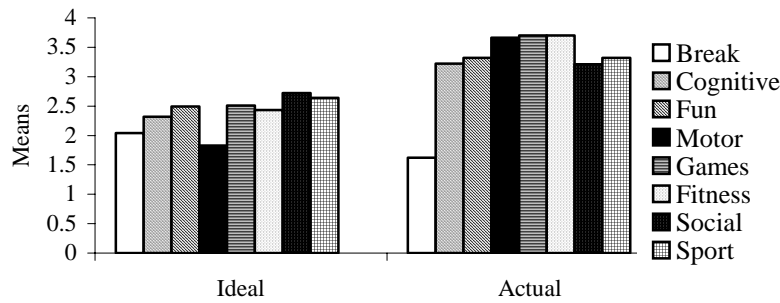


Figure 4

Mean responses of non-specialists for the ideal purpose and actual function of break, cognitive, fun, motor, games, fitness, social, and sport in elementary physical education.

Interestingly, all actual functions mean scores for specialists were significantly lower than the ideal purpose scores. However, even though the actual function mean scores were lower than the ideal purpose scores, the actual function scores for four categories (motor skill development, participation in physical activity, social interaction and physical fitness were in the

primary to secondary range (often taught range), with three more categories (cognitive knowledge, enjoyment, and spot skill development) in the tertiary to secondary range (occasionally taught). These findings indicate that teachers are frequently addressing major categories that should be emphasized in elementary physical education.

Table 4

Results Comparing Ideal Purpose and Actual Function of Physical Education Non-Specialists

Category	Population	Mean	SD	p-Value
Break/Recess	Ideal purpose	1.62	.081	0.051
	Actual function	2.04	1.02	
Cognitive knowledge	Ideal purpose	3.23	0.75	0.001
	Actual function	2.32	0.67	
Enjoyment/Fun/Recreation	Ideal purpose	3.32	0.73	0.001
	Actual function	2.49	0.70	
Motor skill & movement forms development	Ideal purpose	3.66	0.52	0.001
	Actual function	1.83	0.98	
Participate in games and physical activity	Ideal purpose	3.70	0.54	0.001
	Actual function	2.51	0.72	
Physical fitness/Value lifelong physical activity	Ideal purpose	3.70	0.50	0.001
	Actual function	2.43	0.75	
Social interaction/ Personal development	Ideal purpose	3.21	0.63	0.001
	Actual function	2.72	0.74	
Sport skill development	Ideal purpose	3.32	0.64	0.001
	Actual function	2.64	0.92	

Note. Ideal purpose was rated on a four-point Likert scale: 1 = No purpose, 2 = Tertiary purpose, 3 = Secondary purpose, 4 = Primary purpose and Actual function was rated on a four-point Likert scale: 1 = Rarely, 2 = Occasionally, 3 = Often, 4 = Frequently.



Similar to the specialists, the actual functions mean scores of non-specialists were significantly lower than the ideal purpose scores, with one exception, break/recess. It is important to emphasize a few of the major findings of this section. First, non-specialists focus on sports skill development and social interaction skills more than the other categories. Second, the motor skill development category was addressed the least, falling in the rarely taught category, while physical fitness was addressed only occasionally. This is important because they indicated that motor skill development and physical fitness were primary outcomes, but only structured activities that addressed these categories occasionally.

The results from the three research questions indicated that both groups, specialists and non-specialists, primarily recognize the correct ideal purposes for elementary physical education. However, the actual function of physical education does not correspond with their stated ideals. Based on the frequency that the categories were addressed, it seems that specialist out-performed non-specialist in the areas of motor skill development and physical fitness, two major areas of elementary physical education.

## **Discussion**

### **Ideal Purpose of Elementary Physical Education**

The first research question investigated the differences/similarities in beliefs of physical education specialists and non-specialists about the ideal purpose of elementary physical education. This research indicated that there were very few differences in beliefs between specialists and non-specialists in this area. The research noted that regardless of teacher training and years of experience, physical educators have different beliefs about the purpose of physical education (Loucks, 1979; Wilson, 1969). It is extremely important to examine an educator's beliefs because they are difficult to change, and they may influence the teacher's behaviors toward future physical education experiences (Placek et al., 1994). Additionally, the beliefs teachers hold influences their perceptions and

judgments, which in turn, affect teacher behavior in the classroom (Pajares, 1992).

The beliefs of non-specialists have not previously been examined. In this current study non-specialists reported similar beliefs when compared to the specialists, although there were three themes where there were significant differences. The three areas that were significantly different were Break/Recess, Social Interaction/Personal Development, and Sport Skill Development. The possible reasons for these areas to differ may include, but are not limited to the possibility that non-specialists may not be comfortable teaching physical education, but realize that students need to improve fitness and motor skills. They, therefore, use physical education as a time for students to move freely. Additionally, teachers may not have the time or knowledge to prepare appropriate lessons. Consequently, they choose not to prepare and offer free time or break-time instead.

### **Actual Function of Elementary Physical Education**

This research supported previous research regarding the differences in behaviors between specialists and non-specialists on motor skill development (McKenzie et al., 1998), physical fitness opportunities (McKenzie et al., 1997), and break/recess time (Faucette & Hillidge, 1989). This study helps confirm that as training specific to physical education increased so did the different behaviors of specialists and non-specialists. Six of the eight categories in this study determined significant differences between the specialists and non-specialists on actual functions. There are many possible explanations for these beliefs.

One possibility may be that specialists enter the field of physical education having a strong background in sports/athletics. Most specialists already believe that physical education and activity are important (O'Sullivan, Stroot, & Tannehill, 1989). They may be more comfortable movers as compared to non-specialists and are more comfortable moving with the students. Additionally, specialists may

have a coaching background or interest which could also affect what and how they teach.

Non-specialists may differ from specialists in that the non-specialists may have limited experience or interest in the area of physical education. It is likely that they have had only one physical education class during their college education. Non-specialists may not have a reference point for how to lead appropriate physical education. Another concern may be that non-specialists had little or no personal participation in organized athletic programs, leisure activities, and/or recreational activities. This could explain why they may not be comfortable in a movement environment.

#### **Ideal Purpose versus Actual Function**

The current study supported that there is little or no relationship between belief systems and teaching practices. Although the response of specialists and non-specialists were similar with regard to the ideal purposes of elementary physical education, indicated behaviors did not statistically coincide with beliefs. Inconsistent with previous research (McKenzie, LaMaster, Sallis, & Marshall, 1999; Pajares, 1992), this study found that both specialists and non-specialists fail to act in conjunction with their beliefs. There are several possible reasons for these findings.

This lack of consistency may be attributed to a lack of training, administrative support, laziness, or inadequate supplies and facilities. There are several steps an administrator can take to resolve some of these issues. First, administrators need to understand the importance and benefits of a quality physical education program. A quality program benefits both the students and the faculty. Second, employment of physical education specialists could be a first step toward the development of a quality program. Third, with or without specialists in the schools, professional development opportunities that stress the most current research, methods, and activities should be provided. Local colleges/universities, specialists working in other schools, and local, state or national conferences may provide such training.

Unexpectedly, the specialists' mean scores for "actual function" were higher than their stated "ideal purpose" in all eight categories. Surprisingly, specialists reported a large difference between the ideal purpose and actual function of "Enjoyment/Fun/Recreation" as a function of elementary physical education. Although fun may be a component of a quality physical education program, it is interesting that specialists would rate themselves higher in that area than what their stated ideals. Based on current literature (Graham, Holt/Hale, & Parker, 2001) elementary physical education is based on the learning of motor skill themes, movement concepts, and fitness concepts. Specialists may believe that if the activities they allow students to participate in are fun, they will get a better response from them. Specialists may not want students to view physical education as work, but structure the class so students always have a positive experience and therefore will want to be engaged while in class and to continue being active outside of physical education class.

One consideration that may affect what and how a teacher teaches is the student teaching experience. Pre-service teachers are sent out for a student teaching experience with the intention that they will get to practice the theory that they have learned during their education. However, within the student teaching experience, the influence the cooperating teacher has on the pre-service teacher may washout all previously learned information. The new physical education specialist will continue to emulate their cooperating teacher instead of appropriately addressing the current needs of elementary physical education. As with the non-specialists, continued education about what is considered developmentally appropriate elementary physical education should be provided to physical education providers, regardless of how long they have been in the profession.

These findings are significant since research comparing ideal purposes with actual behaviors has not previously been conducted with non-specialists. This study's data can be used as a starting point for future research. Elementary classroom teachers (non-specialists) in California provided physical education to 97%

of the elementary population in 1988 (Faucette & Patterson, 1989) and 95% of the population in 1999 (California State Board of Education, 2000). Ennis (1985) and Doolittle, Dodds, and Placek (1993) determined that an individual's own background, experiences, and abilities most influence what is taught. Since many non-specialists may not have had positive, worthwhile physical education experiences, they may not know what or how to deliver a quality physical education unit. This finding has implications for education of undergraduate majors and what kinds of in-services are appropriate to help train non-specialists.

Physical education coursework & application training are critical aspects in teacher education due to the fact that this is where future teachers learn about the impact of physical education on the whole child (cognitive, affective, psychomotor, social). If teachers are only taught theory and do not know how to apply theory in the classroom, it is likely they will not use it. More than one physical education class is needed for students to understand how to apply the concepts. However, if only one class is required, then it is critical that the following areas be included: a) skill themes and movement concepts, b) fitness concepts, c) developmentally appropriate practices, d) confluent education, e) the national/state standards, and f) practical experiences. Teachers that have more physical education background in their undergraduate programs may find it easier to apply the principles in their classrooms (Faucette & Hillidge, 1989).

### **Limitations**

This study had several limitations that may have influenced the findings. First, the total response rate was 16%. Response rates for mail surveys are quite varied, ranging from as low as 10 percent to as high as 90 percent (Fraenkel & Wallen, 2000). There may be several reasons for the low response rate. A major concern was that the principals who agreed to be involved in the study may not have distributed the questionnaire packets as requested. Another implication is that the non-specialists who responded may be aware of the purpose of physical education and therefore more apt to

provide physical education to the students than other non-specialists. The participants who chose to respond may be more interested in and less intimidated by physical education than those potential participants that chose not to respond. Second, the study did not compare individual's responses specific to the grade level taught. The grade level an individual teaches ideally will be affected by the standards and/or goals of physical education. A third limitation was that it was limited to physical education providers in Southern California. It may be difficult to generalize the findings of this study to populations outside the state of California due to the variation of state standards. The fourth limitation related to generalizability since most of the respondents were Caucasian (83%). A final concern was that individuals were not evaluated based on direct observations, rather, completed a questionnaire independently. The accuracy in which specialists and non-specialists responded to the survey may have led to the misrepresentation of information. Therefore the concern of participants providing socially desirable answers is a possibility and future research must verify the accuracy of these findings and develop a better understanding of teachers' beliefs and applications of physical education.

### **Conclusion**

Research on beliefs and behaviors of elementary physical education providers is important because of the implications it has on the physical education program conducted in the elementary schools. Elementary physical education that is appropriately provided, based on instruction, feedback, and time on task, has been shown to have an impact on fitness levels (McKenzie et al., 1997), motor skill development (McKenzie et al., 1998) and lifelong physical activity (Gallahue, 1996). The results of this study indicate that more research needs to be conducted in the area of applying one's ideal beliefs. Doolittle et al. (1993) determined that an individual's behavior is typically a reaction to a belief. However, in this study the participants seemed to understand the importance of physical education but, overall, did not implement the behaviors that matched their personal beliefs. This is important to know because in many

school districts non-specialists will primarily be providing physical education instruction at the elementary level. As such, understanding the beliefs of non-specialists will help university

teacher education programs identify programmatic changes that may better prepare elementary school teachers.

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