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IMPACT OF STANDARDS ON PHYSICAL EDUCATION TEACHER  
EDUCATION: CURRICULUM, COLLABORATION,  
AND LEARNING OUTCOMES

by

Xiangren Yi

A Dissertation  
Submitted to the  
Faculty of The Graduate College  
in partial fulfillment of the  
requirements for the  
Degree of Doctor of Education  
Department of Teaching, Learning, and Leadership

Western Michigan University  
Kalamazoo, Michigan  
April 2005

IMPACT OF STANDARDS ON PHYSICAL EDUCATION TEACHER  
EDUCATION: CURRICULUM, COLLABORATION,  
AND LEARNING OUTCOMES

Xiangren Yi, Ed.D.

Western Michigan University, 2005

Standards are sweeping across the physical education teacher education field. The purpose of this study was to investigate whether national standards had influenced a change of curriculum, and whether curriculum changes were related to standards, individual or institutional variables. The analysis will also identify whether there are any individual and institutional characteristics that are significant predictors for determining curriculum. This study's targeted participants are a random sample of 110 program directors working in institutions that have a Physical Education Teacher Education program.

Differences were found to exist in directors' perceptions regarding curriculum. Descriptive statistics and ANOVA analysis demonstrated the impact of standards on curriculum changes. Technology has yielded a significant impact on changes in teaching, curriculum, and content selection. The Pearson correlation indicated that planning and instruction is significantly correlated with course changes. Multiple regressions revealed that reflection was a significant positive predictor ( $P = 0.005$ ) and planning and instruction was a significant negative predictor ( $P = 0.005$ ) for course changes. These predictors accounted for 20.4% of variance.

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Xiangren Yi

## TABLE OF CONTENTS

ACKNOWLEDGMENTS .....	ii
LIST OF TABLES .....	vii
CHAPTER	
I. INTRODUCTION .....	1
Background .....	1
Statement of the Problem .....	7
Significance of the Study .....	9
Questions of Research.....	10
II. REVIEW OF LITERATURE .....	11
PETE Reform through Standards.....	11
Standard-based Reform in 1980's .....	12
Standard-based Reform from 1990's to Present.....	13
Factors Influencing Teacher Education Reform .....	15
Policy and Leadership .....	15
Teacher Context .....	17
Teacher Thinking .....	18
Beginning Teacher Standards and Characteristics of Curriculum .....	23
General Studies.....	24
Content Studies.....	26

## Table of Contents—continued

CHAPTER	
Professional Studies.....	27
Integrative Studies .....	29
Standards and K-12 Content Standards on Collaboration .....	30
Efforts for Collaboration .....	30
Collaboration in Teacher Education .....	32
Scope of Collaboration of Standards for PETE.....	33
Content Knowledge.....	35
Diverse Students.....	37
Management and Motivation.....	38
Planning and Instruction.....	41
Collaboration and Coherence among Standards.....	43
Teacher Standards and Learning Outcomes .....	45
Learning Outcomes as Long Term/ General Impact.....	46
Learning Outcomes as Professional Performance .....	48
Learning Outcomes and Learning Experiences .....	49
Learning Outcomes, Knowledge Areas and Assessment .....	52
Knowledge Areas .....	52
Program Assessment .....	54
Summary .....	57
III. METHODOLOGY .....	58



## Table of Contents—continued

CHAPTER		
	Participants .....	58
	Instrument Development .....	59
	Validity and Reliability .....	61
	Data Collection .....	62
	Data Analysis .....	63
	Limitation of the Study .....	65
IV. RESULTS .....		66
	Question 1 .....	68
	Number of Courses Changed Due to Standards .....	68
	Three Standards and K-12 Content Standards on Curriculum Changes .....	69
	Three Standards and Other Standards Comparison on Curriculum Changes .....	70
	Question 2 .....	72
	ANOVA Analysis for Curriculum Changes by Individual and Institutional Variables .....	73
	Question 3 .....	76
	Multiple Regression for Curriculum Changes and Initial Standards .....	76
	Multiple Regression for Curriculum and Other Variables .....	79
V. CONCLUSION .....		82
	Recommendation .....	86

Table of Contents—continued

APPENDICES

A. Physical Education Teacher Education Program Standards Survey.....	88
B. Survey Cover Letter.....	93
C. Follow Up Letter.....	95
D. Human Subjects Institutional Review Board Approval Letter .....	97
E. Consent Form .....	99
F. Data Record Form.....	101
BIBLIOGRAPHY .....	104

## LIST OF TABLES

1. Percentage of Institutions with Course Changes .....	69
2. Average Number of Content Knowledge, Diverse Students and Management & Motivation.....	70
3. A Comparison of Means of Sub-standards.....	71
4. A Comparison of Means of Ten Standards.....	71
5. One-way ANOVA Analysis for Course Changes by Individual and Institutional Variables.....	73
6. Two-way ANOVA Analysis for Course Changes by Individual and Institutional Variables.....	75
7. Correlation Matrix for Course Changes and Standards Variables.....	77
8. Multiple Regressions Analysis for Course Changes by Program Standards .....	78
9. Correlation Matrix for Course Changes and Certification, Content Standards, Factors, Individual and Institutional Variables .....	80
10. Multiple Regression Analysis on Course Changes by Certification, Content Standards, Individual and Institutional Variables .....	81

## CHAPTER I

### INTRODUCTION

#### Background

For the past two decades, the quality and validity of physical education (PE) programs have been questioned without apparent widespread improvement (Siedentop, 1987; Siedentop and Locke 1997; Griffey, 1987; Locke, 1992). Quality physical education programs are needed to enhance the physical competence, health – related fitness, self- esteem, and enjoyment of physical activity for all learners so that they can be physically active for a lifetime (Seefeldt & Vogel, 1986). Lots of school physical education programs fail to positively influence physical activities and health related fitness levels of our children (McKenzie, 1999; Pate & Hohn, 1994; Pate, Pratt, Blair, et al, 1995; Strand & Scantling, 1994). A number of diverse factors, such as limited curricular space and financial support, have contributed to the ineffectiveness of some PE programs.

One potential contributing factor that has yet to be explored is the content knowledge and instructional methods employed within Physical Education Teacher Education (PETE) curricula. It may inadequately address the needs of pre-service physical educators for physical activity promotion and health-related physical fitness (Barnett & Merriman, 1994; Bulger, Mohr, Carson, Weigand, 2001; McKenzie, 1999; Miller & Housner, 1998).

National policies in America have emphasized and reinforced health and physical education needs (Morgan, 1998) to increase public interest in health and physical activity. Those reports include *Physical Activity, Fitness, and Health* (Bouchard, Stephard, & Stephens, 1994); *Health People 2000* (U. S Department of Human Services, 1990); *Physical Activity and Health: A Report of the Surgeon General* (U.S Department of Human Service, 1996). The Surgeon General's Report (SGR) stated that physical inactivity is related to increased disease and reduced quality of life (Morrow and Blair, 1999). It highlighted the significance of physical exercise and identified specific goals for the years 2000 and 2010 to enhance the overall health of the general population. Wilmore (1998) stated that given the SGR and other indicators supporting the increase of health and physical activity, leaders of Health, Physical Education, and Recreation units should use this opportunity to advance their programs within their institutions. "There is more public awareness and sensitivity regarding the importance of the habitual physical activity." (p. 142) (Morgan, 1998)

Curriculum standards are sweeping across the physical education landscape. The standards are being developed and adapted at all levels of the American educational system (Marzano & Kendall, 1997; Ravitch, 1996). National Standards for Physical Education (National Association for Sport and Physical Education (NASPE), 1995) indicate that quality PE programs focus on student learning as the primary goal. These standards define the physical education program through elaborated benchmarks and indicators that guide the curriculum development and

clarify the goals for assessment. Those standards influence the content provided in America schools. Intuitively, one may speculate, then, that the content included in PETE program should match the NASPE standards defined for K-12 program.

The National Standard for Beginning Physical Education Teachers (NASPE, 1995), The NASPE-NCATE Guidelines for Teacher Preparation in Physical Education (NASPE, 1998) and Standards for Initial Preparation of Physical Education (NASPE, 2001) provide physical education teacher education program with tools by which quality programs are to be developed and maintained. Criteria are specified against which the neophyte teacher can be evaluated. National standards are anticipated to create more intellectually demanding content and pedagogy, thereby improving the quality of teacher education for all pre-service teachers, and establish uniform goals for teacher education, thus producing greater quality in students' academic achievement.

In addition, standards have highlighted the role of teachers in planning and implementing effective physical education programs (Kulinna, Silverman, & Keating, 2000; Silverman & Skonie, 1997). Ennis (1998) and Lawson (1998) note that physical educators are working to improve the quality of physical education. Effective teachers are instrumental in organizing and sequencing developmentally appropriate content, communicating that content, and encouraging administrator support for physical education (Houser & French, 1994).

Research-based practice has designed to enhance the quality of teaching and learning in physical education and has focused on several dimensions: time for

practice (Cousineau and Luke, 1990; Donnelly, Helion, and Fry, 1999; Ennis, 1990; Rink, 2001, 2002; Silverman, 1990; Silverman, Devilliver, and Ramirez, 1991; Treasure and Roberts, 2001), appropriate practice (French, Rink, and Werner, 1990; Greenockle, Lee, and Lomax, 1990; Griffin, Mitchell, and Oslin, 1997), content sequencing (Rink, 2002, French, Rink, Rickard, Mays, Lynn, Werner, 1991), cognitive engagement (Griffin and Placek, 2001; Lee, 1997; Lee, Swinnen, and Serrien, 1994), task specific communication (Rink, 1994; Graham, 1988; Graham, Hussey, Taylor, and Werner, 1993; Silverman, Kulinna, and Grull, 1995), and interdisciplinary content selection (Ennis, 2003; Richardson, 1992; Yi, 2004).

However, education systems have brought about a challenge for America to seek clever or unique approaches that promote teacher quality and students' learning in PETE and the physical education field. Teaching and learning are inextricably linked and facilitating this linkage supports sustainable changes that assist schools in finding ways to meet the needs of all students (Johnson, & Hynes, 1997). Intent and action are linked in teacher education in much the same way that they are linked in the study of teaching in the public school (Rink, 1993). It is apparent that in order to compete and develop in the world, teacher education must cultivate and produce high quality teachers for schools. Specifically, the changing role of education in national development has created a serious challenge for physical education leaders and teachers who must respond positively to change in aims, content, process, and practice of teacher education.

Many authorities point out that leadership is an essential factor in determining whether or not Health, Kinesiology and Leisure Studies (HKLS) survive and thrive in higher education (Alber, 1992; Thomas, 2001; Scanlon, 1998; Wilmore, 1998). Thomas (2001) argued that even though some items are critical for good leadership such as strong faculty, good students, research productivity, excellence in teaching, and professional service and out-research, departments can flounder under poor leadership. The effective leader must have vision as well as determination and perseverance (Frost & Marshall, 1982; Thomas 2001).

Leaders in PETE programs need to supervise and carry out those standards and guidelines that will promote the professional development for physical educators (NASP/NCATE, 1998). The department heads and program directors are leaders with the greatest influence over the success or failure of program development (Anderson, 1982; Beerman, 1987; Schwager, 1983; Stillman, 1987). These leaders' perceptions will heavily influence national standards that are fulfilled for the PETE and K-12 PE programs. These perceptions derived from beliefs, knowledge, and experiences that are very important to be examined because they are difficult to change and will influence students' receptivity to messages received in teacher education (Pajares, 1992). Teacher education may shape teachers' beliefs about what is appropriate in teaching and teachers' conceptions about professional role. The conceptual role may, in turn, shape their teaching practices (Buchmann, 1986).

Although standards for beginning teachers (1995, 1998, and 2001) provide clarity of purpose, set high and challenging expectations for all pre-service teachers,



and ensure that learning outcomes are emphasized in Physical Education Teacher Education programs, the standards do not prescribe a particular program, curriculum, nor subscribe to any one method or approach of teaching. Instead they serve as map for teacher education to develop their own curriculum and a framework from which the teachers can examine and improve their teaching and students' learning. National standards for beginning teachers and NASPE K-12 Physical Education Content Standards may be interpreted to promote the school-university collaboration in curriculum design, implementation, and assessment (NASPE, 2001).

Three problems were examined in this study. The first problem concerns identifying whether the beginning teacher standards and NASPE K-12 PE content standards have influence the PETE curriculum and what factors have impeded implementation of these standards. The changes of curriculum clarify what knowledge preservice teachers need to learn in teacher preparation program. The second problem regards what benefits PETE and K-12 physical education program from school-university collaboration in terms of intertwined learning outcomes. The school-university collaboration in curriculum will facilitate pre-service teachers to sketch and implement a quality physical education program in the future. Third problem looks at what major dimensions of the standards influence the PETE curriculum and what major areas of curriculum have been changed in the past decade. The questionnaire is designed to obtain answers from department directors in colleges and universities regarding curriculum, collaboration, learning outcomes.

## Statement of the Problem

Siedentop and Locke (1997) postulate a system failure that involves the relationship of the physical education program in public schools with teacher preparation in higher education. His unusual assumption maintains that the quality of the school physical education program is the appropriate measure of success for PETE. The two may be loosely coupled, with changes in one being reflected in the other only slowly and imperfectly, but the link is absolute and indissoluble. Accordingly, if people accept the assessment of the K-12 program, the inevitable conclusion will reflect the quality of PETE. Furthermore, the authors argue that the only justification for attempting to improve PETE is to positively influence the quantity and quality of physical education for children and youth. Few administrators and faculty in PETE hold those same assumptions, and few studies are focused on this issue (Siedentop and Locke, 1997)

Many PETE programs do not exert a positive influence on school programs because there has been little or no real effort to do so directly (Siedentop & Locke, 1997). *Standards for Initial Preparation of Physical Education Teachers* (2001) established standards linked with *NASPE K-12 Content Standards*. This is first time that standards collaborated on learning outcomes. NASPE suggests that pre-service teachers who demonstrate acceptable performance level in those standards will be capable of implementing curriculum and instruction required in K-12 Content Standards. To date, *National Standards for Beginning Physical Education Teachers* and *National K-12 Content Standards* have been published for more than 10 years.

Little is known about to what degree the current teacher education curriculum, collaboration, and learning outcomes are affected by program standards. However, the curriculum, collaboration, and learning outcomes not only reflect knowledge focus and direction of PETE, but also represent success of Physical Education Teacher Education programs.

Due to the broad scope of content knowledge for professional preparation of a physical education major, the potential problems are: Do PETE programs currently have the necessary contents to effectively prepare future physical education teachers? What curriculum, based on teacher standards, should be identified in alignment with teacher education physical education program? What knowledge base should be selected for beginning teachers? Who determines the curriculum of significances? Of even greater importance is the follow-up question: Are pre-service teachers receiving the best knowledge for possible teaching practice to meet student needs?

Directors engage in both planning and implementation of PETE curriculum and have a significant and direct responsibility for the development of the PETE program. They coordinate curriculum and modify program (Jensen & Overman, 2003). Another role of them is to facilitate delivery of high quality instruction and to promote scholarship and service (Considine, 2001).

This study investigates the impact of standards on Physical Education Teacher Education that are held by directors of university PETE program in the United States, and differences in directors' perceptions regarding curriculum, collaboration, and learning outcomes in terms of classification of university, age,

years in current position, and professional involvement. This study also examines the extent to which their perceptions influence the implementation, design, development, and effectiveness of physical education teacher education programs.

### Significance of the Study

Teacher standards in physical education teacher education are explored little to compared to other type of standards such as K-12 content standards, standards for certification, licensure, and accreditation in school physical education program. It is anticipated that this study will enrich and reinforce the study of standards of physical education teacher education in the United States. The study is significant for a number of reasons. First, research of related literature has revealed no studies pertaining to perceptions of administrators of PETE for the beginning teacher standards for physical education teacher education programs in the United States. It is hoped that the present investigation will provide some insights into the perceived physical education teacher education program. Second, the investigation will provide useful information for standard-based reforms in PETE, further explores the relationship between PETE and K-12 physical education programs, and promote the reform of PETE. Third, because the physical education teacher education program need more research for the development and development of standards, the approach will motivate physical educators who become more active in the study of standard.

### Questions of Research

This study is conducted to pose and answer the following questions

1. How do the directors perceive the impact of initial teacher standards on curriculum changes of PETE program?
2. How do individual and institutional variables influence curriculum changes of PETE program?
3. Which standards have predicted curriculum changes of PETE program?

## CHAPTER II

### REVIEW OF LITERATURE

The purpose of this review was to examine the research on standards reform in Physical Education Teacher Education (PETE) and scrutinize the relationship of teacher education and school programs. The review has revealed an abundance of literature within general teacher education, yet little evidence within PETE. The first section is a historical perspective addressing physical education teacher education. The issues regarding standard-based reform, such as, implementation, factors, and leadership will be discussed. The second section discusses curriculum characteristics and requirements of teacher standards. The third section is about identifying the scope of collaboration and development of coherence in the physical education teacher education program. Finally, construction of outcomes in PETE is depicted. The review provides a framework in which the research question can be couched.

#### PETE Reform through Standards

The purpose of educational reform is to make changes in order to improve program effectiveness and, therefore, student learning. Identifying the target of change has been problematic. The assumptions linked to those efforts have also changed throughout history.

### Standard-based Reform in 1980's

Reform in teacher education has been a pervasive subject of intensive debate and activity among educators and others since the report of *A Nation at Risk* (National Commission on Excellence in Education, 1983). There have been various and extensive national efforts to set standards and policy frameworks which affect the quality of teacher preparation and continuing professional development (National Board for Professional Teaching Standards, 1989; National Council on Educational Standards and Testing, 1992). In 1987, the Carnegie Foundation released a report: *Teachers for the 21<sup>st</sup> Century*, which recommended developing a national board that would review, evaluate, and certify experienced teachers. Therefore, the National Board of Professional Teaching Standards was established and developed during this time. Its purpose was to improve student understanding by developing a system for certifying teachers using high and rigorous standards of what teachers should know and be able to do upon completion of a program of study. In the same year, the Council of Chief State School Officers (CCSO) created a task force to explore what essential skills, knowledge, and dispositions should be expected of beginning teachers.

With the continuing work of the National Board, the Interstate New Teacher Assessment and Support Consortium (INTASC) was established to enhance collaboration among states that were interested in reconsidering teacher assessment for initial licensing and for preparation and induction into profession. The National Board and INTASC indicated that teaching required performance-based standards and

assessment strategies that were capable of obtaining teachers' reasoned judgment and that evaluated what they can realistically do in authentic teaching settings.

In addition, during the mid 1980's the National Council for the Accreditation of Teacher Education (NCATE) began to invite specialty area organizations to become a part of the accreditation process for evaluating teacher education program. The American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD), a member of NCATE, designated the National Association for Sport and Physical Education (NASPE) and the College and University Physical Education Council (CUPEC) as the representative body to be responsible to the initial guidelines for Basic Physical Education (initial teacher certification) and review process. The guidelines of the first edition of the Instructional Manual to assist reporting institutions and folio readers were developed in early 1987 and revised in 1989.

#### Standard-based Reform from 1990's to Present

With much of the groundwork laid by professional organizations for a new view of teacher competency, the Interstate New Teacher Assessment and Support Consortium (INTASC, 1992) created *Model Standards for Beginning Teacher Licensing and Development* that developed ten core standards of teaching knowledge that emphasized the essential characteristics of novice teachers that crossed knowledge areas, age, and grade level lines and provided an excellent example of a vision statement to guide practice. These ten statements had been written as performance-based expectations and approved by CCSO for use in their work with



state departments of education and independent standard boards responsible for teacher preparation and licensing.

According to Model Standards, NASPE in 1995 produced *National Standards for Beginning Physical Education Teachers* (NSBPET) that presented physical education teacher standards in a parallel format with INTASC and that included Content Knowledge, Growth and Development, Diverse Learners, Management and Motivation, Communication, Planning and Instruction, Learner Assessment, Reflection, and Collaboration. Each standard or principle had interwoven sections: dispositions, knowledge and performances. Dispositions refer to the beliefs and attitudes that teachers need to observe to implement the standards. Performances represent the evidence and teachers could demonstrate to meet the standards.

NASPE continued to work on teacher standards. The Guidelines for Teacher Preparation in Physical Education were created and approved in 1998. The new guidelines were linked with the beginning teacher standards and were expressed in terms that implied teacher educators should assess the competence of pre-service teachers in observable and measurable ways. In 2001, teacher standards were further revised and renamed, Standards for Initial Preparation of Physical Education Teachers, and added one additional standard: Technology. These standards specified that curriculum and instruction of four teacher standards coordinate with NASPE K-12 Content Standards: Content Knowledge, Diverse Students, Management and Motivation, and Planning and Instruction, which include the specific, interwoven

learning outcomes. Each standard contains rubrics/criteria for each outcome. Institutions are required to provide evidence that teacher candidates meet criteria at the acceptable level through the use of multiple and varied assessments. Meanwhile, all 50 states have created and published standards for K-12; most are adoptions or modifications of NASPE K-12 content standards. Through the establishment of more specific, smaller categories, for instance, performance indicators, benchmarks, or objectives, states have identified how standards are developed and implemented.

### Factors Influencing Teacher Education Reform

#### Policy and Leadership

In the past decade, one of the influential factors in the policy context was the publication in 1996 of *What Matter Most: Teaching for America's Future* and *Doing What Matter Most: Investing in Quality Teaching* (National Commission on Teaching and American Future (NCTAF), 1997), *Studies of Excellence in Teacher Education* (Darling-Hammond, 2001b), and *Promising Practices: New Ways to Improve Teacher Quality* (U.S. Department of Education, 1998). The central message of those policies focuses on what teachers should know (content) and can do (performance-based) that is the single most important influence on how and what students learn. NCATE 2000's new focus on outcomes has been described as a paradigm shift from inputs to outputs and a major shift from curriculum-oriented standards to performance-based standards (Wise, 1999). Some researchers indicated that standards-based reform will improve students' achievement and equality of educational opportunity (Berger, 2000;

Buttram & Water, 1997; Sirotnik & Kimball, 1999). With a focus on equity, the reform attempted to depart from a system of differentiated curriculum that ultimately leads to inequities (Thompson, 2001).

Coherent and consistent policy was not enough to change pedagogy (Mcgill-Franzen, Ward, Goatley, & Machado, 2002). Spillance (1998) found that district and school level administrators interpret national and state policies in term of their experience, beliefs, and their affiliations, which result in different implementations. Gardner (1990) stated that ultimately we judge the leaders in terms of a framework of values.

Mattocks (1998) indicated that education leaders must provide an environment congruent to their core values that support what organization wants to do. Those values are similar to one's personal convictions. However, the leader must understand "best practice" and be able to implement it. Gmelch & Miskin (1995) think that successful administrators complete four things well: faculty development, management, leadership, and scholarship. "A good leader will have a balanced vision, will create and prioritize a set of principles, and will develop ways to operationalize the vision" (Templin & Franks, 2001, p.217).

The reform effort in the past decade has redefined the role of physical education leader as advocates and change agent in this field (Fay & Doolittle, 2002). Chairpersons/ directors in PETE program are instructional leadership. Their values, beliefs, experiences will be critical factors to influence PETE reform success and PE program improvement. Although the standards guiding the program should be

consistent from one institution to another, programs to achieve these standards differ in a variety of ways (Blackmore, Hawkes, Wilkinson, Zandrea, & Harrison, 1997). Therefore, their perceptions will represent the trend and development of PE program.

Pressures to meet standards of external professional organizations created additional tensions regarding expectations for faculty work (Darling- Hammond, 1997). What are the factors influencing the implementation of standard-based reform? The Teacher-Centered Systemic Reform Model, developed by Woodbury & Gesso-Newsome (2002), identifies teaching context, teacher characteristics, teacher thinking, and their interaction as influential factors in attempts to implement education reform. Some authors indicated that teaching context and teaching thinking are primary barriers to influence the process of education reform (Gesso-Newsome, Southerland, Johnston, & Woodbury, 2003).

### Teacher Context

Teacher context includes structural and cultural contexts that are often the targets of reform efforts. the structural contexts of teaching contains the physical, temporal, and psychological characteristics of a setting, such as the arrangement of building, space, schedules, subject areas, grade level, textbooks, tests, teaching materials, students, etc. All of these factors have been shown to shape the culture of a setting and thus affect teachers' thinking as well as their pedagogical and curricular choices. Teaching cultures are defined as beliefs, values, habits, and assumed ways of doing things among community of teachers (Hargreaves, 1994). Several particular

features of a teaching culture have been identified as playing significant roles in influencing educational reform, for instance, faculty collaboration (Fullan, 1991; Hargreaves, 1994); professional development experiences (Ball, 1994; Little 1993); perception and definition of group goals (Hargreaves, 1994; Talbert & Perry, 1994); the influence of administrative leaders (Fullan, 1991; Leithwood, 1992).

Gess-Newsome, Southerland, Johnston, & Woodbury (2003) argue that many of the structural and cultural context factors are mediated by the grant context that derails attempts at development of courses. Without the grant and the change context, it is unlikely that faculty would have participated in the design and delivery of these reform-oriented courses. They address that removal of structural and cultural barriers will be predicated to improve the potential for implementation of reform equally across instructors. If the instructor differences were not the result of the central impact of teachers' beliefs regarding content, teaching, learning and the influence of teachers' dissatisfaction with their current teaching practices, the easing of contextual barriers to facilitate reform would be critical. However, it is all insufficient condition for education reform.

### Teacher Thinking

Research on teachers' thinking has presented evidences of its robust link with teachers' inclination and ability to teach differently (Cohen & Ball, 1990; Cooney & Shealy, 1997; Gess-Newsome, 1999; Putnam, Heaton, Prawat, & Remillard, 1992; Thompson, 1992). Teacher thinking is defined as teachers' knowledge and beliefs

concerning teaching, teacher, learning, learners, school, schooling, and subject matter. Teachers' thinking and practice are shaped by background such as professional and life experience, the nature and extent of teacher preparation, and continued professional learning (Ball, 1994; Fullan, 1991; Hargreaves, 1994; Smith, 2002). Why do teachers' knowledge and beliefs mediate reform efforts? Many researches have provided indications to analyze this issue.

Knowledge and Beliefs. Beliefs refer to a person's subjective probability judgments in terms of his understandings of himself and his environment (Ajzen, 1988). Teacher beliefs are the basic building block in their conceptual structures for their behaviors. Teacher beliefs are assumptions that teachers have about students, teaching strategies, curriculum, pedagogy, and the educational program (Kagan, 1992). Teacher beliefs are formed on the basis of experiences, on prior inferences made from those experiences, or on information obtained by outside sources, such as college courses, professional literature and in-service training courses. Teacher beliefs draw their power from previous knowledge and experiences and represent what people attend to and how they construct knowledge (Hollingworth, 1989).

Previous experiences and knowledge will influence teacher beliefs and values. The teacher education program can be very influential on their beliefs. Several sources point out that teacher beliefs about teaching and learning appear to be a generalization derived from their experiences as students (Holt-Reynolds, 1992; Knowles & Holt-Reynolds, 1991). Although beliefs are difficult to change (Brown, Cooney & Jones, 1990; Lerman, 1997), the teacher education program will affect

teacher beliefs and practices and change their attitudes and knowledge about teaching and learning (Ashton & Crocker, 1987). Pajares (1992) indicated that beliefs about teaching are well established by the time a student enters college. There are significant changes in their beliefs and perceptions about mathematics instructions occurred across two years professional courses and student teaching (Vacc & Bright, 1999). Richardson's (1996) views also support that changing teacher beliefs take time.

A constructivist perspective stresses that teachers construct their own knowledge and by interpreting events in relation to their established knowledge base and prior experience (Piaget, 1971; Glaserfield, 1987). Teachers are not simple recipients of information. Through the interaction of experiences and environment in teacher education programs, they construct their own realities and subsequently their own knowledge and beliefs about teaching (Solmon & Ashy, 1995).

In addition to the effect of educational level on teacher beliefs, effect of teacher ages and experiences on developmental practice have been examined by Doly (1997) who found that teachers with less teaching experience have beliefs which were more developmentally appropriate than more experienced teachers. Teachers with more experience were more likely to have been socialized into traditional practices; therefore their beliefs are less developmentally appropriate. The research is congruent with Pajares (1992) who found early beliefs difficult to change. In other words, older teachers who maintained traditional practice, have a difficult time using current developmental practice.

Values, Beliefs and Implementation of Curriculum. Teacher values will influence curricular planning, decision making, and how a reform was interpreted and implemented (Ennis, 1994; Ennis, Mueller, Hooper, 1990). Teacher value is a type of screening mechanism, in which a teacher will focus on what is considered being most important. Teacher values have been classified into five value orientations that influence curricular decision and construction of program: (a) disciplinary master, (b) learning process, (c) self-actualization, (4) social reconstruction, and (5) ecological integration (Jewett, Bain, & Ennis, 1995). Ennis, Ross and Chen (1992) stated that goals of teachers consigning a high priority on disciplinary master/ learning process value orientation center on content consistent with the theoretical perspectives of those value orientations. Teachers expressing strong social orientation have demonstrated goals related to social interaction, cooperation, and enjoyment. It was implied that lack of content knowledge and methodological expertise could have been an impediment for teacher with social reconstruction and ecological integration value orientation as they intend to convey their teaching perspectives.

Beliefs will define behaviors, knowledge and information and influence the implementation of curriculum. Battista (1994) explored the belief structure of teachers and revealed that a great number of teachers of mathematics have beliefs that are not consistent with reform effort. This incompatibility in belief structure will impede reform development and curricular change. The research on teacher thinking has shown that teaching activity is rooted in a set of beliefs and knowledge. The teacher's knowledge content and structure is incorporated in their daily teaching



activities. (Pieron & Cloes, 2002). Pajares (1992) noted that there are strong relationship between teacher beliefs and their planning, instructional decision. Beliefs appear to be static, resistant to change, and generally not influenced by reading and applying research (Murphy, 2000). If teacher beliefs are compatible with the underlying philosophy and materials of a curriculum, there is a greater likelihood that the curriculum will be fully implemented (Hollingsworth, 1989; Richardson, 1990). Patterson (2002) further provided evidence that although administration, faculty, and staff enthusiastically embrace the program reform, classroom observation revealed little or no change in teaching practice.

Patterson (2002) examined the relationship between teacher beliefs and program implementation. In his study, program implementation required changes in organizational structure, teacher relationships, and instructional practice. However, structural change did not result in reforming teaching practices that are congruent with some research (Elmore, 1995, 2000; Fullan, 2001). Fullan (2001) argued that restructuring a school without re-culturing accomplished very little in terms of change that teachers do in the classroom or in changing relationships among people. In other word, organization restructuring can not change their beliefs and practices. In order to change teachers' practices, teacher beliefs need to be included in teacher education reform. In addition, impacts of policy on teaching are also bounded. Coherent and consistent policy was not enough to change pedagogy. (Mcgill-Franzen, Ward, Goatley, & Machado, 2002). Some researchers suggested that organization changes

should support and follow pedagogical change (Elmore, Peterson, & McCarthy, 1996).

### Beginning Teacher Standards and Characteristics of Curriculum

Standards have swept across the higher education landscape. They are being developed and adopted at all levels of teacher education system (Marzano & Kendall, 1997; Ravitch, 1996). The widespread enthusiasm for standards springs from the beliefs that standards can contribute to improving and equalizing student achievement and are anticipated to create more intellectually demanding content and pedagogy. At the national level, federal officials and a bipartisan group strongly encourage and support the adoption of standards. In 1992, the National Council on Education Standards and Testing was established by the Bush administration and issued a report supporting national standard and testing (Ravitch, 1995). The Clinton administration subsequently sustained academic standards through Goals 2000, which codified national goals and provide funds for states to develop standards and assessments (Ravitch, 1995). Responding to the emphasis on standards, most institutions launched some form of standard-based reform. Teacher education developed various versions of systematic reform and mainly focused curriculum and instructional standards (Fuhrman & Massell, 1992). Without oversight, however, teacher education developed standards across content areas that included many versions that differed widely in rigor and implementation (Tucker & Coddling, 2001).

The curriculum represents both a collective view of what students should study at a particular institution and how individual courses should be designed. The curriculum of pre-service teachers usually is divided into either three or four areas. For instance, the National Association of State Directors of Teacher Education and Certification prefers to use three areas: (1) general education, (2) teaching major or field of specialization, and (3) professional education (NASDTEC, 1989). The National Council for the Accreditation of Teacher Education (1995) describes four aspects: (1) general studies, (2) content studies, (3) professional/pedagogical studies, and (4) integrative studies. Since the majority of teachers are prepared in colleges and universities seeking accreditation or endorsement, most people use NCATE nomenclature (Cruickshank, 1996).

### General Studies

The foundation of undergraduate degree is the liberal arts curriculum, variously described as general education, liberal learning, or the core curriculum (Lucas, 2000). In 1945, the Harvard Committee on General Education introduced the term “general education” and proposed courses that consisted of the social sciences, natural science, and humanities. At most universities, the general education curriculum still follows this notion. According to Silberman (1970), such courses frequently are taught with a narrow focus on professional or technical purposes and are designed to train professional people historians, mathematicians, physicists, and so forth. In fact, for most universities the general

education requirements are not very specific. They readily admit that they do not offer anything resembling a true general education. Instead, they look at their requirements simply as basic education requirements (Cruickshank, 1996). Cruickshank further found that two factors hurt general education. First, faculty in business and industry are short of interest in supporting general education. Second, faculty, who work under a reward system based on research and publications, have lost interest in teaching undergraduates.

The importance of general education for teachers has been acknowledged by NASDTEC, NCATE, and all state department of education. In recent years, changes in the standards of these professional organizations have increasingly emphasized the importance of liberal arts courses and decreased the overall number of credits in professional study for the degree. The most recent NCATE standards (1995) call for courses of general education in arts, communication, history, literature, mathematics, philosophy, science, and the social sciences. NCATE indicates that these courses should be taught “with emphasis upon generalization rather than the academic specialization as primary objective” (p.15) and completed in the first two or three years of a four –year program. Leadership in the department is facing significant challenges on how to identify good resources in general education to support professional study.

### Content Studies

Content studies refer to the study of content in the professional area in which the pre-service teacher intended to teach and to the study of how to teach that content (Cruikshank, 1996). Shulman (1987) proposed seven categories for knowledge base on teaching that there has gained some consensus in the past decade. Christensen (1996) reported Schulman's knowledge base was the one cited as most frequently employed by teacher education programs undergoing accreditation review by the NCATE. The seven categories of Shulman's knowledge base are (a) content knowledge, (b) general pedagogical knowledge, (c) pedagogical content knowledge, (d) curriculum knowledge, (e) knowledge of education contexts, (f) knowledge of learners and their characteristics, and (g) knowledge of educational goals. Shulman's categories are quite general in nature and do not address specific knowledge needed from program perspectives. "What knowledge is of most worth to students?" (Broudshed, 1982). Answers will reflect the teachers' beliefs regarding physical education content (curriculum), how the content should be conveyed to students (instruction), and the extent to which the content should be mastered by students (evaluation).

Having knowledge of a subject and competence in teaching it are two different qualities. In this regard, Feiman-Nemser (1990) stated that the teacher not only needs content knowledge, but needs a special blend of content and pedagogy that Schulman has labeled pedagogical content knowledge. Although there have been

many attempts to define a knowledge base for teaching over the years, research has not found a definitive knowledge base at this time. What knowledge teachers need will greatly depend on what and whom is defining it (Metzler, 2000).

It is critical to identify a knowledge base of implementation of physical education program. Teacher standards for physical education teachers (1995, 1998, and 2001) identify the framework and guidelines of content knowledge (Standard one) and pedagogy content knowledge (Standard six). These standards offer teachers a coherent guide for their instructional practice. By specifying what knowledge and skills students must demonstrate, these standards point toward the instructional practices that teachers should employ (Cohen, 1996; Darling-Hammond, 1997; Rowan, 1996).

### Professional Studies

Professional education would be the requisite specialized body of knowledge and skills that differ among profession. Cruickshank (1996) stated that the most serious obstacle for professional education may be the lack of consensus among educators as to what specialized knowledge and skills should constitute effective teaching. The profession does not agree on what teachers must know to begin practice, therefore, there is no scope and sequence to curricula that justify equitable preparation.

Two categories had been divided in professional education in terms of NCATE (1995): professional studies and pedagogical studies. Professional studies

are commonly called “foundation of education” or “foundational studies in education” and refer to the historical, economic, sociological, philosophical, and psychological foundation of education. The curricula are intended to serve as a bridge between general education and pedagogy. The NCATE’ standards (1995) state that the professional studies component would enable students to acquire and learn to apply knowledge regarding the social, historical, and philosophical foundation of education. Pedagogical studies have been labeled “teaching and learning theories” and are the application of concepts, theories, and research about effective teaching. The coursework in teacher education often includes general and special methods. Pre-service teachers are interested in the special methods courses because they believe that this is the real starting point to learn how to be a teacher (Edmundson, 1990). Cruickshank (1991) indicates that part of the teacher education curricula must be specialized in order to prepare teacher to be effective at a particular grade level and with the particular subject matter.

NASPE (2001) teacher standards stress that teacher candidates need to understand the concepts of growth and development to create a learning environment, use appropriate services and resources to meet divers learning needs, and monitor students’ motivation and behaviors. These standards expect to develop curricula that specially deal with pedagogical knowledge and application in movement setting

### Integrative Studies

Integrative studies are most known as on- and off-campus laboratory and clinic experiences. Some researches believe that Field experiences are the most useful in learning to teach for teacher candidates (Rigden, 1996). However, it seems to be the weakest component in teacher education (Winitzky et al, 1992). The students should begin primary observation and participation as first experiences. A second field experience should emphasize participation in the candidate's credential specialization area and develop teaching experiences. A third experience would focus on full-time teaching.

NCATE (1995) notes that field experience provide teacher candidates with opportunities to “ relate principals and theories from conceptual frameworks to actual practice in classroom for all students; create meaningful learning experiences for all students; study and practice in a variety of communities, with students of different ages, and with culturally diverse and exceptional population” (p.7). NASPE (2001) emphasize that the teacher candidate needs to “plan and implement a variety of developmentally appropriate instructional strategies to develop physically educated individuals, based on state and national K-12 standards” (p.6). They are required to demonstrate the ability to design and implement appropriate learning experiences in terms of the expected development level. The standard six (Planning and Instruction) primarily focuses on developing a series of sequential and progressive field experiences that allow teacher candidates to refine, extend, and employ their teaching skills.



## Standards and K-12 Content Standards on Collaboration

Collaboration is frequently used to describe any situation in which people work together to promote change. Many theorists view collaboration as a process to achieve a common goal. Kagan (1991) defined collaboration as “organization and inter-organizational structures where resources, power, authority, are shared and where people are brought together to achieve common goals that could not be accomplished by a single individual or organization independently.” (p. 3). Bruner (1991) added collaboration as “a process to reach goals that cannot be achieved acting singly, or at a minimum, cannot be reached as efficiently. The process of collaboration is a means to an end, but it is not an end itself” (p. 6). A numerous of researches have studied school and university collaboration. However, the assumptions linked to these efforts regarding collaboration of teacher education and K-12 practices have also changed through history.

### Efforts for Collaboration

In the 1980’s several prominent educational reform proposals (Carnegie Forum, 1986; Carnegie Foundation, 1983; The Holmes Group, 1986; National Commission on Excellence in Education, 1983) encouraged schools and universities to embark on an effort to work together. The school-university collaboration is recognized for its potential positive impact on educational enhancement (Sirotnik & Goodlad, 1988). Historically, schools and universities have attempted to work together with a variety

of forms, intents, and eventual outcomes, which are identified as coalitions, consortiums, partnerships, networks, or collaboration that denotes a different meaning to both institutional and individual participants, but whose attempts are rarely true school-university collaboration. (Fiorenting, Kowalski, & Barrette, 1993).

During that time, the scheme of universities and schools working cooperatively toward common goals, though reasonable, had seldom materialized. Some universities worked with schools on a voluntary basis or as paid consultants, but rarely in formal partnerships. The gulf between institutes of higher education and local school agencies was real and formidable. When universities reached out to schools, they frequently did so to promote their own agendas rather than to serve the needs of schools. Many professors regarded themselves as scholars committed to research without particular responsibility toward K-12 education (Maxson & Schwartz, 2001). In a true collaboration, each institution is an equal partner, working toward the solution of common problems while concomitantly meeting self-interests (Goodlad, 1988).

Some research indicated that traditional teacher education programs established on a model frequently exhibited significant gaps between preparation and practice and between theory and practice (Russell, McPherson, & Martin, 2001). Teacher education ignored the voices and needs of teacher candidates, provided and promoted an unrealistic view of teaching and practices, and perpetuated the transitional model of teaching. (Cochran-Smith, 2001; Korthagen, 2001). The major issue in existing

programs was inadequate integration of course content and teaching practice throughout the program (Earle, Sheehafer, & Ostlund, 2001)

In the past decade, prominent scholars became outspoken advocates of school - university partnerships (Goodlad, 1990, 1993; Holmes Group, 1990, 1995; Levine, 1992; Lieberman & Miller, 1990; Million & Vare, 1995; Teitel 1997; Watson & Fullan, 1992). Burstein, Kretschmer, Smith, and Godoski (1999) suggested "developing a collaborative culture among school and university partners," "establishing cross-institutional positions and school university committees that govern and guide the collaboration," and "developing different roles and responsibilities for collaborative participants with program decision collaboratively"(p.117).

#### Collaboration in Teacher Education

Current researchers support the exploration of the relationship between school-university partnerships and student learning (Bristor, Kinzer, Lapp, & Ridener, 2002; Lawrence & Dubetz, 2001; Lenski, Grisham, Brink, Mahurt, Jampole, Cohen, Mitchell, & Zeek, 2001). The Professional Development School (PDS) is one of the most prominent and compelling model of this type of teacher education reform (Compoy, 1997). The PDS proposes to establish central collaboration and professional expertise in teacher education and advocates the establishment of long-term relationships between schools and universities to train pre-service teachers in more practical settings (Cary, 2002)

There is strong evidence in teacher education that upholds the power of a PDS model. Evidence include effects of the model on teacher practice, (Davies, Brady, Rodger, & Wall, 1999), on learner outcome in curriculum areas (Knight, Wiseman, Cooner, 2000), and standard-based test (Houston, Hollos, Clay, Ligons, & Roff, 1999), and on pre-service teacher's work in the classroom (Houston et al, 1999). The standards-based, PDS, integration appear to be necessary for systemic change in physical education (Siedentop & Lock, 1997)

Earle, Sheehafer, & Ostlund (2001) maintain that there are two major benefits in partnerships: (1) effective teacher education program required continual support and meaningful input from the public schools; (2) university resources and expertise facilitate the continual renewal in the schools. Particularly, collaborative partnership activities will strengthen four major areas: (a) reinforce beginning teacher preparations, (b) provide quality professional development for in- service teachers, (c) develop and modify school curriculum, and (d) participate in action research. Farnan, Fisher, & Frey (2003) found that the K-12 program was designed in teacher education to provide opportunities for novice teachers who form networks/friendships with in-service teachers outside of their target grade levels and who engage in reading and discussion that promote in depth understanding regarding teaching and learning

#### Scope of Collaboration of Standards for PETE

Siedentop & Lock (1997) indicated that the PETE programs must select components regarding what they believe good physical education to be and then

prepare their novice teachers to deliver these to schools. To be more specific, initial preparation should concentrate on the elective development, delivery, and dissemination of a particular kind of physical education. The program is coherent and collectively sustained by teacher educators and school practitioners who collaborate in the preparation of teachers. Currently, research on school- university collaboration mainly focuses on preparation and practice and collaboration among partners.

Standards are designed so that all learners will attend to what is thought to be important and worth learning. Physical education teacher standards emphasizes that teacher education should be in alignment with standards for the development of K- 12 curricula. NASPE anticipates that teacher candidates who demonstrate acceptable performance in each standard will be sufficiently capable of implementing curriculum and instruction related to the NASPE K-12 Physical Education Content Standards. NASPE K-12 Content Standards which defined the physically educated person were closely considered in the development of these standards for beginning physical education teachers (NASPE, 1995).

Beginning teacher standards in the PETE program combined with K-12 content standards develop a framework and scope that will improve the quality of teachers. The scope of collaboration in teacher standards focuses on four perspectives: content knowledge, diverse learners, management and motivation, and planning and instruction. The interwoven learning outcomes in these standards may greatly influence the PETE curricula.

### Content Knowledge

The issue of exactly what the content knowledge for physical education has been the topic of extensive debate and still remains unresolved (Greedorfer, 1987; Vickers 1987, Fernandez-Balaboa, Barrett, Solomon, & Silverman, 1996; O'Sullivan, 1996). Fernandez-Balaboa et al (1996) described four perspectives on content knowledge in physical education: pragmatic, cognitive, constructivist, and critical perspectives. They indicated that if students were provided with a sound, multifaceted preparation regarding content knowledge, students will most likely achieve expected outcomes and ensure students' educational success.

Beginning Teacher standards have identified content knowledge in the physical education teacher education program. The standard requires that a physical education teacher needs to understand physical education content, sub-disciplinary, concepts and tools of inquiry related to the development of a physically educated person. This standard represents the discipline specific content and skill knowledge to provide curriculum and instruction related to K-12 content standards 1-4 (NASPE, 2001).

The standard of content knowledge emphasizes that teacher candidates need to develop competency in motor skills, understand concepts and strategies related to movement and physical activities and apply biosciences and psychological concepts in movement settings. From the cognitive perspective, Soleman (1995) notes that knowledge is seen as a dynamic, interrelated network of information to be understood and applied holistically rather than viewed as a set of established facts to be learned. In the PETE program, pre-service teachers can create knowledge structures in

teaching to utilize the cognitive perspective in physical education. Fernandez-Balaboa, Barrett, Solomon, & Silverman (1996) suggest that "By linking information about content knowledge, student characteristics that affect learning, class management, and task structures, novices can form a cohesive knowledge base about teaching that can be applied in a variety of teaching settings that can be continually modified and expanded throughout the teaching career" (p.54).

The relationship between effective teaching and content knowledge has been extensively explored. Some studies have compared the teaching effectiveness of those with minimal versus extensive content knowledge and/or minimal versus full preparation in teaching (Ashton & Croker, 1987; Darling-Hammond, 1991; Denton & Lacina, 1984; Evertson, Hawley & Zlotnik, 1985; Kennedy, 1991). Other studies have considered whether education and content knowledge preparation predict teaching performance (Fernandez-Balaboa, Barrett, Solomon, & Silverman, 1996) or have an impact on learner outcome or both (Ashton & Crocker, 1987). While good teaching includes many components (methods of instruction, management and disciplines strategies, etc), content knowledge is a necessity (Council for Basic Education, 1986; Ingersoll, 1998; Ingersoll & Gruber, 1996; Shulaman, 1986). Teachers who possess an in-depth knowledge and understanding of content, combined with sound pedagogical knowledge, can most effectively help student to learn (Rowe, 1996). Siedentop (2002) indicated that "you can't have pedagogical content knowledge without content knowledge, and all of our advances in pedagogy in physical education can't change that simple truth" (p. 368).

### Diverse Students

Teachers are working with an increasingly diverse population of children from a variety of racial, cultural, ethnic, linguistic, economic backgrounds, and diverse family types with varying customs, traditions, and history (Hill, Carjuzaa, Aramburo, & Baca, 1993). There is a range of research focusing on the teacher preparation to work in a multicultural setting (Artiles & McClafferty, 1998; Nieto, 2000; Sleeter, 1992; Solomon, 1995). Teacher education programs have limited agreement regarding the preparation of teacher for work with diverse population. However, teacher preparation programs need to acknowledge and accept of individual differences in multicultural and multiethnic environments (Hook, 2002). NASPE (1995, 1998, & 2001) stresses that a physical education teacher needs to understand how individuals differ in learning and create appropriate instruction adapted to those differences. Hook (2002) indicates that there are many barriers that block the implementation of a diverse curriculum. Teacher education should consider strategies for helping students surmount these barriers.

Student characteristics combined with instructional activities influenced student achievement (House, 2002). Teacher candidates need to demonstrate their ability to identify, select, and implement appropriate instructions that meet diverse needs of all learners such as customizing instruction, varying methods of delivery, student support service, etc. (NASPE, 2001). The different student characteristics and instructional designs have been explored by cognitive strategies (such as problem-



based learning and high-order thinking skills) and students' affective domain (Reigeluth & Squire, 1998), student efficacy and self-reflection for effective instructional design (Shin, 1998), student self-beliefs and motivation for instructional design (Price, 1998), model of motivation design of instructional materials (Keller, 1983, 1984), and interactive model for instructional design (Tennyson & Nielson, 1998). In addition, some studies indicated that student-beliefs were significantly associated with student achievement (House, 2000; House, Keeley, & Hurst, 1996) and should be considered when designing instructional activities (House, 2002).

In previous research, teachers had rated either academic performance (e.g., Gottfried et al., 1991; Gottfriedb et al, 1994) or social behavior (Johnson-Fedoruk, 1991; Mamlin & Harris, 1998; Witek & Little, 1996) as the more important variables in their judgment for student success. Tournaki (2003) indicated that the student characteristics (gender, reading achievement, social behavior, and attentiveness) affected general education teachers' perceptions of students' academic and social success. If teacher's predictions are influenced negatively by certain student characteristics, some students may be a greater risk for failing in the general education classroom.

### Management and Motivation

It is essential that a teacher motivates students to be engaged, stay engaged, learn the intended content and achieve the goals of instruction. Within the physical education setting, a major educational goal is to maximize student motivation both for

learning and the pursuit of lifelong activities (Chen, 2001; Cobin, 2002). It is important for physical educators to understand how they can enhance students' motivation levels and influence students' development of adaptive achievement strategies (Gano-Overway & Ewing, 2004). NASPE teacher standards emphasize that teacher candidates need to have the capability of using a variety of strategies to change students' behaviors, manage resources, promote mutual respect and self-responsibility, and motivate students (NASPE, 1995, 1998, 2001). This standard further states that teacher candidates must be able to create a safe environment to encourage social interaction, active engagement learning, and self-motivation in physical education classes.

Researchers explored achievement goal theory (Ames, 1992; Dweck, 1986; Maehr, 1984; Nicholls, 1989) and the expectancy-value model of achievement choice (Eccels et al, 1983; Ecces, Wigfield, & Schiefele, 1998) that served as the theoretical framework for the study of students' motivation. The two theoretical perspectives in both academic and physical activity domains contribute to our understanding of student achievement motivation and motivated behaviors. (Ames, 1992; Duda, 1992; Nicholls, 1989; Xiang, McBride, Guan, & Solmon, 2003). Achievement goals have been contrasted two major goal orientations: task and ego orientation. A task orientation is based on a self-referenced ability in which an individual strives to demonstrate mastery, learn new skills, and seeks ways to improve skills over time. An ego orientation is embedded in a normative comparison of ability in which individuals judge their competence related to others or standardized norms (Ames,

1992; Duda, 2001; Elliott & Dweck, 1988). Ames (1992) identifies the key characteristics representing two distinct, perceived motivational climates in the classroom setting. The task-involved climate focuses on adaptive motivational processes that promote skill acquisition and foster skill improvement and learning in physical education. Solemen and Boone (1993) indicate that a positive relationship between task orientation and cognitive processes is related to learning strategies and self-regulatory strategies among undergraduate tennis classes. The ego-involved climate focuses on three dimensions: (a) striving to demonstrate superior ability and outperform others, (b) punishment for making mistakes, (c) creating an intra-team rivalry.

Physical educators should extend a variety of physical activity strategies that create productive learning experiences for children (USDHHS, 1997; Sallis & McKenzic, 1991; Salis et al, 1992). Solomon (1996) found that learners in a master-oriented treatment condition were more likely to persist in a difficult task than those in a performance-oriented condition. Learners in a performance-oriented climate may reduce their efforts (i.e., a lower number of trials at a different or a difficult level) to avoid the embarrassment of demonstrating low competence. Children's expectancy-related beliefs and subjective task values influence their achievement-related decision about participating in an activity, the amount of effort exerted, persistence, and performance (Eccles et al., 1983; Eccles et al, 1998; Wigfield, 1994; Wigfield & Eccles, 1992), behavior patterns and learning (Bandura, 1986; Covington, 1984; Meece & Courtney, 1992). If students have positive ability beliefs and approach

achievement tasks with a high expectancy of success, they will consistently demonstrate high levels of persistence and performance on those tasks. (Wigfield & Eccles, 1992).

### Planning and Instruction

The determination of programmatic goals and the selection of program content lead directly to the type of instruction that physical education teachers will use in movement settings (Metzler, 2000). Teacher standards outline programmatic goals for teacher candidates and require those who plan and implement a variety of appropriate instructional strategies to develop physically educated individuals in terms of local, state, and national content standards. The core of this standard will be a series of sequential and progressive field experiences that allow teacher candidates to refine, extend, and apply their teaching skills (NASPE, 1995, 1998, & 2001).

The emphasis on appropriate practice, task and task structure has greatly enhanced the quality of teaching. Appropriate practices are those activities in which the learning objectives and the practice tasks are consistent with the learner's ability (French, Rink, Werner, 1990). Task difficulty is an essential variable related to student success and learning (Greenockle, Lee, & Lomax, 1990). However, student cognitive engagement is central to the learning process (Lee, 1997). Teachers facilitate engagement by using task sheets that help students focus on a progressive series of tasks (Griffin & Placek, 2001). Students often stop engaging when the task becomes repetitive or is not adjusted as the student's skill or knowledge increase

(Lee, Swinnern, & Serren, 1994). Teachers can sequence and adjust tasks and multiple levels of a single task that continually challenge students with stimulating activities that foster success (Lee & Solmon, 1992; Magill, 1994).

Pedagogical content knowledge is critical for content sequencing and for ordering task to ensure that skill increase progresses. The effective sequencing is based on teacher knowledge of content and on how to teach it most effectively to students. The effective teacher frequently employs a six step progression to enhance task-specific communication (Graham, 1988): (a) signal for student attention, encourage students to focus on the demonstration or verbal direction, (b) give clear, sequential direction anchored with visual images of correct performance, (c) check with student frequently to ensure student understanding regarding the direction and tasks, (d) direct students' attention to central components essential for success, (e) summarize and repeat information to refine their performance, (f) monitor and assess performance through the task.

There have been a number of completed studies focusing on how students spend their time in the physical education setting (Anderson & Barrette, 1978; Godbout, Brunelle & Tousignant, 1987; Lacy, Willison & Hicks, 1998; Mcleish, 1981; Metzler, 1979; Pieron, 1980). Metzler (1989) noted there was a direct relationship between practice time and student learning. Other researchers (Rink, 2002; Silverman, 1990; Selverman, Devillier, and Ramirez, 1991) have identified three elements of practice necessary to enhance student learning: (a) student should spend sufficient time practicing the task to repeat the movement correctly and refine the movement quality,

(b) the task difficulty should match the student's current ability, and (c) the student should concentrate on performing the task correctly. Lacy, Lamaster, & Tommaney (1996) explored student behaviors using duration recording with results showing 21.1% of time being spend in successful motor engagement. To accomplish classroom task, students must acquire a special set of skills to identify task demand, adjust perceptions of these demands, and compensate for the lack of complete information.

### Collaboration and Coherence among Standards

Physical Education Teacher Education has a threefold mission: (a) the preparation of the beginning teacher, (b) the continued professional development of teachers, and (c) the improvement of school programs (Siedentop & Lock1997). The Holmes Groups (1986, 1990, and 1995) trilogy explains each component of the mission. The three elements of this mission are linked and entail the dual-directional influence of good teacher education on the school program and a good school program on the initial and continuance of teachers. However, developing, refining, and disseminating quality school programs through discrete directions are a primary goal for teacher education. Collaboration provides many more opportunities to modify and delivery a school curriculum (Earle, Sheehafer, & Ostlund, 2001)

NASPE teacher standards state collaboration as "teacher foster relationship with colleagues, parents/guardians, and community agency to support learners' growth and well-being" (1995, 1998, and 2001). The collaboration in teacher

standards has been explored by researchers who have been cited above. The critical issue regarding collaboration in NASPE is that teacher standards and K-12 content standards have been integrated in learning outcomes. This level of collaboration will promote the coherence of PETE program through a specialized knowledge-base. A coherent knowledge base guided teacher education will provide a sound rationale to engage change (Fry, Smith & Johnson, 2002).

Coherence and collaboration have been regarded as two major focal points for understanding both traditional and recently reformed teacher education programs. Segall's (2002) study sets teacher education programs as a complex challenge associated with the gap between theory and practice and seeks coherence as an essential program value. Russell, McPherson, and Martin (2001) indicate that if people do not pay direct attention to coherence in program design and delivery and collaboration among stakeholders, reform efforts are unlikely to succeed.

An important way to improve coherence of program is a theme-based approach (Potthoff, Frddrickson, Batenhorst, & Tracy, 2001). Blackwell and Diez (1999) sustain that a program of teacher education should feature the themes of collaboration, inquiry, and critical reflection. They believe that these themes will be most effectively concentrated when strong relationships exist between university faculty, community, and K-12 teachers and when the curriculum establishes strong connections between theory and practice. Themes run throughout a curriculum, like threads, in which key concepts are tied together in a variety of courses, practice, and school experiences (Howey & Zimpher, 1989).

Teacher standards in collaborated K-12 content standards in PETE share several main themes: content knowledge, diverse learners, management and motivation, planning and instruction. Development of these themes seeks to reduce gaps between university and school experiences. Furthermore, these themes promote instructional coherence. Instructional coherence refers to a common instructional framework that guides curricula, teaching, assessment, and learning (Kedro, 2004). Instructional coherence will be important to research standards to improve teaching and learning, in designing and delivering a cohesive, standard-aligned curriculum, and have a positive effect on student achievement (Neman, Smith, Allensworht, & Bryk, 2001).

#### Teacher Standards and Learning Outcomes

Outcome guides the process of design and implementation of a program. The differing way outcomes are being constructed in teacher education depend on differing assumptions about what pre-service teachers should know (content knowledge) and be able to do (performance-based), what K-12 students should know and be able to do, what counts as evidence of "knowing" and "doing", and what the ultimate purpose of schooling should be. The different ways and outcomes demonstrate that teacher education must utilize different ways to express program and procedures that are effective, accountable, or value-added. Despite these differences, however, most research regarding outcomes has to make a connection between teacher education and student learning. Every debate assumes that the ultimate goal of teacher education is student learning and that there are certain measures that can be



handled to indicate the degree to which this outcome is or is not being achieved by pre-service teachers, K-12 students, teacher educators, higher education institutions, local or state policies, and the education profession itself (Cochran-Smith (2001). Cochran-Smith indicates that there are at least three major ways of constructing outcomes in teacher education: outcome as long term/general impact, outcome as teacher test result, and outcomes as professional performance. In this section I will analyze learning outcomes as long term/ general impact on program, learning outcomes as professional performance, learning outcomes and learning experiences, learning outcomes, knowledge areas, and assessment.

#### Learning Outcomes as Long Term/ General Impact

Learning outcomes of teacher education programs in the long term/ general term reflect on teacher knowledge, teacher preparedness, teacher attrition, teacher rating, and student achievement in the school. Exploration of those questions has been identified around teacher qualification, teacher licensing and certification, professional standards for teaching and curriculum, and student achievement as a valid evaluation measure for teachers and schools (Cochran-Smith, 2001). Darling-Hammond (2000b) examined how teacher qualifications are related to students' achievement and suggest that " policies adopted by states regarding teacher education, licensing, hiring, and professional development may make an important difference in the qualification and capacities that teacher bring to their work" (p.1). Darling-Hammond drew a conclusion in *Doing What Matters Most Investing in Quality*

*Teaching* (1997): "Teachers who are fully prepared and certified in both their discipline and in education are more highly rated and more successful with the students than are teachers without preparation, and those with greater training....are more effective than those with less" (p.10).

Constructing the outcomes in teacher education as long-term impact on students' achievement is part of the NCATE campaign to provide qualified and competent teachers for all students by emphasizing and aligning professional standards across teacher preparation, licensure, and certification at the state and local level. In PETE, the NASPE (1995, 1998, and 2001) standards for initial physical education teachers represent an integrated approach to PETE with a focus on the performance of teacher candidates related to content knowledge and outcomes incorporated within each standard. Outcomes of these professional standards emphasize that pre-service teachers must demonstrate knowledge and skills to implement curriculum and instruction related to national and state content standards. However, the general outcomes of K-12 PE programs will be that young child is physically fit, participates regularly in physical activity, has skills necessary to perform a variety of activities, has a functional understanding regarding benefits of physical activity, and values physical activity as a form of enjoyment and a healthy lifestyle (NASPE, 1992).

### Learning Outcomes as Professional Performance

Profession has been making major effort to codify and disseminate a formal knowledge base in teacher education in order to insure that teacher education is no longer a normative, natural, or intuitive process (Gardner, 1989). The professionalization movement was intended to establish an official and formal body of knowledge that distinguished professional educators from lay persons (Gardner, 1989; Yinger, 1999). However, an outcome approach is deeply embedded in policy and professionalization movement for teaching and learning (Cochran-Smith, 2001)

Lambert (1996) notes that there are two types of learner outcomes: content outcome and process outcome. Content outcome depends on core knowledge or skills that form the foundation for a discipline. A content outcome perspective identifies knowledge and/or skills that are essential and apply to a particular discipline or content area. Process outcome is based on a cognitive or affective process (attitudes, beliefs, interpersonal skills) when attempting to understand and use information. Process outcome is a current practice of standard and outcome-based view. Content outcome combined with process outcome will create a structure for framing the learning and teaching process. Additionally, learner outcomes and assessment strategies guide the practice process.

Constructing outcomes on professional performance begins with the premise that there is a professional knowledge base in teaching that teachers and teacher candidates should know and be able to do (Cochran-Smith, 2001). Some researchers

advocate that performance understanding is the norm for K-12 students and teacher candidates (Lampert & Ball, 1999). Conceptual understanding of subject matter is the goal (McLaughlin & Talbert, 1993). Those approaches are closely aligned with national standards of professional development and especially with visions for contemporary K-12 curriculum reform. In addition, they emphasize that performance assessment is based on the idea that teaching and learning have to be connected when teaching performance is assessed, especially as to how particular teaching practices facilitate students' learning and how teachers learn to examine their own and learners' outcome. Performance assessment that focuses on teacher knowledge and understanding is consistent with the professional standards of NBPTS and ITASC (Darling-Hammond, 1998).

However, the pre-service teacher must have professional abilities that demonstrate integration of content knowledge with teaching pedagogy, diagnosis of individual student needs, and be able to manage resources effectively. A rightful outcome assessment framework of a school program is that teacher candidates can demonstrate appropriate practice and accomplish tasks that are link student learning, achieve content outcome and put progress outcome into practice.

### Learning Outcomes and Learning Experiences

Learning outcomes result from learners' experiences with curriculum content selected by teachers and are noted in their content statement (Sowell, 2000). He states that the teacher sketches learning outcomes or learning experiences but students

achieve actual learning outcomes and learning experiences may differ. However, outcomes indicate developers' emphases may be on content process or declarative-procedural knowledge. Learning experiences must provide information about how learners are expected to obtain their knowledge. Outcomes and learning experiences together reveal a teacher's value about curricula delivery (Sowell, 2000). Rink (1993) indicates the relationship among intended outcome, teaching effectiveness and learning experiences. Teaching effectiveness must make certain identifying intended outcomes for learning, planning learning experiences to accomplish those outcomes, and developing the content. The expected outcomes and learning experiences are achieved by the process of appropriate practices and content development.

Learning outcomes of a program can be viewed both in terms of general and specific intentions. As a general statement of program intent, a goal represents a large but unique portion of curricular content. Objectives are more specific statements that depict what students will be able to do after instruction. (Vogel & Seefeldt, 1988). Those goals and objectives differ depending on the functions of a program. The nature, functions, and intended outcome of program may vary in several important ways. Therefore, it is important to explore these goals and objectives in each of the settings and clarify what they are attempted to achieved. Regardless of specific setting, whether it is program accreditation, national standard, or state program framework, the ultimate purpose is to provide some assurance of qualification for schools in which children and youth are required to attend and obtain intended learning experiences. Failure to establish clear objectives is problematic because the

educational value is not conducive to making development through an attainable goal (Wandzilak & Potter, 1986)

The primary purpose of PETE program is to prepare teachers who create and sustain a good school program and accomplish the goals of physical education. In order to accomplish PETE purpose, it is necessary to develop, refine, and disseminate quality programs through direct action to achieve goals and expected outcomes of physical education program (Siedentop & Locke, 1997). Pangrazi (2003) described several critical elements that should be included to assure that students receive a quality physical education experience: (1) content standard should be the center of the program and offer direction, instruction, and evaluation, (2) student center and based on the development urges, characteristics and interests of students, (3) physical activity and motor skills are the core of the program, (4) strong moral and character development, (5) inclusion of all students, (6) focus on process of learning skills before emphasizing product of performance, (7) teach lifetime activities. He indicates that those components interlock to form a comprehensive program.

Effective PETE program should be defined by a limited framework, part of which is the vision of physical education they are preparing students to deliver as teachers (Barnes, 1987; Howey, 1996). The conceptual framework represents program's assumptions, philosophy, and research base, outline what knowledge should be taught, and illustrate how the program is structured to obtain the desired outcomes and learning experiences.

### Learning Outcomes, Knowledge Areas and Assessment

Barrette (1975) described that the learning outcome of a program can be expressed in goal statements and objectives at a number of specific levels. These statements are generally based on fundamental assumptions which form the theoretical and practical framework for program development. These assumptions about the role and function of physical education differ in the purposes they seek to achieve and in the curricular experiences which are selected. The thematic program is especially concerned with establishing its purpose by clarifying learning outcomes, knowledge areas, assessment, and the role and function of the teacher. The cornerstone of a thematic program is its conceptual framework, which represents the program's philosophy and assumptions concerning the role of teacher (Barnes, 1987). With a conceptual framework outlining the ultimate learning outcomes of program in terms of knowledge areas, the program have been successful in influencing students' values, beliefs concerning objectives and benefits associated with schooling (Barnes, 1987, Graber, 1993; Graham, 1991).

#### Knowledge Areas

Physical education educators must have expertise in many knowledge areas that directly or indirectly determine what they need to instruct and how well students learn in each of content units and lessons (Metzler, 2000). He indicates that superficial knowledge is not adequate in completely effective teaching in complexities of most physical education settings. Although there have been many

attempts to define a knowledge base for teaching over the years, no knowledge base has been definitively defined yet.

NASPE (2001) has identified ten essential knowledge areas corresponding to learning outcomes. Five knowledge areas have been analyzed above. The other five areas are growth and development, communication, student assessment, reflection, and technology. Although these teacher standards do not coordinate with K-12 content standards, implementation of these standards will provide teacher candidates with a solid foundation of knowledge and teaching skills necessary to advance to mastery level competencies representative of experienced and effective physical educator in K-12 programs.

According to teacher standards, growth and development focus on the application of growth and development concepts in specific teaching experiences. A physical education teacher must understand how an individual learns and develops in order to provide opportunities that support physical cognitive, social, and emotional development. Communication should be a part of instruction. This standard emphasizes the use of the knowledge of effective verbal, nonverbal, and multimedia communication techniques to enhance learning and engagement in physical activity setting. Student assessment is an important issue in improving student learning. This standard requires teacher candidates to understand and use a variety of authentic and traditional assessments to determine achievement, provide feedback to students, and guide instruction. Reflection focuses on self-reflection by evaluating the effects of his/her action on others that seek opportunities to grow professionally. Technology



has gradually caught more attention than other standards. This standard requires teacher candidates who master a variety of techniques to promote learning for personal and professional productivities.

### Program Assessment

Lambert (1999) defines standard-based assessment as “the process of determining if and to what degree a student can demonstrate in context, his/her understanding and ability relative to identified standards of learning” (p.6). Lund & Kirk (2002) indicate that standards are developed to offer the teacher a measuring stick to assess student learning more accurately as well as to know what additional work students must do to reach the level of achievement. Learning expectations are clear to both teachers and students. Student evaluation is an important indicator of program effectiveness. Therefore, assessment of both teachers and students are not an option. It is necessary (Lund & Kirk, 2002).

An important purpose of conducting assessment is to enhance program performance. The assessment process should be integrated into program planning so that the results of the assessment can be employed to guide decision-making and future planning. Ultimately, this should result in action: program change and innovation or improvement (Barak & Breier, 1990). Program assessment is made to assess how well a program has performed in terms of its stated goals (Dutton, Hammons, Hudis, & Owens, 1994). Assessment may occur at regular intervals

throughout a program to measure progress (formative), or may occur at the end of a time period to summarize the results (summative).

Jensen and Overman (2003) suggest that schools should adopt a workable evaluation model. Yonkers Public Schools (1999) developed Diagnostic/Prescriptive Process as their evaluation model. This process consists of the following steps: (a) assess student's level of knowledge and/ or skill development; (b) analyze assessment data; (c) prescribe specific instruction in term of data; (d) offer targeted teacher support and assistance; (e) reassess student achievement to determine mastery. Some of these measurements are used: diagnosis, classification, achievement, and improvement (Jensen & Hirst, 1980). Worthen, Sanders, & Fitzpatrick (1997) summarized four evaluation models: objective-oriented, management-oriented, expertise-oriented, and participant-oriented. Objective-oriented model determine the extent to which objectives are achieved. This model has measurable objectives and utilizes an instrument to collect data. This model can be employed to measure implementation of national content standards. The management-oriented model assists with decision making. It evaluates all stages of program development and is frequently applied for accountability. The expertise-oriented model provides professional judgments and is applied for self-studies and accreditations. The participant oriented model responds to an audience's requirement for information. This model concentrates on description and judgment, with emphasis on understanding the information collected.

NCATE (1999) clearly emphasize: "the public expects that teachers of their children have sufficient knowledge of content to help all students meet standards for P-12 education. The teaching profession itself believes that student learning is the goal of teaching. NCATE's Standard One reinforces the importance of this goal by requiring that teacher candidates know their content or subject matter, can teach, and help all students learn..... Candidates for all professional education roles are expected to demonstrate positive effects on student learning as the focus of their work.....Primary documentation for this standard will be candidates' performance data prepared for national and/or state review" (p7-9).

NASPE/NCATE (1998) in Guidelines for Teacher Preparation in Physical Education offers an instruction that assists institutions in developing the NASPE/NCATE folio for review. The portfolio represents the institution's best efforts to accumulate all required evidence to illustrate how it complies with the standards. NASPE (2001) published standards, outcomes, and criteria for teacher candidate performance that contained rubrics/criteria for each outcome under each standard. NASPE requires that programs should provide evidence that teacher candidates meet the criteria at an acceptable level in terms of multiple and varied assessments. NASPE anticipates that beginning teachers who demonstrate an acceptable performance level of this standard will be capable of implementing curriculum and instruction related to K-12 content standards and will have content knowledge in alignment with national content standards for the development of K-12 curricula. To meet those standards, programs need to document assessment activities

that include motor skills, content knowledge in subdisciplines, and the application of disciplinary content in teaching (NASPE, 2001).

### Summary

The intention of this project is to devise and implement nationwide investigation into the impact of learning standards on curricula, collaboration, and learning outcomes for the Physical Education Teacher Education program. Although the review of literature implies that each of colleges and universities never stop to pursue the curricula, implementation, and outcomes, little is known regarding what degree the PETE curriculum, school-university collaboration and learning outcome are influenced by the beginning teacher standards, which are instituted approximately ten years. In this study, identification of the curricula, collaboration, learning outcomes and their relationships among standards should be beneficial and enlightening for improving the quality of Physical Education Teacher Education program.

## CHAPTER III

### METHODOLOGY

The purpose of this study was to determine the influence of teacher standards on curricula, collaboration and learning outcomes and examine whether significant changes occurred in past ten years in the Physical Education Teacher Education (PETE) program. It was hypothesized that teacher standards coordinated with K-12 content standards in learning outcomes may generate more impact on changes in curricula and collaboration than other teacher standards and that directors' perceptions on curriculum, factors, and learning outcomes may vary by professional organization involvement, and institution classification and individual variables. This study was conducted as part of an educational reform effort in the field of PETE. This chapter addressed methods and procedures used to investigate research questions guiding this study. Specifically, the following topics were discussed: (a) participants, (b) instrument development, (c) validity and reliability, (d) data collection, (e) data analysis, and (f) limitation of the study

#### Participants

I proposed to collect sufficient data to form a meaningful study and one that will be helpful to the profession. Due to the large number of colleges and universities, the samples were to be identified by a random sampling so that the result can be generalized and projected for all directors' perceptions of the physical education

teacher education program in the United States. One hundred ten colleges and universities were selected by random sampling procedure from among two hundred thirty-one colleges and universities which had physical education teacher education programs. The sample represented 47.6 percent of the colleges and universities listed in the sixth volume of Peterson's Graduate and Professional Program: Peterson's Graduate Programs in Business, Education, Health, Information Studies, Law & Social Work (Peterson's Graduate and Professional Program, 2005), which included a directory of physical education programs. According to the list of colleges and universities, the internet Google was utilized to identify the webpage of each college and university, then searched for the PETE program and found the specific director's name, address and email from the website.

### Instrument Development

Due to the importance of the instrument, much consideration had gone into its question selection. The opinions of various experts had been instrumental in the decision-making process. After reviewing many documents and questionnaires of similar nature, the questionnaire was created based on *National Standards for Beginning Physical Education Teachers* (NASPE, 1995), *Guidelines for Teacher Preparation in Physical Education* (NASPE, 1998), and *Standards for Initial Programs in Physical Education Teacher Education* (NASPE, 2001). NASPE (1995) created nine standards for beginning physical education teachers that included Content Knowledge, Growth and Development, Diverse Learners,

Management and Motivation, Communication, Planning and Instruction, Learner Assessment, Reflection, and Collaboration. NASPE (2001) made some changes and added one additional standard: Technology. They clarified that curriculum and instruction of four teacher standards coordinated with K-12 Content standards: Content Knowledge, Diverse Students, Management and Motivation, and Planning and Instruction, which included the specific, interwoven learning outcomes. According to these standards and learning outcomes, I investigated whether these standards influence increased changes of curriculum and collaboration than other standards in the PETE program. .

The basis for using these sources was that they represented the current, foremost knowledge, process, recommendation of quality physical education teacher education programs that were upheld by the National Association for Sport and Physical Education/ National Council for the Accreditation of Teacher Education. These sources had influenced both the public and professional investment of time and resources, created a forum for study about what was appropriate in teaching and learning, and ensured the creation of a supportive and thoughtful curriculum for students (Pearson, 1994). Currently, these standards have facilitated teacher preparation in identifying the scope of knowledge areas and outcomes for Physical Education Teacher Education and K-12 physical education programs. From these sources, I identified specific standards and learning outcomes that comprised this 13-question instrument.

The questionnaire was self-administered and contained Likert scale questions and a checklist of dichotomous variables. Questions 1-3 asked which standards had influenced the PETE program in the past decade, how these standards influenced the coursework of the PETE program, and what factors mediated the influence of these standards. Question 4 was a four-point Likert response indicating the level of agreement of program directors. The response options ranged from “Strongly Disagree” to “Strongly Agree” regarding whether teacher standards and K-12 Content Standards coordinated on learning outcomes will generate more reimbursement and how directors perceived the impact. Questions 5-8 were related to question 4. The response options ranged from “No Impact” to “High Impact”. Program directors were asked whether the interwoven learning outcomes in each standard conveyed a greater impact on curriculum and collaboration than other sets of standards and, additionally, were requested to identify the degree of impact of each standard. Questions 9-13 were associated with the respondents’ background that pertained to professional organizations, classification of institution, gender, age, and work experiences. These questions identified whether directors’ individual and institutional factors were related to their perceptions of the impact of the standards.

### Validly and Reliability

The oversight of this questionnaire was guided by the dissertation committee as regards the appropriateness and clarity of each of the questions in order to improve the validity and reliability of the survey instrument. The advisor and committee



members carefully examined the questionnaire and offered important advices. Based on information from materials and verbal feedback solicited throughout the process, adjustments had been made to refine the instrument. Several questions such as specific classification of change of courses and professional organization involvement was deleted or added to the questionnaire based on their counsel.

The reliability analysis scale was performed by SPSS 12.0 Statistical Software. There were 37 items in this instrument including the background information. Coefficient of reliability (Alpha) = 0.8649. Content and validity were built into this study by examining other similar, accepted surveys, as well as consulting framework documents and incorporating items for program surveys.

### Data Collection

Although data for a survey investigation could be collected via several methods, a Web-based survey was conducted in this investigation. For this study, the University Technology Center helped create a Website on the webpage of Western Michigan University and entered questionnaire on it. The questionnaire was administered on this Website. The program directors provided their views by completing a questionnaire submitted on this Website. The questionnaire had a code. Respondents wrote name of their institution on the questionnaire, thus enabling me to code it. Email correspondence was made to every director of a PETE program. Two separate mailings (cover letter with instrument and consent form and reminder letter with instrument) were used for data collection. Program directors were encouraged

to return the survey within one week of the initial mailing and sent a reminder immediately after that date had passed. First, the instrument, a cover letter briefly describing the study and its importance, and consent form were sent to the directors. Second, a follow-up correspondence to directors was sent to those who have not returned their survey instrument within one week. Another questionnaire was attached to the reminder letter in case the subject had deleted the original questionnaire. The response to the questionnaire was coded and entered into the SPSS 12.0 Statistical Software

### Data Analysis

Following the data collection, all data from the program directors was categorized in terms of quantitative data. The quantitative data was analyzed by descriptive statistics, multivariate and multiple regressions. The descriptive statistics classified and summarized means, standard deviations, as well as frequencies that were used to describe the characteristics of sample in this study. These data will demonstrate the result of questions such as the type of standards, coursework, factors, and degree of impact of each standard.

Two methods were used to identify whether or not directors' perceptions differed. First, ANOVA was utilized to determine whether the interwoven learning outcomes of standards produced a greater impact than other sets of standards. Second, multivariate analysis was performed to analyze several questions. According to these data, I found what differences occurred regarding the impact of each standard,

factors, and individual and institutional variables on curriculum, school-university collaboration, and learning outcomes. Moreover, I will find what differences occurred in terms of professional organization participation, classification of colleges and universities, age, and years in the current position

I utilized multiple regressions that found the relationship among course changes and external and internal factors, collaboration, type of professional organization, classification of institution, gender, age, and years in the current position. The Correlation Coefficient (Pearson  $r$ ) was identified to demonstrate whether, indeed, a relationship existed. In addition, what predictors were identified for the development and implementation of curriculum changes, school-university collaboration, and learning outcomes?

Specifically, I employed the methods above to analyze the following research questions:

1. How do the directors perceive the impact of initial teacher standards on curriculum changes of PETE program? Descriptive statistics and ANOVA were performed to identify these variables.
2. How do individual and institutional variables influence curriculum changes of PETE program? One way ANOVA and Two way ANOVA were used to identify these variables
3. Which standards have predicted curriculum changes of PETE program? Multiple regressions were applied to discover the relationship among

director's perceptions and individual and institutional variables and identify the predictors of curriculum.

#### Limitation of the Study

By exploring the perceptions of the entire group of one hundred ten directors of the Physical Education Teacher Education program, there was a strong external validity for the research study. However, there were some limitations affecting the power of the study. Because Planning and Instruction (Standard 6) included complex procedures related specifically to pedagogical knowledge and application such as class content selection, strategies, task sequences and field experiences, it is problematic to obtain specific information from such a large number of colleges and universities. Consequently, I did not construct specific questions for this standard. Therefore, it seemed prudent to reserve that query for another study.

## CHAPTER IV

### RESULTS

Program directors might better prepare Physical Education Teacher Education (PETE) candidates if they were aware of various individual and institutional characteristics that influence the implementation of appropriate standards. It is important to determine if institutional and programmatic differences have affected the use of standards in the preparation of teachers for the PE profession. Also, it is important to inform directors regarding these factors and differences in order to enhance the use of standards in improving the quality and effectiveness of PETE programs.

The purpose of this study was to investigate whether (1) national standards have influenced curriculum changes, and (2) curriculum changes were related to individual and institutional variables. The analysis identifies whether there are standards, individual or institutional characteristics that are significant predictors for determining curriculum. This study also determined if the teacher standards had exerted more impact, when coordinated with K-12 Content Standards, on curricula of PETE program.

There were 63 questionnaires returned from 110 of program directors surveyed, which accounted for a 56.35 percent return rate. A demographic profile of respondents (N = 63) showed that 58.7 percent (n =37) were male and 41.3 percent (n =26) were female. They taught at doctoral & research extensive-universities (23.8

percent), doctoral & research intensive-universities (22.2 percent), comprehensive college and universities I & II (47.6 percent), and baccalaureate and liberal arts colleges (6.3 percent). More than 55.5 percent of respondents had five or more years in their current position. Seventy six percent of respondents were 40 years of age or older. Nineteen percent, 28.6 percent, and 98.6 percent directors were members of the America College of Sport Medicine (ACSM), the National Association for Kinesiology and Physical Education in Higher Education (NAPEHE) and the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD), respectively. Nearly 31.7 percent belonged to two of these professional organizations. Only 7.9 percent belonged to all three. This suggests that directors from different professional organizations participated.

The factors affecting the implementation of standards were studied. Program directors indicated that faculty's awareness of standards ( $M = 0.730$ ,  $SD = 0.447$ ), faculty knowledge of standards ( $M = 0.746$ ,  $SD = 0.438$ ), faculty ability to teach standards ( $M = 0.524$ ,  $SD = 0.503$ ), administrative support ( $M = 0.460$ ,  $SD = 0.502$ ) and time ( $M = 0.476$ ,  $SD = 0.503$ ) were key factors influencing the implementation of standards. Seventy three percent and 74.6 percent of directors suggested that faculty awareness and knowledge to teach standards were the two most important factors that affected them for implementation of standards.

### Question 1

How do the directors perceive the impact of initial teacher standards on curriculum changes of PETE program?

#### Number of Courses Changed Due to Standards

Standards are a major focus in PETE to attempt to assess student learning and teacher quality. The *National Standards for Beginning Physical Education Teachers* (NASPE, 1995) and the *Standards for Initial Program in Physical Education* (NASPE, 2001) identified the requirements for teacher candidates' knowledge base and abilities. Although national standards have been instituted for approximately 10 years, little is known regarding how many courses required in the physical education teacher education concentration have been revised due to the initial standards.

The survey results indicated (Table 1) that there was a mean ( $M = 3.079$ ) of courses changed since national standards were instituted approximately 10 years. Twelve institutions (19 percent) changed 1 or 2 courses. Thirteen institutions (20.6 percent) changed 3 or 4 courses. Nine institutions (14.3 percent) changed 5 or 6 courses. Seven institutions (11.1 percent) made 9 or 10 course changes. This indicates that there were different course changes among institutions.

Table 1  
Percentage of Institutions with Course Changes

Courses	N	Percentage
None	2	3.2
1-2	12	19.0
3-4	13	20.6
5-6	9	14.3
7-8	13	20.6
9-10	7	11.1
10>	7	11.1

M=3.079 SD = 1.716

### Three Standards and K-12 Content Standards on Curriculum Changes

Teacher standards integrated with K-12 Content Standards in three areas: Content Knowledge, Diverse Students, and Management and Motivation. Content knowledge was associated with K-12 Content Standards 1-4. These standards emphasize physical education content and discipline-related concepts as well as how to incorporate the concepts and principles to teach students in a developmental way. It was apparent (Table 2) from the means and standard deviations that these learning outcomes had an impact on the changes of the PETE teaching, curriculum, and content selection ( $M = 3.079$ ,  $SD = 0.601$ ).

Diverse students were associated with K-12 Content Standards 5-6. These standards emphasize individual differences in skill levels, cognitive understanding, cultural background and students' diverse needs. The result showed that these learning outcomes had an impact on changes in PETE teaching, curriculum, and content selection ( $M = 3.143$ ,  $SD = 0.785$ ).



Management and motivation were associated with NASPE Content Standards 5-7. These standards emphasize creation of a positive and productive learning environment to motivate students' active engagement in learning. The result demonstrated that these outcomes had an impact on changes of the PETE teaching, curriculum, and content selection ( $M = 3.131$ ,  $SD = 0.758$ )

Table 2  
Average Number of Content Knowledge, Diverse Students and  
Management & Motivation

	M	SD
Content Knowledge	3.0794	0.6008
Diverse Students	3.1429	0.7851
Management & Motivation	3.1310	0.7578

There were nine interwoven learning outcomes in the sub-standards of content knowledge (3), diverse students (2), and management and motivation (4), which are coordinated with K-12 content standards. The means and standard deviations are listed in Table 3. ANOVA analysis indicated that there are no significant differences ( $F(8, 558) = 0.472$ ,  $P = 0.876$ ) among sub-standards on teaching, curriculum changes and content choice.

#### Three Standards and Other Standards Comparison on Curriculum Changes

Program directors suggested that other standards had influenced PETE curriculum changes. Descriptive statistics (Table 4) showed that planning and instruction ( $M=3.238$ ,  $SD=0.817$ ), assessment ( $M=3.254$ ,  $SD=0.898$ ) and technology

( $M=3.508$ ,  $SD= 0.759$ ) had higher mean scores than other standards, which means that these standards produced a greater impact on curriculum changes

Table 3

## A Comparison of Means of Sub-standards

	M	SD
Content Knowledge 1	3.0476	0.7710
Content Knowledge 2	3.1111	0.7429
Content Knowledge 3	3.0794	0.7026
Diverse Students 1	3.2381	0.8174
Diverse Students 2	3.0476	0.8506
Management & Motivation 1	3.1429	0.8203
Management & Motivation 2	3.2063	0.8643
Management & Motivation 3	3.0476	0.8118
Management & Motivation 4	3.1270	0.8889

$F(8, 558) = 0.472$ ,  $P = 0.876$

Table 4

## A Comparison of Means of Ten Standards

	M	SD
Content Knowledge	3.0794	0.6008
Diverse Students	3.1429	0.7851
Management & Motivation	3.1310	0.7578
Growth and Development	3.0159	0.8326
Communication	3.1587	0.8271
Planning and Instruction	3.2381	0.8174
Assessment	3.2540	0.8975
Reflection	3.2381	0.689
Technology	3.5079	0.7593
Collaboration	2.9683	0.7613

$F(9, 620) = 2.383$ ,  $P < 0.012$

ANOVA analysis was utilized to determine if there were differences among three interwoven standards and other standards. The results showed that there were significant differences ( $F(9, 620) = 2.383, P < 0.012$ ) among 10 standards. To specifically identify where the mean scores among 10 standards differed, Tukey HSD multiple comparisons were performed, which revealed significant differences of the mean scores between growth and development and technology (3.016 vs. 3.508,  $P = 0.015$ ) and technology and collaboration (3.508 vs. 2.968,  $P = 0.004$ ). This means that technology had yielded a significantly higher impact on changes of PETE teaching, curriculum, content selection than growth and collaboration in terms of directors' perceptions. However, significant differences were not found among the three interwoven standards and other standards.

## Question 2

How do individual and institutional variables influence curriculum changes in the PETE program?

The individual and institutional factor variables included in the investigation were: (1) professional organization participation, (2) classification of institution, (3) years in current position, and (4) age. These factors might have influenced the perceptions of program directors regarding the development and implementation of curriculum.

### ANOVA Analysis for Curriculum Changes by Individual and Institutional Variables

Several one-way ANOVAs were performed, which determined whether the number of course changes in physical education teacher education concentration were affected by individual and institutional variables. Significant differences were found with years in current position ( $F(5, 57) = 3.440, P=0.009, \eta^2 = 0.232$ ) and age ( $F(5, 57) = 3.596, P = 0.035, \eta^2 = 0.185$ ). To specifically identify where these differences occurred, Tukey HSD multiple comparisons were utilized. The result revealed a significant difference of the mean scores between 16-20 and 6-10 years in current position (4.250 vs. 2.000,  $P < 0.05$ ). This indicates that 16-20 years in the current position produce a higher impact on course changes than 6-10 years in the position. Also, the results of Tukey HSD multiple comparisons indicated a significant difference of the mean scores between 41-45 and 31-35 years of age (4.000 vs. 2.000,  $P < 0.05$ ). The high observed powers (0.882, 0.760) strongly support the finding.

Table 5

One -way ANOVA Analysis for Course Changes  
by Individual and Institutional Variables

Source	SS	df	MS	F	Sig.	$\eta^2$	Power
Organization	13.881	3, 59	4.627	1.618	0.195	0.076	0.404
Classification	20.796	3, 59	6.932	2.528	0.066	0.114	0.596
Years	42.325	5, 57	8.465	3.440	0.009	0.232	0.882
Age	33.866	5, 57	6.773	2.596	0.035	0.185	0.760

Several two-way ANOVAs were performed to identify whether the individual and institutional variables have main effect on curriculum changes. The cell means showed a difference in professional organization participation with the classification

of institution. Specifically, this indicates that main effects are different in means in participating in one professional organization with classification of institution (3.666 vs. 1.750 vs. 3.227 vs. 3.227), participating in two professional organizations with classification of institution (2.500 vs. 4.166 vs. 3.400 vs. 3.000), and participating in three professional organizations with classification of institution (0.000 vs. 1.000 vs. 1.000 vs. 6.000). In addition, cell means demonstrated a difference for classification of institutions with level of years in current position. This indicates that main effects are different in means of doctoral & research extensive universities with year in current position (2.000 vs. 2.285 vs. 5.000 vs. 1.666 vs. 5.000), doctoral and research intensive universities with year in current position (0.000 vs. 4.000 vs. 4.400 vs. 1.666 vs. 2.000), comprehensive college and university I/II with year in current position (2.555 vs. 4.833 vs. 3.666 vs. 3.250 vs. 2.500 vs. 1.666), and baccalaureate college-liberal arts with year in current position (6.000 vs. 3.000). Furthermore, cell means indicated a difference for classification of institution with level of age. This suggests that main effects are different in means of doctoral & research universities-extensive with age categories of the directors (2.250 vs. 3.000 vs. 3.500 vs. 3.000), doctoral & research universities-intensive with age (0.000 vs. 4.000 vs. 4.500 vs. 2.166), comprehensive college and university I/II with age (1.750 vs. 3.200 vs. 4.666 vs. 3.833 vs. 2.000 vs. 3.400), and baccalaureate college-liberal arts with age (6.000 vs. 6.000 vs. 3.000).

Also, the result of ANOVA summary table (Table 6) demonstrated that there were significant interaction effects on curriculum change. The interaction effect

indicated that the different level of variables interact to give different results for different groups. These interactions were found between professional organization participation and classification of institution ( $F(4, 52) = 4.391$ ,  $P = 0.004$ ,  $\eta^2 = 0.252$ ), classification of institution and years in current position ( $F(9, 45) = 9.492$ ,  $P < 0.01$ ,  $\eta^2 = 0.497$ ) and classification of institution and age ( $F(8, 46) = 2.656$ ,  $P = 0.017$ ,  $\eta^2 = 0.316$ ). This means that there are different course changes associated with professional organization participation that differ with the classification of institution. There are different course changes among classification of institution that differed with the years in a director's position. There are different course changes related to the number of years in the director's position that differ with age. However, the high observed powers (0.912, 0.997, and 0.880) also sustained the results.

Table 6

Two-way ANOVA Analysis for Course Changes  
by Individual and Institutional Variables

Source	SS	df	MS	F	Sig.	$\eta^2$	Power
Organization * Classification	38.076	4,52	9.519	4.391	0.004	0.252	0.912
Organization * Years	26.122	7,47	3.732	1.702	0.132	0.202	0.630
Organization * Age	16.753	5,49	3.351	1.380	0.248	0.123	0.445
Classification * Years	57.586	9,45	6.398	4.942	0.000	0.497	0.997
Classification * Age	43.110	8,46	5.389	2.656	0.017	0.316	0.880
Years * Age	15.681	11,41	1.426	0.608	0.811	0.140	0.276

## Question 3

Which standards have predicted curriculum changes of PETE program?

Multiple regression analysis was completed on individual and institutional variables to assess the predictive value of determining curricula changes of PETE program. The Pearson correlation was computed to identify relationships among curriculum changes and 10 standards, and curricula changes and individual and institutional variables.

Multiple Regression for Curriculum Changes and Initial Standards

The correlation analysis was used to measure the strength of the association between the results of curriculum changes and each of the program standards variables. The patterns of relationships between program standards and curricula changes varied depending on the different standards. In Table 7, the Pearson correlation between course changes and ten standards are presented. The results revealed that only planning and instruction ( $r = -0.244$ ) in 10 standards variables was significantly correlated with course changes ( $P < 0.05$ ). There were no significant correlation between course changes and any of the other standards such as content knowledge ( $r = -0.105$ ), diverse students ( $r = -0.164$ ), management and motivation ( $r = -0.098$ ), growth and development ( $r = -0.204$ ), communication ( $r = -0.066$ ), assessment ( $r = -0.128$ ), reflection ( $r = 0.134$ ), technology ( $r = 0.154$ ), and collaboration ( $r = 0.076$ ). In addition, ten standards were significantly correlated with

Table 7

## Correlation Matrix for Course Changes and Standards Variables

Measure	1	2	3	4	5	6	7	8	9	10	11
1. Courses	1										
2. CK	-0.105	1.000									
3. DS	-0.164	0.585	1.000								
4. MM	-0.098	0.709	0.859	1.000							
5. GD	-0.204	0.728	0.638	0.763	1.000						
6. CO	-0.066	0.645	0.598	0.725	0.722	1.000					
7. PI	-0.244*	0.585	0.738	0.789	0.705	0.683	1.000				
8. A	-0.128	0.550	0.703	0.739	0.577	0.684	0.796	1.000			
9. R	0.134	0.590	0.473	0.573	0.499	0.555	0.700	0.709	1.000		
10. T	0.154	0.547	0.472	0.485	0.421	0.435	0.452	0.494	0.690	1.000	
11. C	0.076	0.593	0.291	0.413	0.382	0.469	0.401	0.508	0.691	0.586	1.000

\*P&lt;0.05

CK = content knowledge, DS = diverse student, MM = management and motivation, GD = growth and development, CO=communication, PI = planning and instruction, A = assessment, R = reflection, T = technology, C = collaboration.



each other in this study ( $P < 0.001$ ). This means that course changes have not significantly correlated with standard variables.

The full model multiple regressions for ten standards demonstrated significant differences for courses changes ( $F(10, 52) = 2.585$ ,  $P = 0.013$ ). Results (Table 8) revealed that reflection was a significant positive predictor ( $P = 0.005$ ) and planning and instruction was a significant negative predictor ( $P = 0.005$ ) for course changes. All predictors together accounted for 20.4% of variance. The tolerance was higher than 0.01 so that there was a good fit for prediction. This means that this study is meaningful. Planning and instruction and reflection can be used to predict course changes.

Table 8

Multiple Regressions Analysis for Course Changes by Program Standards

Predictor	B	SE	Beta	t	P	Tolerance	VIF
CK	-0.684	0.584	-0.239	-1.172	0.247	0.308	3.251
DS	-0.196	0.541	-0.09	-0.363	0.718	0.210	4.770
MM	1.133	0.665	0.500	1.703	0.095	0.149	6.722
GD	-0.405	0.441	-0.196	-0.918	0.363	0.280	3.566
CO	0.422	0.400	0.204	1.055	0.296	0.345	2.896
PI	-1.564	0.535	-0.745	-2.925	0.005	0.198	5.051
A	-0.446	0.434	-0.233	-1.027	0.309	0.250	4.005
R	1.766	0.599	0.709	2.948	0.005	0.222	4.501
T	0.254	0.391	0.112	0.651	0.518	0.430	2.325
C	-0.274	0.404	-0.121	-0.678	0.501	0.401	2.495

Adjusted  $R^2 = 0.204$ ,  $F(10, 52) = 2.585$ ,  $P = 0.013$

### Multiple Regression for Curriculum Changes and Other Variables

The correlation analysis was used to measure the strength of association between curriculum changes and teacher certification, content standards, external and internal factors, and each of individual and institutional variables. In Table 9, the results showed that content standards and AAHPERD were significantly correlated with course changes at  $P < 0.05$  levels. There was no significant correlation between course changes and any of the other variables such as teacher certification ( $r = -0.162$ ), age ( $r = -0.081$ ), classification of institution ( $r = 0.196$ ), years in current position ( $r = -0.189$ ). This means that course changes do not significantly correlate with individual and institutional variables.

The full model multiple regressions for teacher certification, content standards, individual and institutional variables demonstrated significant differences for courses changes ( $F(10, 52) = 2.661$   $P = 0.011$ ). In table 10, results revealed that there were four significant positive predictors ( $P < 0.05$ ) (age, AAHPERD, classification of institution, and external and internal factors) and one negative predictor (years in current position) for course changes. These predictors accounted for 21.1% of variance. The tolerance was higher than 0.01 so that there was a good fit for prediction. This shows that this study is meaningful. These variables can be used to predict course changes.

Table 9  
Correlation Matrix for Course Changes and Certification, Content Standards,  
Factors, Individual and Institutional Variables

Measure	1	2	3	4	5	6	7	8	9	10	11
1. Courses	1.000										
2. Certification	-0.162	1.000									
3. Content	-0.222*	0.418	1.000								
4. ACSM	0.096	-0.210	-0.324*	1.000							
5. NAKPEHE	0.177	-0.110	-0.169	0.141	1.000						
6. AAHPERD	0.221*	-0.06	-0.097	0.088	0.115	1.000					
7. Gender	0.188	-0.010	-0.25	0.086	0.041	0.152	1.000				
8. Age	0.081	0.026	-0.117	0.117	-0.044	0.196	0.306*	1.000			
9. Classification	0.196	0.086	0.005	0.204	-0.176	-0.126	0.230	0.080	1.000		
10. Years	-0.189	0.113	0.126	0.071	-0.137	0.241	0.065	0.760	-0.06	1.000	
11. Factors	0.183	-0.100	-0.111	0.177	0.063	0.132	0.004	-0.23	-0.230	-0.090	1.000

\*P < 0.05

Table 10

Multiple Regression Analysis on Course Changes by Certification,  
Content Standards, Factors, Individual and Institutional Variables

Predictor	B	S E	Beta	t	P	Tolerance	VIF
Certification	-0.482	0.685	-0.089	-0.704	0.485	0.795	1.258
Content	-4.090	0.574	-0.010	-0.071	0.944	0.646	1.547
ACSM	-0.393	0.562	-0.091	-0.699	0.488	0.757	1.321
NAKPEHE	0.472	0.453	0.125	1.042	0.302	0.881	1.136
AAHPERD	2.382	1.176	0.245	2.026	0.048	0.868	1.152
Gender	-0.157	0.450	-0.046	-0.350	0.728	0.752	1.330
Age	0.558	0.206	0.558	2.704	0.009	0.299	3.347
Classification	0.506	0.243	0.272	2.085	0.042	0.750	1.333
Years	-0.597	0.201	-0.593	-2.966	0.005	0.318	3.141
Factors	0.290	0.129	0.286	2.260	0.028	0.795	1.257

Adjusted R<sup>2</sup> = 0. 211 F (10, 52) = 2. 661 P=0.011

In summary, national standards have influenced curriculum changes but these standards did not produce a significant impact on course changes. In addition, curriculum changes were not significantly related to standards, individual and institutional variables. However, some of these variables can be utilized to predict curriculum changes for PETE program in the future.

## CHAPTER V

## CONCLUSION

The primary attempt of this study was to examine whether teacher standards had influenced PETE program to make changes in curriculum and school-university collaboration. The findings of this study provide a profile of whether PETE program met the new challenge derived from standard-based movement across the nation. This study, in particular, was significant in three aspects. First, this study provided insightful information regarding connections between current teacher standards and the K-12 content standards in PETE programs. Second, this study presented diagnostic information about the impact of teacher standards on PETE program. Finally, the study will encourage physical educators to become more active in the study of standards. Pre-service teachers will be the future agents of standard-based educational reform in the classroom of the future. They will play a paramount role in holding K-12 students accountable for content standards and helping students achieve desired learning outcomes in psychomotor, cognitive, and affective domains. The successful implementation of teacher standards is related directly to whether pre-service teachers possessed a broad and deep knowledge base, a repertoire of teaching skills, and positive dispositions toward teaching and learning. The interlocked relationship between K-12 school and teacher education powerfully demands preparing prospective teachers according to *The National Standards for Beginning Physical Education Teachers*.

The beginning teacher standards have served as a guide for preparing quality pre-service teachers. They provided a comprehensive targeted framework for what the beginning teacher should know and be able to do with what they know in the 10 areas. Results of investigation showed that course changes have occurred since the standards were enacted approximately ten years. That existing external and internal factors affected the implementation of standards has been found. Faculty's awareness of standards, faculty knowledge of standards, faculty ability to teach standards, administrative support and time are key factors that influenced the implementation of standards. Faculty awareness and faculty knowledge are two of the most important factors. ANOVA demonstrated no significant effect of teacher standards on curriculum changes. Course changes in physical education teacher education concentration were affected by individual and institutional variables. Significant differences were found with years in current position and age in individual and institutional variables. The multiple regression analysis revealed that standard six (planning and instruction) among 10 standards variables was significantly correlated with course changes ( $P < 0.05$ ). Standard nine (Reflection) among 10 standards was a significant positive predictor and planning and instruction was a significant negative predictor for course changes.

*The Standards for Initial Programs in Physical Education Teacher Education* and *National Standards for Physical Education* are coordinated in three areas: content knowledge, diverse students, and management and motivation, which provide learning outcomes that may offer an opportunity for school-university collaboration in

a standard-based undergraduate curriculum. Program directors indicated that these learning outcomes help identify specialization areas in PETE program, increase effectiveness of beginning teacher, assist pre-service teachers to become familiar with special emphasis in K-12 Content Standards and align PETE with K-12 curriculum and instruction. However, the three teacher standards coordinated K-12 Content Standards had not produced any greater impact than other teacher standards on curricula and collaboration in PETE programs.

Teacher Standards cooperated with K-12 Content Standards to provide learning outcomes that may offer an opportunity for school-university collaboration in a standard-based curriculum. ANOVA analysis regarding content knowledge, diverse students, and management and motivation variables indicated that content knowledge has significant effect on school-university collaboration. Another ANOVA analysis for individual and institutional variables showed that there was no significant effect of individual and institutional variables on school-university collaboration. The correlation among three standards variables for school-university collaboration showed that some sub-standards in content knowledge, diverse students and management and motivation were significantly correlated with school-university collaboration. In addition, content knowledge was a positive predictor of school-university collaboration.

The correlation between school-university collaboration and seven standards variables showed that reflection, technology and collaboration were significantly correlated with school-university collaboration at  $P < 0.01$  level. Growth and

development, communication, and planning and instruction were significantly correlated with school-university collaboration at  $P < 0.05$  level. The result of multiple regressions revealed that collaboration was a positive predictor of school-university collaboration. Assessment was a negative predictor of school-university collaboration. In individual and institutional variables, AAHPERD was correlated with school-university collaboration. Other variables were not related to school-university collaboration.

The three interwoven learning outcomes also differed at individual and institutional variables. The results of ANOVA analysis indicated that there were significant differences regarding years in current position in learning outcomes of content knowledge and management and motivation. The correlation among 10 variables for learning outcome showed that years in current position and internal and external factors were positively correlated with implementation of learning outcomes. The National Association for Kinesiology and Physical Education in Higher Education (NAKPEHE) was negatively correlated with learning outcomes. In individual and institutional variables, the stepwise multiple regressions showed that external and internal factors (faculty awareness, faculty knowledge, faculty ability, administrative support, and time) and years in current position were predictors of learning outcomes. These predictors accounted for 16.1 percent of variance.

Overall, the results provide empirical evidence for the impact of standards on curriculum changes and collaboration in physical education teacher education program. These standards are related to individual and institutional factors that are



predictive of implementation of standards. However, the standards will continue to influence the PETE program. Further study is needed to identify and examine the development and implementation of standards.

### Recommendation

The importance of development and implementation of standards has been emphasized by PETE program. To accurately determine the effectiveness of teacher standards, up-to-date assessment must be maintained.

1. It is recommended that another study of teacher standards in PETE be conducted with a larger sample.

2. The quantitative findings of this study suggest that curriculum changes, school-university collaboration have been influenced by teacher standards in PETE. It is recommended that qualitative studies be further conducted to identify the factors and predictors of curricula, school-university collaboration, and learning outcomes. Additional qualitative study may yield further information and understanding to compensate for findings of this and other quantitative studies.

3. Directors had identified that faculty s' awareness and knowledge of national standards were the important factors that influence the implementation of standards. It is recommended that a study be conducted to investigate current level of teachers' knowledge and perceptions of national standards. This study may reflect the reality of PETE program that faculty have to endure.

4. To teach content standards effectively, pre-service teachers must be empowered with content knowledge, pedagogical skill, and professional disposition. It is recommended that a study be conducted to identify how well pre-service teachers are prepared according to the standards. Pre-service teachers will be evaluated as to whether they have mastered knowledge and skills required by standards.

## Appendix A

### Physical Education Teacher Education Program Standards Survey

As a director of a Physical Education Teacher Education (PETE) program, you have the unique experience and ability needed to help others understand the role of standards in physical education teacher preparation programs. Your frank and honest responses to this questionnaire are deeply appreciated.

Please answer the following questions concerning standards and program requirements.

1. Which of following national standards and state certification requirements affected the development or revision of the PETE curricula offered at your institution?
  - *National Standards for Beginning Physical Education Teachers*
  - Your state's undergraduate physical education teacher certification requirements
  - *National Standards for Physical Education*
  
2. How many courses required in the physical education teacher education concentration have been revised at your institution since national standards were instituted approximately 10 years?
  - None
  - 1-2
  - 3-4
  - 5-6
  - 7-8
  - 9-10
  - 10>
  
3. What external and internal factors influence the implementation of standards and program requirements in your PETE?
  - Faculty awareness of standards
  - Faculty knowledge of standards
  - Faculty ability to teach standards
  - Administrative support
  - Time
  - Other
  
4. The *Standards for Initial Programs in Physical Education Teacher Education* and the *National Standards for Physical Education* are coordinated and may offer an opportunity for school-university collaboration in a standard-based undergraduate curriculum. Please indicate the level of agreement in terms of this scale: (1) Strongly Disagree (SD), (2) Disagree (D), (3) Agree (A), (4) Strongly Agree (SA).

The *Standards for Initial Programs in Physical Education Teacher Education* is used in our PETE programs to:

	SD	D	A	SA
• Identify specialization areas in the PETE program	1	2	3	4
• Increase effectiveness of beginning teachers	1	2	3	4
• Assist pre-service teachers to become familiar with specific emphases in the <i>National Standards for Physical Education</i>	1	2	3	4
• Align PETE with K-12 curriculum and instruction	1	2	3	4

The following (# 6-8) questions reflect how the *Standards for Initial Programs in Physical Education Teacher Education* align with *K-12 Content Standards* in three areas: content knowledge, diverse students, and management and motivation. The learning outcomes of these three areas may affect changes in your teaching, curriculum, and content selection. Please indicate the degree of impact in terms of four scales. No Impact (NI), Some Impact (SI), Impact (I), Highly Impact (HI).

5. Standard one (content knowledge) emphasizes that “physical education teachers understand content and disciplinary concepts related to the development of a physically educated person.” It is associated with the *K-12 Content Standards* 1-4. The *Standards for Initial Programs in Physical Education Teacher Education* has in impact on our PETE. We use them to:

	NI	SI	I	HI
• Demonstrate competent motor skill performance in a variety of physical activities	1	2	3	4
• Describe performance concepts and strategies related to skillful movement and physical activities (e.g., fitness principles, game tactics, skill improvement principles)	1	2	3	4
• Describe and apply bioscience and psychological concepts to skills movement, physical activity, and fitness	1	2	3	4

6. Standard three (diverse students) emphasizes that “physical education teachers understand how individual differ in their approaches to learning, and create appropriate instruction adapted to these differences.” It is associated with *K-12 Content Standards* 5-6 .Our program uses them to:

	NI	SI	I	HI
• Identify, select, and implement appropriate instruction that is sensitive to students’ strengths and weaknesses, multiple needs, learning styles, and prior experiences	1	2	3	4
• Use appropriate services and resources to meet the diverse learning needs of students	1	2	3	4

7. Standard four (management and motivation) emphasizes that “ physical education teachers use an understanding of individual and group motivation and behavior to create a safe learning environment that encourages positive social interaction, active engagement in learning, and self-motivation.” It is associated with *K-12 Content Standard* 5-7. We use these standards to:

	NI	SI	I	HI
• Provide an active and equitable learning experience by organizing, allocating, and managing resources (e.g., students, time, space, equipment, activities, teacher attention)	1	2	3	4
• Use a variety of developmentally appropriate practices to motivate students to participate in physical activity inside and outside of the school	1	2	3	4
• Develop strategies to help students demonstrate responsible personal and social behaviors that promote positive relationships and a productive learning environment	1	2	3	4
• Develop an effective behavior management plan	1	2	3	4

8. If other standard influences your institution's curriculum, teaching, or content, please indicate the degree of impact.

	NI	SI	I	HI
• <b>Standard 2: Growth and Development:</b> Physical education teachers understand how individuals learn and develop and can provide opportunities that support their physical, cognitive, social, and emotional development	1	2	3	4
• <b>Standards 5: Communication:</b> Physical education teachers use knowledge of effective verbal, nonverbal, and media communication techniques to enhance learning and engagement in physical activity settings	1	2	3	4
• <b>Standard 6: Planning and Instruction:</b> Physical education teachers plan and implement a variety of developmentally appropriate instructional strategies to develop physically, education individuals, based on state and national (NASPE K-12) standards	1	2	3	4
• <b>Standard 7: Student Assessment:</b> Physical education teachers understand and use assessment to foster physical, cognitive, social, and emotional development of student in physical activity	1	2	3	4
• <b>Standard 8: Reflection:</b> Physical education teachers are reflective practitioners who evaluate the effects of their actions on others (e.g., students, parents/guardians, fellow professionals), and seek opportunities to grow professionally	1	2	3	4
• <b>Standard 9: Technology:</b> Physical education teachers use information technology to enhance personal and professional productivity	1	2	3	4
• <b>Standard 10: Collaboration:</b> Physical educations foster relationships with colleagues, parents/guardian, and community agencies to support students' growth and well-being.	1	2	3	4

The following questions (#9-13) pertain to your professional organizations, gender, age, and the classification of your school. Please place a check next to all answers that apply to you.

9. To which professional organization(s) do you belong?

- America College of Sport Medicine
- The National Association for Kinesiology and Physical Education in Higher Education
- American Alliance for Health, Physical Education, Recreation and Dance

10. What is your gender? ☐ Male ☐ Female

11. What is your age?

☐ 25-30      ☐ 36-40      ☐ 46-50      ☐ 56-60  
☐ 31-35      ☐ 41-45      ☐ 51-55      ☐ 61-65

12. How is your institution classified by the Carnegie Foundation?

- Doctoral/Research Universities-extensive
- Doctoral/ Research Universities-intensive

- Comprehensive College and Universities I
- Comprehensive College and Universities II
- Baccalaureate College-Liberal Arts

13. How many years have you been in your current position?

- 1-2
- 3-5
- 6-10
- 11-15
- 16-20
- 20 more

Appendix B  
Survey Cover Letter



Dear Director:

As a director of a Physical Education Teacher Education (PETE) program, you have the unique experience and ability needed to help others understand the role of standards in PETE preparation programs. I am a doctoral student in physical education at Western Michigan University and conducting this research. Your institution was randomly selected to participate in this research project. It will take approximately 15-20 minutes of your time to answer these questions. Your frank and honest responses are deeply appreciated.

Since this study will attempt to gain a greater understanding of knowledge and outcomes regarding curricula in PETE programs from you, there are no known risks to you. As one researcher, I have no interest in the responses of individuals. Once I have the data compiled and analyzed, I will be pleased to share the findings with you. If you would like a summary of the results, please email Xiangren Yi with your name and address. All data will be dealt with confidentially. No institution or individual taking part in the study will appear on any reports, papers, or presentations. Please see the consent form below.

This research may produce valuable information regarding which individual and institutional factors are present in PETE programs and their relationship to curriculum changes and the implementation of standards. If you have any questions or concerns about this questionnaire, you may contact Dr. Sue Poppink at 269-387-3569 or [sue.poppink@wmich.edu](mailto:sue.poppink@wmich.edu); or Xiangren Yi at 269 -598-2810 or at [xrenyi@yahoo.com](mailto:xrenyi@yahoo.com) .

I hope you will find a few moments in you busy schedule to complete this questionnaire. I deeply appreciate your consideration and time.

Sincerely,

Xiangren Yi

Appendix C  
Follow Up Letter

Dear Director:

Recently I emailed you to request your participation in a web-based survey concerning a research study I am conducting. The survey is about the impact of standards on Physical Education Teacher Education programs. To date, I have not yet received your response. Your input is very important to the study.

Please take a few minutes to complete it at the following web address:

<http://homepages.wmich.edu/~x7yi/survey2.htm>

Your response will be deeply appreciated. If any questions or concerns arise prior to completing this survey, you may contact Dr. Sue Poppink at 269-387-3569 or Xiangren Yi at 269-598-2810.

Sincerely,

Xiangren Yi

## Appendix D

### Human Subjects Institutional Review Board Approval Letter

## WESTERN MICHIGAN UNIVERSITY



Human Subjects Institutional Review Board

Date: February 11, 2005

To: Sue Poppink, Principal Investigator  
Xiangren Yi, Student Investigator for dissertation

From: Mary Lagerwey, Ph.D., Chair

A handwritten signature in cursive script that reads "Mary Lagerwey".

Re: HSIRB Project Number 05-02-16

This letter will serve as confirmation that your research project entitled "Impact of Standards on Physical Education Teacher Education: Curricula, Collaboration, and Learning Outcomes" has been **approved** under the **exempt** category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you may **only** conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: February 11, 2006

Walwood Hall, Kalamazoo, MI 49008-5456  
PHONE: (269) 387-8293 FAX: (269) 387-8276

Appendix E  
Consent Form

### Consent Form

You are invited to participate in a research project entitled "the Impact of Standards on Physical Education Teacher Education (PETE): Curricula, Collaboration, and Learning Outcomes." This research will enable me to study whether (1) university standards and K-12 content standards have influenced the curricula in PETE programs, and (2) there are differences in directors' perceptions regarding curriculum, collaboration, and learning outcomes related to the type of higher education institution in which they work, their age, years in current position, and professional involvement. I am asking you to spend 15-20 minutes to complete the questionnaire of this study.

As in all research, there may be unforeseen risks to the participant. If you have concerns with the content of the questionnaire, you may choose not to participate, not to answer any question, or to stop participating at any time.

You may benefit by participating in this survey through having the opportunity to learn more about standards and their influence on PETE curricula. Also, your views may help promote the improvement of standards and PETE programs, thus, advancing the cause of the profession.

All of the collected information is confidential. When you complete the survey, your name will not be included in the data, only the name of your institution. Your institution's name will not appear on in any reports of this data. All original data will be entered into SPSS 12 Statistical Software and retained on a password protected file on the principal investigator's computer for at least three years.

You may refuse to participate or halt your participation at any time during the study without prejudice or penalty. Participants can skip any question and simply leave it blank.

If you have any questions or concerns about this study, you may contact either Dr. Poppink at 269-387-3569 or at [sue.poppink@wmich.edu](mailto:sue.poppink@wmich.edu), or Xiangren Yi at 269-598-2810. You may also contact the chair of Human Subjects Institutional Review Board at 269-387-8293 or the vice president for research at 269-387-8298 with any concerns that you may have.

This consent document has been approved for use for one year by the Human Subjects Institutional Review Board after February 21, 2005 and before February 21, 2006. Do not participate in this study if these dates do not comply. Completing the survey on the website implies your consent.

Please start this survey in the following website address:

<http://homepages.wmich.edu/~x7yi/survey2.htm>

Appendix F  
Data Record Form



**Data Record Sheet**

Institution Code # \_\_\_\_\_

- 1) Standards
- |                         |                |
|-------------------------|----------------|
| Beginning Teachers      | 1 = Yes 0 = No |
| Teacher Certification   | 1 = Yes 0 = No |
| K -12 Content Standards | 1 = Yes 0 = No |
- 2) Course Changes
- |        |          |         |        |
|--------|----------|---------|--------|
| 0=None | 1 = 1-2  | 2 = 3-4 | 3 =5-6 |
| 4 =7-8 | 5 = 9-10 | 6 =10>  |        |
- 3) External and Internal Factors
- |                                    |                |
|------------------------------------|----------------|
| Faculty awareness of standards     | 1 = Yes 0 = No |
| Faculty knowledge of standards     | 1 = Yes 0 = No |
| Faculty ability to teach standards | 1 = Yes 0 = No |
| Administrative support             | 1 = Yes 0 = No |
| Time                               | 1 = Yes 0 = No |
| Other                              | 1 = Yes 0 = No |
- 4) Program Standards and K -12 Content Standards
- |  |                           |
|--|---------------------------|
| a. Specialization Areas                | SD = 1 D = 2 A = 3 SA = 4 |
| b. Effectiveness of Beginning Teachers | SD = 1 D = 2 A = 3 SA = 4 |
| c. Specific Emphases                   | SD = 1 D = 2 A = 3 SA = 4 |
| d. Align PETE                          | SD = 1 D = 2 A = 3 SA = 4 |
- 5) Standard One
- |  |                            |
|--|----------------------------|
| a. Competent Motor Skill                 | NI = 1 SI = 2 I = 3 HI = 4 |
| b. Performance Concepts                  | NI = 1 SI = 2 I = 3 HI = 4 |
| c. Bioscience and Psychological Concepts | NI = 1 SI = 2 I = 3 HI = 4 |
- 6) Standard Three
- |                                       |                            |
|---------------------------------------|----------------------------|
| a. Appropriate Instruction            | NI = 1 SI = 2 I = 3 HI = 4 |
| b. Appropriate Services and Resources | NI = 1 SI = 2 I = 3 HI = 4 |
- 7) Standard Four
- |                             |                            |
|-----------------------------|----------------------------|
| a. Learning Experience      | NI = 1 SI = 2 I = 3 HI = 4 |
| b. Appropriate Practices    | NI = 1 SI = 2 I = 3 HI = 4 |
| c. Strategies               | NI = 1 SI = 2 I = 3 HI = 4 |
| d. Behavior Management Plan | NI = 1 SI = 2 I = 3 HI = 4 |
- 8) Other Standards

a.	Standard 2: Growth and Development	NI = 1	SI = 2	I = 3	HI = 4
b.	Standard 5: Communication	NI = 1	SI = 2	I = 3	HI = 4
c.	Standard 6: Planning and Instruction	NI = 1	SI = 2	I = 3	HI = 4
d.	Standard 7: Student Assessment:	NI = 1	SI = 2	I = 3	HI = 4
e.	Standard 8: Reflection	NI = 1	SI = 2	I = 3	HI = 4
f.	Standard 9: Technology	NI = 1	SI = 2	I = 3	HI = 4
g.	Standard 10: Collaboration:	NI = 1	SI = 2	I = 3	HI = 4

9) Professional Organization(s)	ACSM	1 = Yes	0 = No
	NAKPEHE	1 = Yes	0 = No
	AAHPERD	1 = Yes	0 = No

10) Gender      Male = 1      Female = 2

11) Age      1 = 25-30      2 = 36-40      3 = 46-50      4 = 56-60      5 = 31-35  
               6 = 41-45      7 = 51-55      8 = 61-65

12) Institution

- 1 = Doctoral/research Universities -extensive
- 2 = Doctoral/ research universities-intensive
- 3 = Comprehensive college and universities I
- 3 = Comprehensive college and universities II
- 4 = Baccalaureate college-liberal arts

13) Years in Current Position

1 = 1-2      2 = 3-5      3 = 6-10      4 = 11-15      5 = 16-20  
 6 = 20 more

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