The Effect of Professional Development on Physical Education Teachers' Use of Assessment in the Classroom

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by

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(ABSTRACT)

This study examined the influence of a professional development project on the process of change experienced by four veteran physical education teachers. This study was part of a larger study that included all of the physical educators within an entire school district. The information shared here is from a sub-group of teachers who taught primary-age students. The professional development project was content-based, situated in classroom practice, sustained over time, focused on the design and implementation of standards-based content and assessment into physical education classroom practice. A qualitative methodology was used to investigate the process of change experienced by these teachers before, during, and after participating in this project. Findings were based on project conversations, interviews, multiple classroom observations, questionnaires, and document analysis of materials produced during the project and in the classrooms of these four veteran physical education teachers throughout the three-year span of the project. It was found that the participants changed their thoughts and practices regarding content, instruction, and assessment in an interconnected non-linear manner. Changes include: student learning became a predominant instructional goal; standards were viewed as a planning tool; and assessment for and of student learning became important. Perceptions of self as professional changed from feelings of marginalization to being an important and valued member of their schools. Four major conclusions were drawn from the findings about the features of the professional development project. These are: (a) teaching is an isolated enterprise, and the social context of this project supported change; (b) learning to teach as a situated endeavor and by situating the project in the context of classroom physical education supports change; (c) adequate resources to maintain a sustained focus during implementation of practices supported change; (d) incompatibility of teacher knowledge and beliefs with the intentions of the professional development personnel inhibited change.

Dedication

This is dedicated to my parents, my husband, and my son.

It is through your strength, support, and love I am able to achieve. Thank you.

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CHAPTER ONE

Introduction

Statement of the Problem

The arrival of standards-based education reform has led to a new vision of how content, instruction, and assessment are designed and delivered. Because of this reform, teachers are being required to teach and assess in ways that are different from how they were trained. For veteran teachers, standards-based reform also impacts perceptions of teaching and learning. Most noteworthy is the emphasis on assessment. The educational community is calling for new approaches to assessment to better address the educational goals outlined in the national standards (e.g., NASPE, 1995; NCTM, 2000; NCSS, 1994). Assessment is to be designed to provide information about student learning and achievement.

Though physical education is not a major focus of most education reform initiatives, it is nonetheless impacted by the standards movement. In physical education, *Moving into the Future: The National Content and Assessment Standards for Physical Education* (NASPE, 1995) describes the desired learning outcomes for students who participate in a quality physical education program. These standards promote full integration of assessment into the instructional process. "Standards-led assessments are closely linked to curriculum, producing a tight coupling between what is taught and what tested" (Linn & Herman, 1997, p. iii). Linn and Baker (1996) further suggest that there are six features for quality assessment:

- Assessment tasks should involve activities that are valued in their own right, engaging students in "real-world" problems rather than artificial tasks.
- Assessments should model curriculum reform.
- Assessment activities should focus on objectives consistent with the goals of instructional activities, thus contributing to instructional improvement.
- Assessments should provide a mechanism for professional development.
- Assessments should lead to improved learning by engaging students in meaningful activities that are intrinsically motivating.
- Assessments should lead to greater and more appropriate accountability.

"The power of assessments to shape teachers' practice, once seen as an unfortunate and intentional side effect, becomes desirable – indeed, strengthened—as the stakes attached to

standards are raised" (Linn & Herman, 1997, p. 5). Curriculum, instruction, and assessment are now viewed as an interconnected entity in standards-based education. This is a departure from what Stiggins (1991) describes as the teachers teaching and the assessors assessing. It is placing the teacher in control of making decisions regarding what and how content needs to be taught and how to assess students' learning and understanding. In a more recent article by Stiggins (2002), he warns: "If we wish to maximize student achievement in the U.S., we must pay far greater attention to the improvement of classroom assessment. Both assessment of learning and assessment for learning are essential" (p. 758).

While teachers may share the goals envisioned in these documents, they are often frustrated due to the lack of clarity, knowledge, and understanding on how to achieve such innovations in instruction and curriculum (Chen, 2006; Scott Nelson & Hammerman, 1996). The image of learning and teaching outlined in this reform movement is different from what most teachers themselves experienced as students, undergraduates, and what they were typically told to do as a practicing teacher (Borko, Davinroy, Bliem, & Cumbo, 2000; Little, 1993; McLaughlin & Talbert, 1993, 2006; Richardson, 1999). How one interprets and views the standards is dependent on one's level of knowledge about them (Chen, 2006).

If teachers are to be successful in emulating these tenets of reform, many will need to make major changes in their practices, knowledge and beliefs about teaching, learning, and subject matter (Borko, 2004; Borko & Putnam, 1995; Fullan, Hill, & Crevola, 2006). However, it cannot be assumed that the instruction and curriculum advocated by standards-based education will be immediately understood or embraced by practitioners or administrators - such changes require support and guidance. Teacher beliefs and attitudes have a powerful impact on the process of implementing curricular and instructional innovations (Borko & Putman, 1995; Fullan, 1990; Richardson, 1992; Sarason, 1982). As such, the literature is full of examples of how difficult it is for teachers to change their knowledge, beliefs and practices in fundamental ways (e.g., Ball & McDiarmid, 1990; Borko, Flory, & Cumbo, 1993; Borko & Putnam, 1995; Lichtenstein, McLaughlin, & Knudsen, 1992).

A number of researchers studying educational reform have called for increased attention to support teachers (e.g., Borko & Putnam 1995; Fullan, 2006; Guskey, 2002; Richardson, 1994). Meaningful well-designed professional development may serve to equip teachers with adequate knowledge of the standards and extend and refine their practice (Borko, Elliott, &

Uchiyama, 2002; Feiman-Nemser, 2001). Unfortunately, there is little research that provides information or understanding as to the ramifications of standards-based education in physical education on professional development. Ward and Doutis (1999) concluded that physical education has been ignored in education reform, in part because it was not considered a core academic subject. Ward and Doutis (1999) argue that "because of the limited number of studies on professional development in physical education, we know little about which processes, forms or components of in-service professional development projects in physical education are effective" (p. 395).

While this study began in 1996 when the standards-movement was beginning in physical education, as of 2007 there is still little research to be found in regard to professional development focusing on standards-based education in physical education. According to Ko, Wallhead, and Ward (2006), there remains an assumption that professional development changes teaching practices, but the factors and dynamics that effect change are not clearly understood. Furthermore, little direct evidence associated with change in actual teaching practices and student learning has been used to explore and identify the effectiveness of professional development programs (Desimone, Porter, Garet, Yoon, & Birman, 2002; Garet, Birman, Porter, Desimone, & Herman, 1999; Garet, Porter, Desimone, Birman, & Yoon, 2001; Porter, Garet, Desimone, & Birman, 2003). The need to explore the topic of professional development in physical education in regard to standards-based reform and the influence it may have teacher change is addressed in this study. Specifically, this study investigates the changes that occurred in the thoughts and practices related to curriculum, instruction, and assessment of four veteran primary physical educators who participated in a three-year professional development project.

The Purpose of this Study

The purpose of this study was to investigate the thoughts and practices of four veteran primary level (K-2) physical education teachers regarding classroom-based assessments before, during, and after a three-year professional development project.

Research Questions

The following questions guided this research study:

1. How did the participants' thoughts and practices related to content, instruction, assessment, and self-as-professional change over the course of the project?

2. At the completion of the professional development project, what features of the professional development project did the participants report as supportive and as hindering?

Definition of Terms

The purpose of this section is to clarify significant terms used in this study. The following is a list of such terms and their definitions.

1. *Assessment* refers to any systematic basis for making inferences about characteristics of performance, usually based on various sources of evidence. It is often related to multiple traits and multiple methods of measurement (NASPE, 1995).
2. *Facilitators* are identifiable factors that positively influenced the change process.
3. *Hindrances* are identifiable factors that negatively influenced the change process.
4. *Performance-based assessment* also known as alternative or authentic assessment. It is a form of testing that requires students to perform a task rather than select an answer from a ready-made list (NASPE, 1995).
5. *Standardized fitness achievement tests* measure student performance in specific components of fitness and compare student scores against a nationwide sampling of students who have already been given the test, which is referred to as a norm group (NASPE, 1995).
6. *The norm group* is a sample group of students that supposedly represent the entire test taking population. Norm group scores can be as much as ten years old.
7. *Skill checklists* consist of a list of performance criteria that are used to assess the execution of a skill (NASPE, 1995).
8. *Knowledge assessments* for the purpose of this study are assessments that are used to assess a student's knowledge of the key parts of a motor skill performance. The national standards outline what a student should know and be able to do. It is recognized that a student may understand how to perform a skill in physical education, but not be able to demonstrate proficiency in performing the specified skill (NASPE, 1995).
9. *Standards-based curriculum* is based on established content standards for a given area of the school curriculum. The National Standards that were used for the purpose of the professional development project and study that emerged from the project were the

physical education standards were created by the National Association of Sport and Physical Education (NASPE) and is titled *Moving into the Future: National Standards for Physical Education* (1995).

10. *Standards-based assessments* are assessments that are aligned and reflect the content outlined by curriculum standards (Linn & Herman, 1997).
11. *Classroom-based assessments* are assessments designed to help teachers find out what students are learning and how well they learn it. It is aligned with the content taught in the classroom. Classroom-based assessment can be used to provide information to guide teachers to make adjustments to improve learning (Hiebert & Davinroy, 1993).
12. *Triangulation* is a combination of methodologies or techniques used in the study of the same phenomenon or program to corroborate information and, therefore, increase the validity and reliability of the study (Patton, 1990).

Limitations of this Study

Every research effort is limited to some extent. By completing this study in both the classroom and in the professional development project meetings, many issues confronted the participants and the researcher that created or imposed limits. The key limitations focused on the following areas:

1. The study was limited to one school district. The participants' opinions, concerns, knowledge, and practice in physical education may not represent those of other teachers who teach physical education.
2. This investigation was confined to four teacher participants, who were veteran physical education teachers that had taught in the district a minimum of 8 years at the primary (K-2) grade level at the time of data collection.
3. Data sources included: audio taped semi-structured interviews, informal conversations, observations, written surveys, and the analysis of written documentation or artifacts (journals, surveys, lesson plans, and assessment tasks).
4. Data analysis was confined to those participants who volunteered to be in this study.
5. The time lag between data collection and the completion of this study was nine years.

This study explored the implications that standards-based skill assessments in physical education had on professional development by analyzing the change process in four veteran

primary physical educators. The research questions limited the scope of this study to analyzing the participants' thoughts and practices related to content, instruction, and assessment and how these may or may not have changed over three years of the professional development project. The projected length of the study was not predetermined and was dependent on the length and evolution of the professional development project as well as the participants themselves.

Data analysis focused on two topics of classroom-based assessment in the physical education setting. These topics were teacher-created knowledge assessments and skill checklists. The change process was chronologically traced by examining the participants' ideas and practices regarding the design and use of knowledge assessments and skill checklists. By narrowing the focus to two types of assessment practices, the analysis may not illustrate the full scope of changes in ideas and practices that were experienced by the participants.

In order to represent the participants' experience in this study, it is necessary to elaborate on my beliefs and experiences. At the time of the study, I had taught ten years in both elementary classroom and elementary physical education setting. These instructional experiences provided me with familiarity and knowledge of alternative and performance-based assessments design and implementation. In addition, I led and participated in standards-based professional development as well as performing the duties of teaching and supervising pre-service teachers, which may have influenced my perceptions as a researcher. Another factor that may have influenced the participants' behaviors during the investigation was my dual role of researcher and professional developer.

Delimitations of this Study

The study was limited to one school district and confined to four veteran primary (K-2) physical education participants. The participants were volunteers and did not receive compensation for participation in this study. The participants' opinions, concerns, knowledge, and practice in physical education may not represent those of other teachers who teach physical education. Each participant was a veteran physical education teacher who had taught in the district a minimum of 8 years and was currently teaching primary (K-2) physical education.

Data sources included: audio-taped semi-structured interviews, informal conversations, observations, written surveys, and the analysis of artifacts generated and created during the professional development project (journals, surveys, lesson plans, and assessment tasks). Data

analysis was confined to those participants who volunteered to be in this study. Twenty-three physical education teachers from the school district volunteered to participate in this study. Of the twenty-three volunteers, the four primary level teachers were selected through purposeful sampling. Purposeful sampling was used to further define the sample for this study. Purposeful sampling is "based on the assumption that the investigator wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned" (Merriam, 1998, p.61).

Outline of the Dissertation

The review of related literature discussed in Chapter Two focuses on research related to teacher change and professional development. A description of the methodology that guided this study is presented in Chapter Three. Findings related to the research questions are present in Chapter Four. Chapter Five explores my discoveries, which includes implications, conclusions, and further research suggestions.

CHAPTER TWO

Review of Literature

Three main topics frame this review of literature: teacher change, implementation of current reform agendas, and professional development theories and practices. As a review for the reader, the purpose of this study was to investigate the thoughts and practices of four veteran primary level (K-2) physical education teachers regarding classroom-based assessments before, during, and after a three-year professional development project. The intent of the professional development project was to design and implement a physical education curriculum based on the National Standards document, *Moving into the Future: National Standards for Content and Assessment* (NASPE, 1995). An integral component of this particular standards-based reform is the use of classroom-based assessment. This investigation focused on the participants' ideas and practices related to content, instruction, assessment, and self as professional. Another focus of this study was to explore the features of the professional development project that supported or hindered the change process.

The literature in this review is a juncture of several research bases that include teacher change, teacher beliefs and the acquisition of knowledge, knowledge construction, instruction and assessment practices, school context and culture, educational reform, and effective professional development practices that often underlies current reform efforts. When this study began in mid to late 1990s, the review of literature was primarily based on general education literature pertaining to teacher change and professional development practices. At that time, professional development and teacher change research in physical education was scarce and focused primarily on contextual factors rather than on the identifications of the features of effective professional development programs that promote changes in beliefs, knowledge, and practice reflective of the standards-based reform at that time. As of 2007, investigations into the ramifications of long-term content-based professional development projects and teacher outcomes related to participating in such projects have begun to appear in physical education scholarly literature and are included in this review (Betchel & O'Sullivan, 2006; Deglau & O'Sullivan, 2006; Deglau, Ward, O'Sullivan, & Bush, 2006; Ward & Doutis, 1999; Ward, Doutis, & Evans, 1999). This chapter is organized under the three major headings of (a) teacher change, (b) implementation of current reform agendas, and (c) professional development. The literature reviewed is a blending of the research used at the beginning of this investigation and

the research that is available today.

Teacher Change

Without a doubt, teachers are the catalyst for change in schools (Sheurich & Fuller, 1995). Teachers are the people responsible for implementing ideas, curriculum, and organizational or structural change. Change does not result due to a new curriculum, it happens only if the teachers actually implement and use it (Lieberman & Miller, 1984; Romberg & Price, 1983; Scott Nelson & Hammerman, 1996). The literature is abundant with discussions and examples of the difficulties of affecting change, the conditions that are conducive to promoting change, and some success stories (e.g., Hall & Hord, 1987; Richardson, 1992; Scott Nelson & Hammerman, 1996).

Changing how teachers approach teaching and learning may be difficult due to the knowledge, beliefs, and concerns held by many teachers (Bechtel & O'Sullivan, 2006; Borko & Putnam, 1995; Flexer & Gerstner, 1993; Fullan, Hill, & Crevola, 2006; Hall & Hord, 1987; Loucks-Horsley & Steingelbauer, 1991; Scott Nelson & Hammerman, 1996). The perceptions that teachers hold are a critical variable in the change process because any significant change in behavior involves a change in a teachers' knowledge, beliefs, and concerns (Borko & Putnam, 1995; Flexer & Gerstner, 1993; Hall & Hord, 1987; Loucks-Horsely & Steingelbauer, 1991; Scott Nelson & Hammerman, 1996). Teachers' beliefs and knowledge are the core of educational change (Chen, 2006; Cohen, McLaughlin & Talbert, 1993; Lanier & Sedlak, 1989; Lichtenstein, McLaughlin & Knudsen, 1992; Scott Nelson & Hammerman, 1996).

Several theoretical frameworks related to teacher change have been developed to better understand the process of change that teachers experience. Two frameworks are presented: Fullan's theory of teacher change; and Guskey's model of teacher change.

Fullan (1991) identified four interrelated elements that are important factors in the change process. These are: "(a) an active initiation and participation; (b) pressure and support for change to happen; (c) changes in teachers' behaviors and beliefs; and (d) teachers need to feel ownership of change" (p. 91). Today, he (2006) advocates tri-level reform to build capacity and coordination within and across three levels: (a) the school and its community, (b) the district or school system, and (c) state and federal components. The goal is not to align the three levels but rather to shape and reshape them through interaction that he calls "permeable connectivity" (p.

4). This concept signifies interaction and multi-way mutual influence—a complexity theory concept, namely that systems change by discovering new patterns though interaction.

Fullan, Hill, and Crevola (2006) summarized ten conclusions about change from this work. Each of these components are required because they feed on each other in a positive spiral.

1. The vast majority of teachers are motivated by moral purpose when ideas for activating it are evident.
2. People begin to change their behaviors before they change their beliefs. New positive experiences are the motivator especially when they relate to fulfilling moral purpose.
3. Shared vision and ownership are less a precondition for success than they are an outcome of a quality process. Successful systems build vision and ownership through the quality of their learning processes and corresponding results.
4. Learning in context is key. Even the best professional development workshops represent only input for success. Actual success occurs in the context of daily learning.
5. Professional learning communities at the school level are crucial in establishing cultures in which teachers learn from each other and school leaders and teachers collaborate for continuous improvement.
6. Professional learning communities will not be sustained unless the district or other levels of the system actively foster and maintain their development.
7. Districts and states must integrate pressure and support so that everyone within the system seriously engages in capacity building with a focus on results. Capacity building involves the use of strategies that increase the collective effectiveness of all levels of the system in developing and mobilizing knowledge, resources, and motivation, all of which are needed to raise the bar and close the gap of student learning across the system.
8. Lateral capacity building is crucial for spreading knowledge and increasing commitment. Lateral capacity building consists of strategies that enable schools to learn from each other – districts, states, and even countries learn from each other, too.
9. Leadership is the turnkey to system transformation. This means leaders working with a Breakthrough focus and doing so through the development of other leaders as they go.
10. It doesn't matter where the change starts as long as it is systemic thereafter. And systemic means a focus on establishing expert instructional systems that serve the needs of all levels (pp. 88 – 89).

Also included in this summary of change components is an examination of the complexity of instruction. These authors make two assumptions as to focusing teaching to the needs of the students and student learning. First, a detailed and clear specification of learning objectives that is associated with standards, targets, and indicators of student process must exist. Secondly, knowledge of how best to teach these learning objectives, including explicit teaching strategies, methods, as well as classroom routines and practices must be present.

Fullan, Hill, and Crevola (2006) further clarify the need to include assessment for learning and place them in the context of designing expert instructional systems. They are specific in their ideas of what is necessary in today's classroom:

1. A set of powerful and aligned assessment tools tied to the learning objectives of each lesson, which give the teacher access to accurate and comprehensive information on the progress of each student on a daily basis and which can be administered without unduly interrupting normal classroom routines.
2. A method of allowing the formative assessment data to be captured in a way that is not time consuming, to analyze the data automatically, and to convert it into information that is powerful enough to drive instructional decisions not sometime in the future, but tomorrow.
3. A means of using the assessment information on each student to design and implement personalized instruction; assessment for learning being a strategy for improving instruction in precise ways.
4. A built-in means of monitoring and managing learning, of testing what works, and of systematically improving the effectiveness of classroom instruction so that it more precisely responds to the learning needs of each student in the class.

Central to this is the establishment of a culture and of systems and processes that serve to promote organizational learning. According to Fullan (2006), successful change involves learning and sharing with peers during the implementation process. He feels that of the most powerful elements of change is the learning that occurs from peers, especially those who are further along in the implementation process. Within a school or community of teachers there is a great deal of practical knowledge and experience that should be shared. Professional learning groups can function through a mixture of both off- and on-campus learning experiences. These may be a formal experience such as a professional development project, conference, or content

meetings. These may also be informal meetings where teachers gather and share their ideas, challenges, achievements and their stumbling blocks and failures. Both of these types of professional learning groups, formal or informal, may utilize a combination of activities that are reflective of reform-based learning that might include demonstration teaching, mentoring, coaching, and opportunities for the team to debrief and reflect on teachers' practices and progress (Fullan, 2006; Fullan, Hill & Crevola, 2006).

Guskey (1986) proposed a new model for teacher change due to the poor reputation of staff development among teachers. He felt that most modes of staff development failed because they did not address two key factors: "what motivates teachers to engage in the staff development process and the process by which change in teachers typically takes place" (p. 6). He believed that as an outcome of staff development there should be "change in classroom practice of teachers, change in teacher beliefs and attitudes, and change in learning outcomes of the students" (p. 6).

In 2002 he proposed a new model of teacher change. He found that when professional development programs were based on the idea that change in beliefs comes first, professional development was typically designed to gain acceptance, commitment, and enthusiasm from teachers and administrators before new practices or strategies are implemented. He argues that implementation of new practices is the key to change. He states:

> Significant change in teachers' attitudes and beliefs occurs primarily after they gain evidence of improvements in student learning. These improvements typically result from changes teachers have made in their classroom practices – a new instructional approach, the use of new materials or curricula, or simply a modification in teaching procedures or classroom format" (2002, p. 383).

Guskey (2002) outlines three important principles when attempting implementation of change. First, honoring and acknowledging that change is gradual and difficult is important when planning for and implementing change. Learning to be proficient at something new and finding meaning in a new way of doing things requires time and effort. Change can bring anxiety and for some may mean to risk failure. Change is individualized and influenced by situational and contextual variables.

Second, teachers need to receive regular feedback on student learning progress. Formative assessments provide teachers with direct evidence of the results of their efforts and

illustrate the changes in students' learning. Formative assessment is also used to guide instructional revisions. Stiggins (2002) argues that assessment should serve two purposes: to inform decisions and to motivate learning. This also supports Fullan, Hill, and Crevola's (2006) assertion that assessment is an integral component of effective instruction and necessary when attempting change in instructional practice. Whatever the student learning outcome is, it is important to have regular information and feedback on how their efforts are influencing student progress toward reaching the outcome.

Third, provide continual follow-up, support, and pressure. Guskey (1986, 2002) feels that support coupled with pressure is essential for continuing educational improvement. When faced with anxiety and occasional failures related to implementation, support provides encouragement and motivation to continue in change efforts. Pressure is often the necessary nudge that many practitioners require to sustain change efforts. Successful implementation is not an event it is a process (Loucks-Horsley, Love, Stiles, Mundry, & Hewson, 2003). In closing, Guskey (2002) adds that "learning to be proficient at something new or finding meaning in a new way of doing things is difficult and sometimes painful" (p. 388).

Research on teacher change will be discussed next. This begins with how teacher change has typically been studied in physical education. In physical education teacher change has focused on two factors: (a) the contextual factors, and (b) teacher beliefs and knowledge of curricular change. Contextual factors include culture, micro-politics of schools, administrative and collegial support, and work place conditions. Contextual factors will be discussed first, followed by teachers' belief and knowledge.

Contextual factors

In physical education research there has been an attempt to identify contextual factors that may inhibit the process of change in veteran teachers. This research has come from studies of physical education workplace conditions using the organizational socialization paradigm (Stroot, Collier, O'Sullivan & England, 1994). Organizational socialization is the process that individuals are taught and learn "the ropes" of a particular organization and their role in that organization. This area of research also includes values, norms, rules, operating procedures, and rewards that are related to a specific setting or in this case a particular school. This review will include the factors of isolation, marginalization, teacher workloads, teacher identity,

micropolitics within the school culture, the role of administrative and collegial support, and the culture of teacher professionalism.

Isolation as defined by Templin (1988) is "the absence of routine and pedagogically based collegial interaction. Teachers rarely engage in social or professional activities whereby personal and professional support for one another is given or whereby pedagogical problems may be solved" (p. 197). Isolation may be physical, psychological, professional, or social. Each of these forms of isolation may be occurring concurrently or as a result of one another. A teacher who is physically isolated from subject matter colleagues as well as other teachers in the school may suffer from various forms of isolation. Elementary physical education teachers are often physically isolated and this in turn may lead to psychological isolation (Locke, 1974; Macdonald, 1995; Stroot, 1996; Stroot, et al., 1994), as well as professional isolation from colleagues that share the same contexts of teaching (Lambdin, 1986; Solomon, Worthy, & Carter, 1993).

An example is given by one of the participants in the Williams and Williamson (1995) study, who stated, "I learned …what was like to be alone – to teach and reflect by myself. I learned how to self-assess, but wanted someone to tell me what was good or what I did wrong" (pp. 34-35). Isolation is described in O'Sullivan's (1989) case study of two beginning teachers as social and professional isolation from others in the school setting. One participant commented, "It is like intellectual isolation" (O'Sullivan, p. 234). The following excerpt from the study further captures feeling of isolation:

> You walk in to get a cup of coffee in the teachers' lounge or you sit down to eat lunch and there is no real point of interest to get to know you. They have all been together years and years. They look at the gym teacher, as they put it, 'differently than they would a real teacher.' I have heard that. So there is isolation (O'Sullivan, 1989, p. 235).

Macdonald's (1995) study of Australian physical educators, the notion of isolation extended beyond the schoolyard and into the community. She found that the participants in this study felt their performance at work and personal life within the community was under scrutiny. This scrutiny in turn led to psychological isolation. One participant shared how she felt uncomfortable when she wore clothes other than her teaching attire:

> I should not have to feel that when I get dressed up… they should not have to notice me and say "Oh, you are a lady!" That annoys me a lot. Why should you have to be noticed all the time? (MacDonald, 1995, p. 137).

Another teacher in this study acknowledged the potential oppression of his personal life due to being watched both inside and outside the schoolyard. He rationalized it as being part of his professional responsibilities:

> I'm actively seen in the community… I'm very physically active… So in terms of their attribution of activity, health, leisure, and the phys. ed teacher, I try to put across as positive [an] image as I can. Like when I shop, I always buy fairly decent food. I feel like people are always watching you. And in this community, they'd let you know, "Hey, that Phys. Ed. Teacher just picked up six blocks of chocolate…." But in my relationships with the community I… try and maintain a professional status… I did find it oppressive at the start… but the real fun part is yet to come because at the moment I'm not in an intimate relationship with somebody (MacDonald, 1995, p. 137)..

Although many of the teachers described in the literature had multiple opportunities for social interaction, a common theme is the lack of opportunities to pursue professional dialogue (Lambdin, 1986; Solomon, et al., 1993; Stroot, et al., 1994; William & Williamson, 1995). Throughout the literature on designing professional development activities it is recommended to include mechanisms for pursuing professional dialogue. Grossman (1992) argues that collegiality is a crucial element in learning to teach and to change one's practice. The feelings expressed above may also stem from feelings of lacking support from colleagues and parents. These feelings have been studied in marginalization research of the late 1980s and into the 1990s. These studies have documented lack of support physical educators receive from administration, colleagues, students and parents as well as the interactions they have with these individuals. Another predominant theme in this literature is the lack of importance of physical education in the overall school curriculum (Lawson, 1989; Solomon et al., 1993; Sparkes, Templin & Schempp, 1990, 1993; Stroot et al., 1994; 1994; Templin, 1989).

Administrative marginalization are those feelings perceived from the type of messages elicited from their principal or site administrator as evidenced by the scheduling of classes with little concern for size or with inappropriate groupings of students (Smyth, 1995; Solomon et al., 1993; Stroot, et al., 1994). Smyth (1995) shares "…student learning in physical education is not

a primary expectation of the administration, faculty, parents, students, or even physical education teachers themselves" (p. 199). In this study, one of the participants was discussing with her principal her beliefs regarding the importance of planning. The principal replied, "Anyone can teach physical education. Just play games." She was then told, "not to take it so seriously" (p. 205). The message from these studies of elementary physical educators is that they were valued due to the fact that they provide classroom teachers a break from their students and a planning period (Lawson, 1989; O'Sullivan, 1989; Solomon et al., 1993; Sparkes et al., 1990, 1993; Stroot et al., 1994; Williams & Williamson, 1995). Stroot et al. (1994) shared a teacher's comment "we are still fighting the age-old theory that all you do in gym is roll out the ball" (p. 353-354). In this case, physical education is characterized by the equipment used to teach rather than the content taught.

Macdonald's (1995) study of Australian schools, where physical education carries "full academic status", terms such as "Mickey mouse subject" were used to describe physical education (p. 132). She suggests that as long as "physical activity and sport are positioned as manual activity in opposition to mental activity, physical education will continue to be devalued within the schooling agenda, students channeled into the subject will be lower academic achievers, and teachers in the field will continue to be considered as marginal" (p. 139).

When planning for change it is important to keep in mind the role that administrative and collegial support may play. Studies have found that when administrative and collegial support is present it is a facilitator to change. Faucette and Graham (1986) investigated the role of the school principal in changing physical education teacher practices. Principals in this study offered support in two ways. First, by providing equipment and addressing concerns related to scheduling and class size problems. Secondly, providing support through empathy and constructive feedback to the participants as they implemented change into their practice. In this study, "the greatest influence on teachers' levels of commitment were their feelings about the principals' actions and perceived attitudes" (p. 88).

Stroot, et al. (1994) found three types of collegial categories that could be viewed as a continuum of support. The first category described shared philosophies and goals between colleagues that created a sense of cohesion. Collegiality and collaboration are often present in this category. Second on this continuum is the presence of social cohesion with some philosophical differences. Support in this category appeared to be less prevalent. In the third

category, professional isolation is due to differences between colleagues in their philosophical stances and ideas about the purpose and practices in physical education. In this category, there is little to no support between colleagues. The degree of support is related to the beliefs and ideas of the teachers involved. Bechtel and O'Sullivan (2007) explored the enhancers and inhibitors that influenced four secondary physical education teachers to make changes in their programs. They found that support from principals, colleagues and students served as an enhancer to the change process. Collegial support provided encouragement and ideas in their efforts to improve.

Returning to dimensions of marginality, investigations on perceptions of one's status as a physical educator versus a coach have been well documented. Most of the research has focused on the teacher's / coach's decision to make one role dominate. Identified in the literature is that coaching usually becomes dominant at the expense of teaching (Massengale, 1980). The factors responsible for role conflict identified by the existing literature are (1) time, (2) enjoyment, (3) role overload, (4) role expectancies, (5) distinct and differing reward systems, (6) differing sport experiences, (7) unavoidable conflict situations, (8) role stress, and (9) resentment and polarization between coaches and non-coaching personal within an education organization.

In contrast to these findings are two studies of role identity by Templin, Sparkes, Grant and Schempp (1994) and Macdonald (1995). Templin, et al. (1994) examined the life history of a veteran high school teacher/coach. Concluded in the findings was that the multiple roles held by this individual (teacher, athletic director, assistant and varsity coach) were not a source of conflict. These roles served to be "a good match in terms of his own sense of self-efficacy" (p. 290). Macdonald (1995) studied the factors that contributed to the attrition of physical education teachers in Australia. She identified five main categories of teacher dissatisfaction that led to leaving the profession. These were: (a) lack of status, (b) repetitive nature of physical education work, (c) top down decisions, (d) personal and professional surveillance, and (e) unprofessional staffroom culture. Many teachers found extracurricular responsibilities, such as coaching, provided satisfaction and relieved the monotony they found in teaching.

> What's so good about teaching are the extracurricular activities…like the volleyball camp, athletics afternoons, like my trip away with the State Girls' Basketball team… where you spend quality time…and the kids are there to learn, they want to learn… Most of the non-teaching things are the stuff that makes the time worthwhile because the

opportunities associated directly with teaching are sometimes monotonous (MacDonald, 1995, p. 134).

Sparkes (1988) case study of the micro-politics of a school during an innovation in physical education explored a seven-member department in England over a three-year period. Micro-politics are the mini political systems that occur at the school level or department level rather than at the district level. In this study, the department head attempted to change the structure of the program by grouping children into mixed ability groups rather than leveled ability groups. Disagreement between the department members as to the purpose of physical education limited the extent to which change occurred. Sparkes found if teachers were not united at the school level or department level in change efforts, it was difficult for change to take place.

Housner (1996) refers to efforts to overcome teacher isolation and feelings of marginalization as reversing the de-professionalization of physical educators. He suggests that physical educators become proactive through self-mentoring, reflective practice, and building exemplary programs. Others also suggest membership to relevant professional journals, in-service training related to physical education, and pursuing advanced degrees (Dolittle & Schwager, 1989; Housner, 1996; Stroot, 1996; Templin, 1989).

How teachers conceptualize their role, their duties, and responsibilities as teachers is varied and often reflects the culture of the school (Becker & Riel, 1999). Some teachers view their work as taking place solely within their classrooms in what is essentially an isolated and individual private practice. Others may view their professional responsibilities as extending beyond the classroom to include participation in a larger community of educators and administrators. They see their role as including decision makers around significant issues in teaching and learning. Becker and Riel (1999) suggest a “continuum from private to collaborative practice” (p. 2). Self-perceived roles and cultural norms may determine how teachers spend their limited time both in and beyond the classroom. Becker and Riel (1999) provide an image of professionalism as professionals planning their enterprise, sharing beliefs that they, as well as students, are learners, in an evolving structure adapting to individual needs and changing circumstances.

Pope and O’Sullivan (1998) explored professional and school culture and the impact of change that occurred during the implementation of a new physical education curriculum model. They found that teachers’ professional culture must be considered when attempting to bring

about change in teachers. The authors also suggest that in order to understand the change process in physical education it is necessary to consider the cultural context that the change is situated. The change process may be determined by the extent that each cultural component impacts the teacher. They noted that when change occurred at the individual level, a link was established between context and the individual.

Another professional development project, the Saber-Tooth Project, found enhanced professionalism and teachers' perceptions of self as professional emerged as an outcome of participation in a year-long, content focused professional development project (Doutis & Ward, 1999). This was a project of significant duration and involved deep exploration of content, instruction, and assessment. Teachers were engaged with curriculum improvement in middle school physical education as a focus. The project targeted the school district rather than individual teachers. As a result of participating in the Saber-Tooth project, these teachers felt their work had taken a more professional approach and this was expressed in how they spoke of physical education and themselves as teachers. They also felt physical education within their school setting was viewed more positively and helped to enhance their job satisfaction. Out of this study, Doutis and Ward (1989) drew four conclusions to supporting teaching change in the context of curriculum revision and implementation: (a) "vision [purpose] is everything" (p. 459); (b) workplace conditions impact the change process; (c) there is a strong relationship between planning, teaching and assessment and this must be addressed; and (d) eliminate "business as usual" and explore new methods of teaching and assessment.

In sum, contextual factors of workplace conditions and the norms of school culture have been shown to impact teacher change, learning, and the professional development process in physical education. It is important to acknowledge and include these factors in the process of designing and implementing professional development programs (Fullan, 1991, 2006; Little, 1982, 1984, 2003; McLaughlin & Talbert, 2006). This review included factors of isolation, marginalization, teacher workloads, teacher identity, micropolitics within the school culture, the role of administrative and collegial support, and the culture of teacher professionalism. Next the factors of teachers' beliefs and knowledge will be discussed.

Teachers' Beliefs and Knowledge

Change happens as teachers develop the skills, knowledge, and attitudes about how to implement an innovation and develop a strategy for diffusing the innovation into their classroom (Scott Nelson & Hammerman, 1996; White, 1991). Richardson (1992) examined the impact of understanding the theoretical underpinnings of a curricular innovation on teacher change. She found that the teachers who did not have a clear understanding of the theoretical framework of an innovation could not articulate or express its justifications. Hence, these teachers expressed frustration and their sense of efficacy was threatened. Teachers who did have an understanding of the theoretical basis of an innovation were able to communicate and engage in dialogue that was reflective in nature regarding the innovation.

The impact of teacher beliefs has taken a prominent role in education research literature (Borko & Putnam, 1995; Ennis, 1994; Pajares, 1992; Richardson, 1994). Pajares (1992) review of teacher belief literature defines beliefs as "belief is based on evaluation and judgment: knowledge is based on objective fact" (p. 313). He also suggests that research on teacher beliefs is necessary to gain a better understanding of the role teacher beliefs on education practices because beliefs influence practice. According to Richardson (1996) teachers' beliefs "are important considerations in understanding classroom practices and conducting teacher education designed to help prospective and in-service teachers develop their thinking and practices" (p. 102).

Several studies focused on the beliefs, knowledge, and perceptions of teachers as to their influence on either inhibiting or enhancing the adoption of new practices. Tobin (1987) concluded from several investigations that the beliefs teachers' held about how students learn and what they thought they ought to learn had the greatest impact on what happened in the classroom and whether the teacher implemented change. Ennis (1994) explored the interdependence of beliefs and knowledge in physical education and how these influenced curricular expertise and instructional decision making. Typically it was noted that decisions on instructional methods and curricular approaches were based on beliefs and knowledge. The strength of the belief influenced how easy or hard it was to make a change. She found that teachers often hold on to beliefs and that new knowledge was not always effective in changing beliefs. Ennis and Chen (1995) explored the influence of value systems on teachers' curricula. They studied two teachers' established curriculum goals and identified physical education

content that were associated with their individual value system. The relationship between teachers' theories of action and theories-in-use was explored by Tsangaridou and O'Sullivan (2003).They found that the teachers who held strong beliefs about teaching and learning and could articulate these beliefs were consistent with their theories of practice.

Bechtel and O'Sullivan (2006) found in their study of enhancers and inhibitors to teacher change that the beliefs held by the teachers regarding the profession of teaching served to enhance teacher change. The four teachers in this study held strong beliefs concerning the profession of physical education and this prompted them to attempt change in their programs and in their practice. Each introduced new activities and procedures that provided better physical education curriculum and experience for their students. Teachers with stronger beliefs about the efficacy of the innovation made more substantial changes to their programs and also were willing to make a change.

Guskey (1988, 2002) found that teacher efficacy played a role on the implementation of a new mastery learning program. Teachers that were more efficacious were more likely to implement a new program than teachers who were less efficacious. One of the factors that influences teacher efficacy is the possession of content knowledge. Knowledge acquisition can be studied from various perspectives such as behaviorist, cognitive, or situative. In physical education teachers' knowledge research is organized into four predominant themes of teachers' knowledge (Tsangaridou, 2006). The areas are pedagogical knowledge, content knowledge, pedagogical content knowledge, and expertise and teachers' knowledge.

A major conclusion from research involving pedagogical knowledge is that teachers do make a difference in student learning. This line of research is also referred to as effective teaching literature. It explores teacher behavior and student learning and is the basis of pedagogical knowledge. Effective teaching research reveals that effective teachers use specific pedagogical behaviors that support student learning. This line of research is significant in that it has helped to identify behaviors that support student learning (Rink 2003). Results from this line of inquiry have formed the basis for behaviors that are identified as effective teaching.

Subject matter knowledge serves to shape practice by either enhancing or inhibiting the kinds of activities or strategies that are used to teach concepts (Ball & McDiarmid, 1990). Knowing content well enough means knowing information about many topics in the discipline and being able to clearly and articulately connect this information in meaningful ways to help

students construct knowledge (Shulman, 1986). A conceptual mastery of subject matter and the capacity to be critical of such knowledge is in itself empowering for both teacher and student (Ball & McDiarmid, 1990). Knowledge of subject matter that teachers possess influences teachers' efforts to help students learn and understand the subject. According to Ball and McDiarmid (1990), when teachers dispense inaccurate information or conceive knowledge in narrow ways, they may pass on these ideas to their students and fail to challenge students' misconceptions. In turn, the subject matter knowledge of teachers shape their practice and may either enhance or inhibit the kinds of activities or strategies that are used to teach the concept (Ball & McDiarmid, 1990). Teachers with only superficial knowledge of their subject matter will have little flexibility in their pedagogical choices and preferences (McLaughlin & Talbert, 1993). Shulman (1987) asserts that teachers must be capable of defining for students the truths in a domain, and also be able to explain why a particular notion is deemed warranted and worth knowing.

Siedentop (2002) wrote that the subject matter content knowledge of physical education was ill-defined and encourages scholars to revisit the "physical education missing paradigm" (p. 368). Tinning (2002) further argues, "it is also important to recognize the subject matter content knowledge for physical education includes knowledge that is both practical and theoretical" (p. 379). Many of the studies related to content knowledge have been designed to explore the needs of teacher education programs. Fernandez-Balboa, Barrett, Solomon, and Silverman (1996) proposed a multi-perspective approach to content knowledge of physical education. Their feeling is that teacher education programs should expose students to a broad perspective to better prepare them to make complex decisions about content. The four areas are (a) the programmatic, (b) cognitive, (c) constructivist, and (d) critical perspectives.

Kirk and Macdonald (1998) propose that a constructivist approach to physical education may provide the potential for some sophisticated and powerful thinking about the challenges that physical education faces. The marginal status of physical education prompted them to propose the following:

> Reports of crisis in physical education, students' alienation from the subject, and its continuing marginalization in the curricula of many schools, prompts us to explore new possibilities for theorizing learning. In so doing, we might better understand the nature of

the subject matter and what it might contribute to the education of young people who face challenges, risk, and opportunities in the new millennium (p. 385).

Many debates in the literature have described intellectual perspectives on the nature and the properties of the content in physical education teacher education. (O'Sullivan, 2002; Rovengo, 2003; Siedentop, 2002; Tinning 2002). As research continues in teacher education settings as to how to better prepare pre-service teachers, it is imperative to study and explore how such pedagogies are put into action in the field. Content knowledge or the lack of it can influence teaching practice and performance. Teachers' content knowledge is evidenced in the way teachers select, sequence tasks, and affects the main goals and activities of instructional units. Content knowledge is necessary but as with pedagogical knowledge it is not the only determinate of effective teaching (Castelli & Williams, 2007; Ennis & Chen, 1995).

A critical teaching characteristic is knowing what information to present, when and how to present it, and what order is needed to support student understandings and the construction of knowledge. This understanding is termed pedagogical content knowledge (PCK) (Shulman, 1987). Pedagogical content knowledge is based on how teachers connect what they know about teaching to the subject matter they teach. Being able to select, communicate, represent, and organize information, concepts, and procedures so that subject matter knowledge can be transformed is essential for teaching for understanding (Borko & Putnam, 1995; McLaughlin & Talbert, 1993; Richardson, 1999). Pedagogical content knowledge has received the most attention in the research on teaching physical education (Tsangaridou, 2006). These studies have tried to describe the nature of teachers' PCK. This type of research explores how physical education teachers acquire, elaborate, and transform their pedagogical content knowledge (Rovegno, 1992, 1993, 1994, 1995, 2003). Most of the research has focused on pre-service teachers and recently research is turning to experienced or veteran teachers (Rovegno, 1998, 2003). Findings from PCK studies have suggested that pre-service teachers have difficulties with connecting content and dimensions of teaching and ignored student emotions. In contrast experienced or veteran teachers were able to deal with the multiple aspects of content and teaching dimensions and took into account student emotions. PCK is embedded in teaching, develops and is connected to professional competence, and is affected by contextual factors.

The last area to be discussed is expertise and teacher knowledge. The expert novice model became predominant in the mid-1980s and explored the development of teaching skills

and behaviors. Studies in physical education have provided insights into the ways expert and novice teachers react to teaching situations. Housner and Griffey (1985) investigated planning and teaching processes of experienced and inexperienced teachers. Inexperienced teachers focused on the interest level of the whole class where the experienced teacher was better able to differentiate and considered more of the interest and abilities of individual students. Siedentop and Eldar (1989) explored expertise, experience, and effectiveness in physical education. Suggested from the findings was that experience was not indicative of expertise, and that expertise included high subject matter knowledge and skillfulness. Schempp, Manross, Tan, and Fincher (1998) explored the influence of subject matter expertise on PCK. They found there were significant differences between teachers teaching subjects in which they held expertise and teaching the subjects for which they had little or no expertise.

A key theme that emerged from the literature on teachers' beliefs and knowledge is that beliefs and knowledge affect how teachers perceive and act on various messages related to changing their practice. According to Borko and Putnam (1995)

> Any effort to help teachers make significant changes in their teaching practices must help them to acquire new beliefs and knowledge. The same beliefs and knowledge that function as filters through which change takes place are also the practical targets of change" (p. 60).

It is through teachers' existing beliefs and knowledge that teachers come to understand recommended changes in practice and activities. Prior beliefs and understandings serve to influence and determine how an innovation may or may not be used in the classroom.

For most teachers, their theory about teaching and learning is an eclectic collection of beliefs that has been developed over time (Cohen & Ball, 1990). Scott Nelson, and Hammerman (1996) suggest that for teachers to change their practice there are several interconnected changes in their beliefs and understanding about the nature of learning necessary. Recent attention to teachers' knowledge has begun to reveal the complex processes involved in teaching and the multiple types of knowledge that teachers draw upon in their practice. The majority of studies in physical education have traditionally centered on the general properties and characteristics of teachers' knowledge.

Teachers' starting points vary, and the evolution of beliefs is a complex process that is unique to each individual teacher (Prawat, 1992; Scott Nelson & Hammerman, 1997). The

evolution unfolds as they relate new information and experiences to what they already know, believe, and do (Scott Nelson & Hammerman, 1997). Changing one's practice can create a great amount of dissonance between one's prior ideas about teaching and create anxiety and concerns. Another factor in the change process is that of teacher concerns, as unveiled by research that evolved from the Concerns Based Adoption Model (Hall & Loucks, 1978; Hall, Wallace & Dossett, 1973).

Teachers Concerns

Hall and Loucks (1978) suggest that as teachers begin to assess a proposed change they use four criteria to help formulate their perceptions and perhaps concerns regarding an innovation. These are:

1) Does the change address a need?
2) Is the change clear in what I am expected to do?
3) Do I have the skills necessary to accomplish the new task? If not can I learn the skills necessary?
4) How will the change affect me personally (in terms of time, energy, and my existing priorities)?

In the early 1970's Hall, Wallace and Dossett (1973) developed the Concern's Based Adoption Model (CBAM) to study and document the experiences teachers and college professors encountered as they adopted and implemented educational innovations (Hall & Hord, 1987; Hall, Wallace & Dossett, 1973). The CBAM research supports the idea that teacher awareness is essential for successful professional development (Hall, George & Rutherford, 1979; Hall & Hord, 1987). This model provides a structure that takes into account these assumptions about change (Loucks-Horsely & Stiegelbauer, 1991): (a) the concerns that individuals experience about an innovation or change; (b) how the innovation is actually used; and, (c) the ways that the innovation is adapted to the needs and styles of particular individuals. CBAM encourages a more comprehensive focus for in-service education by providing a means to determine the types of concerns that individuals have as well as identify the intensities of their concerns (Faucette, 1987).

Hall, Wallace, and Dossett (1973) suggest that the concerns of the individual are a critical factor to consider during the implementation of an innovation. Hall, George, and Rutherford (1979) define a concern as follows:

> The composite representation of the feelings, preoccupation, thoughts, and consideration given to a particular issue or task is called concern. Depending on our personal make-up, knowledge, and experience, each person perceives and mentally contends with a given issue differently; thus there are different kinds of concerns. The issue may be interpreted as an outside threat to one's well-being, or it may be seen as rewarding. There may be an overwhelming feeling of confusion and lack of information about what "it" is. There may be ruminations about the effects. The demand to consider the issue may be self-imposed in the form of a goal or objective that we wish to reach or the pressure that results in increased attentions to the issue may be external. In response to the demand, our minds explore ways, means, potential barriers, possible actions, risks, and rewards in relation to the demand. All in all, the mental activity composed of questioning, analyzing, and re-analyzing, considering alternative actions and reactions, and anticipating consequences is concern. An aroused state of personal feelings and thoughts about a demand as it is perceived is concern. (p.5)

When teachers are confronted with an innovation or group of innovations, their concerns usually change in a predictable evolutionary manner (Faucette, 1987; Hall, Wallace & Dossett, 1973). Usually, concerns are initially oriented toward one's personal needs, and finding out what impact an innovation and/or the design and intent of the changes will have on the individual (Faucette; Hall & Hord, 1987). As teachers use an innovation, personal concerns usually evolve first, then they begin to focus or refocus on finding more effective methods of implementation and discovering the influence the innovation may have on student outcomes (Hall & Hord, 1987). Hall, Wallace and Dossett (1973) categorized individual concerns into seven specific stages of concerns:

1. Awareness: Little concern or involvement with the innovation is indicated.
2. Informational: A general awareness of the innovation and interest in learning more detail about it is indicated.

3. Personal: Individual is uncertain about the demands of the innovation, his/her inadequacy to meet those demands, and her/his role with the innovation.
4. Management: Attention is focused on the processes and tasks of using the innovation and the best use of information and resources.
5. Consequence: Attention focuses on impact of the innovation on students in her/his immediate sphere of influence.
6. Collaboration: The focus is on coordination and cooperation with others regarding use of the innovation.
7. Refocusing: The focus is on exploration of more universal benefits from the innovation, including the possibility of major changes or replacement with a more powerful alternative.

In summary, some of the general conclusions cited in the teacher change literature include: (a) in order for change to occur the culture and support for change must be found in the organization where change is occurring; (b) teacher practice, beliefs and knowledge are interrelated; (c) the active involvement of the teacher and the degree they feel they control the changes influence the likelihood of change; (d) change is idiosyncratic, complex, ongoing, and is influenced by the teachers' level of confidence or self-efficacy; (e) teachers are more willing to embrace innovations when they view new practices as being a better way to meet the needs of students; and (f) innovations are successful when teachers are supported in the process of change over a long period of time (Fullan, 1990, 2006; Guskey, 1988, 2002; Hall & Hord, 1987; Meyerson, 1995; Richardson, 1992; Scott Nelson & Hammerman, 1996; Shepard, et al., 1995). Each of these factors interact and are interrelated in how they impact teacher change (Flexer & Gerstner, 1993). Research in physical education has now just begun to focus on the impact that the national standards may have on teacher change related to classroom instruction or assessment practices. Specific features of professional development projects that effectively address contextual factors in physical education have not been addressed in the literature and there is a need to do so.

The next section reviews studies that have investigated teacher change in terms of the implementation of classroom-based assessment and standards-based reform in other subject areas through professional development. Interviews and long-term observation during the process of implementation and change were often used. In many of the studies, prior beliefs and

understandings appear to influence how the implementation was attempted and the level of success. Literature investigating classroom-based assessment related to standards-based reform in physical education is not abundant and therefore this review consists of using literature from other subject areas.

Studies of Implementation in the Context of Standards-based Reform

Implementing change is the process of putting an idea, program, belief, or activity into practice (Fullan, 1990, 1991, 2006; Guskey, 1986, 2002). Research and evaluation studies suggest that how change is approached may be as important or more important than the initial design of the innovation (Lieberman & McLaughlin, 1992; Prestine & Bowen 1993; White, 1991). Implementation is not simply an extension of the planning and adoption process of an innovation, it is a phenomenon in its own right (White, 1991). Education innovation implementation literature tends to follow two types of orientations, "fidelity" versus "adaptation" (Fullan & Pomfret, 1977). Fidelity orientation tends to compare the intended or planned use of an innovation with how it is actually being used by teachers. Early studies of implementation tended to follow this orientation (Ben-Peretz, 1990; Hall & Loucks, 1977). The primary focus of this orientation was to uncover the technology of the innovation. What was overlooked or excluded in this body of research was the identification and analysis of how the individual perceived innovations, and how innovations were modified and/or adapted by the individual in order to address the contextual needs during the implementation process.

The Rand Change Agent studies of federal programs supporting educational change demonstrated that deviations in the fidelity of an innovation during implementation were common and quite natural (Berman & McLaughlin, 1977, 1978). These studies found that a process of "mutual adaptation" characterized successfully implemented innovations. Mutual adaptation is a process where both the innovation and the organization are modified during implementation. Analyzing and understanding implementation as a process has been the primary method used in studies of change during the 1980s and today (Loucks & Melle, 1980; White, 1991). Next, recent research studies on the implementation of content and assessment reform from math, language arts, science, and social studies are explored.

Many of the existing professional development programs focus on simple formulas or recipes for innovations and fail to provide relevant theoretical underpinnings (Aschbacher, 1993;

Richardson, 1992). That poses a problem for many of the current reform efforts in that teachers do not have the knowledge of reform intent and begin implementation of curriculum content without changing instruction or assessment practices to support the type of learning outlined in the reform (Aschbacher, 1993; Cohen, 1990; Richardson, 1992). Common threads in the following research studies are teachers expressing feelings of being overwhelmed with the demands of teaching and not accustomed or practiced in taking the time to reflect on their pedagogy. Many of these studies also point out that the teachers wanted innovations to be made easy and simple and not elaborate or time-consuming to use. By this, the innovation is more of an add-on or extension in practice and not a change in actual practice or an examination of one's beliefs, knowledge, or practice.

Teachers can make changes in their practices in ways that are consistent with current content reform agendas (Schifter & Fosnot, 1993; Simon & Schifter, 1991; Wood, Cobb, & Yackel, 1991). These studies investigated the type of changes that occurred when teachers were given the opportunity to examine their current knowledge and/or beliefs about content, teaching, and learning in math, language arts, and social studies education. These studies found that teachers changed their beliefs and knowledge about student learning and developed visions of mathematics teaching and learning consistent with the content area reform agenda. However, these studies offer little to the understanding of the change process. There is a need to study why or how these teachers change their thinking and action in teaching, and to determine if there are identifiable internal or external influences that may or may not have contributed to the teachers' changes in thinking and action (Scott Nelson & Hammerman, 1996).

Some believe that teacher change happens as a result of coming to see some aspect of their practice as problematic (Guskey, 2002; Wood, Cobb & Yackel, 1991). In Wood, Cobb and Yackel's (1991) study of a second grade teacher attempting to implement reform in teaching mathematics they found that changes in practice happened when the teacher identified and reflected on conflicts or dilemmas created by her established instructional practice and trying to implement a new curriculum. Ball (1993) concludes that while conflicts or dilemmas can occur under any conditions, they are more likely to occur when teachers begin to implement reform. New ways and old practices that are contradictory to one another put the teacher in the position of having to resolve and accommodate new knowledge with that of previous beliefs and ways of thinking and acting (Ball, 1993; Cohen, 1990). Reinventing one's practice from within a new

epistemology requires that teachers experiment, discuss, and reflect on their practice as they work through the dissonance they are experiencing.

Guskey (2002) believes that change in practice is needed to promote change in beliefs and attitudes. Crucial is the need for teachers to experience successful implementation. He argues that

> Significant change in teachers' attitudes and beliefs occurs primarily after they gain evidence of improvements in student learning. These improvements typically result from changes teachers have made in their classroom practices—a new instructional approach, the use of new materials or curricula, or simply a modification in teaching procedures or classroom format (p. 383).

Cohen's (1990) case study of a teacher's effort to implement mathematics instructional reform in California reveals that innovations in the teacher's practice can be filtered through a very traditional approach. The teacher in this case study attempted to blend past and present practices to implement a new curricular innovation. Cohen notes:

> These are important questions, inevitable in the ventures of this sort; but it may be unwise to sharply distinguish progress from confusion, at least when considering such broad and deep changes in instruction. After all, the teachers and student who try to carry out such change are historical beings. They cannot simply shed their old ideas and practices like a shabby coat, and slip on something new. Their inherited ideas and practices are what teachers and students know, even as they begin to know something else. Indeed, taken together those ideas and practices summarize them as practitioners. As they reach out to embrace or invent a new instruction, they reach with their old professional selves, including all the ideas and practices comprised therein. The past is their path to the future. Some sorts of mixed practice, and many confusions, therefore seem inevitable (1990, p. 323).

Aschbacher (1993) investigated the impact of designing and implementing performance assessments utilizing an action research approach. The setting for this investigation included five different sites that included elementary, middle and high schools over a two year period of time. The content areas investigated were math and social studies. Data collected were observations, interviews, and surveys of the participants, as well as analyzing assessment-related materials that were developed by the participants in this study. The results demonstrated that "working on

alternative assessment led teachers to reflect more on their teaching practices, to consider the alignment of instruction and assessment, to view assessment as something positive that offers insights into how students think, and to see the importance of assessing growth and development" (p. 27). While the results demonstrated some useful insights, Aschbacher (1993) warns that the key observations were not as promising. It was evident that even the modest implementation of alternative assessment that was taking place required a tremendous amount of time and "externally-provided" professional development and support. Another observation that was significant was that the instructional approach used by the participants in this study did not support performance assessment.

This study found that the predominant barriers to implementation of alternative assessments were:

- a focus on learning activities rather than student outcomes;
- difficulties specifying criteria for judging student work;
- assessment anxiety;
- lack of time to learn, plan, practice, use and reflect;
- need for training and ongoing support;
- reluctance to change;
- lack of a long-range implementation plan

The factors that seemed to facilitate the implementation process were:

- purposeful commitment to innovative assessment and instruction;
- being part of a group;
- administrative support;
- sustained technical assistance.

It was concluded from this study that there was a great reluctance on the part of the teachers to articulate desired student outcomes and to embrace the development of criteria and standards for assessing such outcomes. Also observed was the lack of on-going long term professional development to promote a significant paradigm shift in the teachers' belief and understanding of the purpose and use of alternative assessments.

These findings are similar to those found in a multiple case study of performance assessment from the National Center for Research on Evaluation, Standards, and Student Test

(CRESST), which examined the effects of implementing new forms of assessment at the classroom level. This research project was based on five interrelated case studies of three urban elementary schools in the process of implementing performance assessments (Borko, Flory, & Cumbo; 1993; Borko, Mayfield, Marion, Flexer, & Cumbo, 1997; Flexer & Gerstner, 1993; Hiebert & Davinroy; 1993; Shepard, Flexer, Heibert, Marion, Mayfield, & Weston, 1995). Two studies that investigated the implementation of assessments into math and language arts are particularly relevant to the current research. The first study by Flexer and Gerstner (1993) examined the dilemmas and issues that emerged during the implementation of performance assessments. Borko, Mayfield, Marion, Flexer, and Cumbo (1997) examined change in teachers' knowledge, beliefs and practices related to assessment and instruction in math and reading in the context of the staff development project.

Flexer and Gerstner (1993) examined some of the dilemmas and issues that arose during the first year of implementing mathematics assessments in thirteen third grade classrooms in three urban schools. Workshops were held weekly on site at each of the three schools. Analyzing conversations and formal interviews that occurred between the teachers in the study and the research team throughout the school year identified dilemmas and issues. The issues observed were mostly in the area of beliefs and practical teaching knowledge. The dilemmas most disturbing to the teachers were those that focused on what is important to teach, to assess, and how children learn. They found five areas of assessment that all of the participants struggled with during the implementation process. These areas were: what to assess, how to assess it, how to score the assessment, how to keep track of the results, and how to report the results. The most difficult dilemma for teachers in this study was the lack of time. Lack of time is a universal problem of teachers dealing with change (Badger, 1992; Flexer & Gerstner 1993). The teachers in this study considered the integration of assessment as an addition to what they were teaching. As in Cohen's (1990) findings the teachers wanted to do what they had always done, and then add the new materials - if there was time (Flexer & Gerstner, 1993). The researchers believe that future development and implementation of performance assessments in these classrooms will hinge on teachers' beliefs about the usefulness and practically of alternative assessments.

Borko, Mayfield, Marion, Flexor, and Cumbo (1997) explored the ramifications of classroom-based performance assessments for professional development. The change process was investigated by analyzing conversations and formal interviews that occurred throughout the

school year. Results of this study unveiled five prominent themes: (a) it was effective to situate the change process in the context of the classroom where change was taking place; (b) group discussions and/or interaction provided for the social construction of new ideas; (c) change facilitators can facilitate change by introducing new ideas based on teacher's current levels of interest, understanding and skill; (d) teachers' beliefs were a deciding factor as to if and how the new ideas were assimilated into practice; and (e) time is a major obstacle to changing classroom practice.

Current Reform Efforts in Physical Education

With the recent influx of federal, state and local monies to promote and sustain reform agendas in education professional development, the research regarding professional development in physical education is changing and it is growing. Researchers studying curricula in physical education suggest that physical education programs of today are similar to programs of past decades (Ward, 1999). Curriculum implementation may be the most influential factor in creating change in physical education (Ward & Doutis, 1999). Implementation studies in physical education have traditionally been sparse and have largely focused on teacher fidelity of a particular curriculum rather than the impact implementation has had on changing beliefs, knowledge and practice (Chen, 2006; Deglau & O'Sullivan, 2006; Ward, Doutis, & Evans, 1999).

Several large reform efforts in physical education have occurred over the past decade. Reviewed here are four studies of standards-based implementation efforts. These studies include two state-mandated projects and two projects based on exploring beliefs, knowledge and practices in the context of reform. These are: (a) South Carolina Physical Education Assessment Program (SCPEAP); (b) Michigan's Exemplary Physical Education Curriculum (EPEC); (c) Saber-Tooth Project, a middle school effort to change practice and workplace conditions; and (c) PEP-Stars, a collaborative effort between a large urban school district and a research university to provide training in curricular innovations, technology, and teacher reflection. This section will focus on efforts to implement changes in teachers' beliefs, knowledge and practice in the context of standards-based physical education.

SCPEAP. State-mandated curriculum change is a top-down venture. Curriculum is defined from outside the context of the classroom. In a top-down model, teachers do not have

control over the type of change that is outlined by the mandate. South Carolina has implemented a statewide curriculum reform in physical education. SCPEAP is an attempt to institutionalize statewide curriculum and assessment change through state policy requiring all physical educators to submit a video-tape assessment of student performance and teacher ratings of skill proficiency. In spring 2005, legislation was passed making the assessment program mandatory at all levels and putting school physical education scores on the school report card. The report card communicates to parents the quality of a school on many indicators, including student performance. The reporting cycle is every three years in grades 2, 5, 8, and high school. It is important to note that physical education programs in South Carolina have not been accountable for student outcomes at any level until this legislation was passed. The summer prior to implementing SCPEAP a supporting professional development project was initiated through university faculty and the state of South Carolina. This project, the Physical Education Institute (PEI) was a three-year professional development project that met five days per year.

Rink, Jones, Kirby, Mitchell and Doutis (2007) studied teacher perceptions of the SCPEAP and its effects across six related themes including: (a) changes in teaching and learning, (b) changes in curriculum and instruction, (c) teacher awareness of the assessment program, (d) teacher support for the program, (e) work place conditions, and (f) the advocacy role of the program. Data for this investigation include surveys sent to every physical educator in the state and focus groups of physical educators attending the state convention. Seventy-five teachers representing all school levels participated in the focus groups. These included 27 elementary teachers, 28 middle school teachers, and 20 high school teachers. Physical education teachers registered for the state convention, received letters requesting their participation with established times that each group would meet and were informed that there would be monetary compensation for their participation.

Findings indicate that teachers at all levels felt: (a) physical education programs should be held accountable for what students learn in physical education, (b) teachers should have to assess student learning, and (c) accountability is necessary to improve/maintain the quality of physical education programs. A few teachers felt the assessment program required too much work and took too much time from instruction. Another important finding was that almost all of the teachers in this study felt it was important for all teachers to be trained in data collection. In a companion study, Williams and Rink (2003) found that teachers could use scoring rubrics to

accurately assess student motor performance and were able to make accurate judgment about competent or not competent student performance. In the SCPEAP program teacher's videotape student performance in activity settings using standardized protocols for collecting assessment data. Teachers score student performance from the videotape using a standardized scoring rubric and submit their scores and tape to the assessment program. A monitoring committee of teacher peers determines the compliance of teacher data with the protocols and accuracy of the teacher data in terms of agreement with the monitoring committee.

This finding is important since these teachers received minimal training and instruction in the use of assessment materials for all 21 possible activities that teachers could assess. Another interesting finding was that it was more difficult for teachers to assess team sports. It was concluded by the researchers that observation is more difficult when number of individuals, equipment, and space increases to adequately accommodate the number of students. Therefore, testing protocols for team sports, such as softball, soccer, ultimate Frisbee, and flag football, is more complex and more difficult to observe than for individual activities such as aerobic dance, which is performed in personal space with a stationary step. Also, to allow viewing of movement in this context, it is necessary to place the camera further away from student performance for the taping of team activities than for individual activities. This increase in distance may not allow observers to see student performance as clearly during team activities.

In a third study, Wirszyla (2002) investigated three schools that had made the most progress in implementing SCPEAP the year following its implementation. Interviews, document analysis, videotaped observations, and lesson analysis were used to explore the supporting factors and hindrances to program change and the extent of curricular implementation. Using a case study approach, he found that female, lead teachers served as the driving force for change in the school. The willingness of teachers to create student accountability, the degree of implementation, the amount and nature of curriculum change were influential factors related to change in physical education. In the model schools selected for study, the teacher-coach role conflict was a strong inhibitor for change, particularly for the male teachers. Findings indicated that there was not teacher fidelity to the changes outlined in the curricular reform and that lack of administrative support impeded the change process.

Castelli and Rink (2003) identified the effectiveness of SCPEAP as a reform effort and the characteristics of effective physical education programs. Quantitative and qualitative

methods were used to examined reform efficacy, teacher perceptions, program characteristics, department and school characteristics, and facilitators and inhibitors, in four high performing schools and four low performing schools. High and low performing schools differed primarily by teacher characteristics, department cohesion, and school climate. The most common facilitators identified by both high performing schools (HPS) and low performing schools (LPS) were collaboration between members of the department, administrative support, supportive physical education staff members, Physical Education Institute, the performance indicators, and student accountability. The following facilitators were considered to be of different importance between HPS and LPS: (a) student choice, (b) the importance of data collection training, (c) communication with SCPEAP committee, (d) higher expectations of students because of SCPEAP, and (e) student characteristics.

The most common inhibitors for both HPS and LPS were SCPEAP materials that changed during the course of the data collection, interruptions in the conduct of their classes and units, class size and assessment protocols. Inhibitors for the most part were context specific. LPS had the additional inhibitors of: (a) too much paperwork connected to the assessment program, (b) lack of textbooks, (c) poor facilities, (d) lack of resources (such as, equipment for teaching) (e) other physical education staff, (f) lack of knowledge, (g) difficulty in managing students during testing, and (h) difficult students. The difference between HPS and LPS regarding inhibitors was attributed to the difference in how LPS perceived their status and reacted to potential inhibitors within the school. HPS did not see themselves as a marginalized subject area.

The teacher-coach role conflict in high school physical education is well documented in the literature and was a factor in Wirsyzla's (2002) study of SCPEAP. Findings of this study contradict Wirsyzla's finding of the teacher-coach conflict. At HPS, teacher-coaches taught and assessed activities that they coached and used their coaching knowledge to their advantage. They balanced the responsibilities of teaching and coaching, by taking equal pride in both the physical education program and their coaching. It is suggested that the implementation of the accountability system may have enhanced change by holding coaches accountable for their teaching.

EPEC. Another group of studies involving implementation of mandated curricular change in physical education is McCaughtry, Cothran, Kulinna, Martin, and Faust's (2005)

investigation of Michigan's Exemplary Physical Education Curriculum (EPEC). EPEC focuses on four domains (a) physical fitness, (b) motor skills, (c) personal and social development, and (d) physical activity and fitness knowledge. McCaughtry, et al. investigated the role of teacher mentors during the implementation of the EPEC program. Participants were 15 veteran teachers and 15 novice teachers. Survey instruments pertaining to mentoring aptitude were given at each of the workshops participants attended. It was found veteran teachers that had been trained in content and mentoring techniques served to enhance the implementation of the EPEC. It was also found, that if a mentor lacked subject matter knowledge they tended to question their competencies and this at times was a stumbling block to implementing the new curriculum. One of the major findings was that utilizing mentors and training the mentors in the content and in how to mentor enhanced the implementation process.

Two consecutive studies from EPEC mentor intervention have explored the impact mentoring had on teacher efficacy and the use of electronic chat rooms as a form of mentoring. The first is Martin, McCaughtry, Kulinna and Cothran's (2007) study of the impact of EPEC mentor intervention on teachers' efficacy. Statistical findings suggest that utilizing the mentor intervention served to increase teachers' efficacy to teach the four EPEC domains and both mentors and protégés gained confidence in overcoming a lack of space for teaching active lessons, encouraged students who were reluctant to be active, maximized instructional time for active lessons and gained greater administrative support by providing more physically active lessons. Both mentors and protégés increased in their efficacy to teach most of the EPEC objectives and to overcome barriers to teaching physically active lessons.

The use of electronic chat rooms as a mentoring and collaboration tool was investigated by Faust, Cothran, McCaughtry, Kulinna, Martin and Smigell (2007). A challenge to implementation of the EPEC was the availability of subject matter mentors. Participants included 30 elementary physical educators from a large urban school district that had adopted the EPEC. Fifteen teachers experienced in the district and with EPEC were selected to serve as mentors for 15 teachers who were new teachers in the district and/or new to EPEC. Participants took part in 4 days of professional development spread over the school year focusing on curricular use and mentoring relationships. Teachers visited each other's schools once, exchanged video-tapes once, and were asked to communicate via chat rooms twice a week. Each mentor team had a private chat room. During the first half of the project, no specific directions beyond minimum number of

chat room contacts were provided. During the second half of the project, specific prompts were provided once a week. Postings initially were short, general, and personal (e.g., just checking in, hope you're having a good week). An important finding was when weekly prompts were used both length and quality of teacher responses increased.

Saber-Tooth Project. This project was a collaborative effort between university faculty and a middle school physical education department at a single school site. The focus of this project was to improve workplace conditions and to engage teachers in professional development focused on curricular reform. The Saber–Tooth curriculum project had three phases. First was the development phase where all the initial proposals were made and completed by the director of the project. The second phase or planning stage determined (a) individual beliefs and values, (b) conducting a needs assessment, (c) assessing the curriculum approaches in the context of the community, school district and national guidelines, and served to (d) determined program beliefs and value statements. The final phase was the implementation and support phase. During this phase, there was a weekly faculty meeting involving university staff, teachers, the consultant and the principal. Teachers met on their own time and discussed certain points of their experiences with the project (Ward, 1999). Data from this study suggests that in order for these teachers to implement changes in their curriculum they needed to revisit, and at times discover, alternative pedagogical practices. Also found in this study was that the teachers had changed their ideas, practices, and values regarding assessment of student learning (Ward, Doutis, & Evans, 1999).

The improved status of physical education resulted in increased funding, resources and professional development support. The principal in this study became interested in making the physical education program the best in the district and supported the teachers in their efforts to improve their curriculum and their instructional practice. Collegial support and time to meet professionally was designed into this program. As a result of having time dedicated to meeting and to discourse, teachers in this study moved from working in isolation to working together in their classes and in their planning. The teachers viewed this change positively in terms of their willingness to implement new ideas, revise existing ideas, and create a more engaging physical education experience for their students.

Enhanced professionalism and teachers' perceptions of self as professional also emerged from the Saber-Tooth Project (Doutis & Ward, 1999). The teachers felt their work had taken a

more professional approach and this was expressed in how they spoke of physical education and themselves as teachers. They also felt physical education within their school setting was viewed more positively and helped to enhance their job satisfaction. Out of this study, four conclusions were made as to supporting teaching change in the context of curriculum revision and implementation: (a) “vision [purpose] is everything” (p. 459); (b) workplace conditions impact the change process; (c) there is a strong relationship between planning, teaching and assessment and this must be addressed; and (d) eliminate “business as usual” and explore new methods of teaching and assessment.

PEP-Stars. This project supports the idea of long-term support and training for teachers. It was focused on teachers’ ideas and practice regarding reform, classroom-based assessment, and technology. It is committed to developing thinking, reflective professionals. This was designed and implemented with federal funds from two Carol M. White Physical Education for Progress (PEP) grants. Each project lasted for 2 years. In the first project, 24 teachers participated from 18 elementary schools, 5 middle schools, and 1 high school. In the second grant, there were also 24 teachers in 11 elementary schools, 10 middle schools, and 3 high schools.

Deglau and O’Sullivan (2006) used a socio-cultural framework to examine the influence of a 15 month professional development project on the ideas, beliefs, and practices of six experienced teachers from a cohort of 24 veteran physical educators. Monthly workshops include topics of new content and pedagogies and materials and equipment to support these initiatives were provided to the participants. Teachers in this project were paid hourly to attend all workshops and debriefing sessions that were held outside of school hours. Funding for substitute teachers for activities held during the school day was supported by the state Association for Health, Physical Education, Recreation, and Dance. In addition, these teachers received money for equipment and resource books, journal subscriptions and technology. Their findings focused on the ways in that these experiences with the content and topics of the staff development project influenced their beliefs about teaching and their teaching practice, and the ways in which their experiences within the “community of practice” (p. 382) influenced their sense of self as professionals. Inherent in the project was the requirement of teachers to write and implement one unit of instruction. This provided the teachers an opportunity to experience one

of the models of instruction they had experienced in the project within the context of their classroom.

Assessment of learning was a key component of the project. An initial survey of the teachers entering the project found that many of the teachers had either never used formal and informal assessment or lacked the knowledge to create and implement assessments. The primary shift in beliefs was the role of assessment in learning. Teachers in this study began to value demonstrating and sharing student outcomes to parents and to other teachers at their school sites. One comment shared in this study:

> So that is why it's important to me to build on these portfolios and things because just like, right now it looks like my class is based on participation and dress, and that's wrong. I don't want it to look that way. I want it to look like this is what your child's doing in there, this is how your child is interacting… these things are important things and I want them to be displayed (p. 389).

Ko, Wallhead, and Ward (2006) assessed what teachers learned and used from professional development workshops related to implementing an alternative curriculum model. Their analysis focused on what knowledge teachers used and why teachers may not have used the knowledge and skills provided in workshops. They found that the complexities of the curriculum model required extensive prior knowledge of the contextual factors that exist with the teachers' school sites. Barriers also included the lack of resources to provide on-site support to enhance teachers' content and pedagogical knowledge in regard to the curriculum model. The findings alludes to the need to provide effective workshops and identify the factors that may impact teacher's choices to utilize knowledge presented in professional development experiences.

Deglau, Ward, O'Sullivan, and Bush (2006) use a critical discourse framework to examine the nature of professional conversations that occurred in a professional development activity called PEP-talk. PEP-talk was designed to bring teachers together in a social setting outside of school to (a) discuss issues confronting them in their roles as teachers, (b) share their teaching ideas and practices, and (c) reflect and interact on topics that were important to them and within their control. Participants met monthly and were lead in focus groups that included a facilitator and discussion prompts and questions to help participants stay focused on the discussions. Their findings provide evidence that when teachers collaborate in such

communities, they are more willing to take risks, reflect on their failures, and share successful programs and practices.

Ince, Goodway, Ward, and Lee (2006) used a quasi-experimental group design to assess the effects of a year of professional development intervention focused on technology use and the use of technology by teachers in their practice. The participants were 41 physical education teachers participating in PEP Stars. Data was collected through (a) questionnaires addressing technology competence and attitudes toward technology. Teachers in this study received a laptop computer, digital camera, a PDA, and a class set of heart rate monitors and pedometers; (b) specific software, such as Fitnessgram, templates for lessons, and rubrics for assessment; (c) a 2-day workshop on the use of the hardware and software; (d) five additional full-day curriculum model workshops (tactical, sport education, social responsibility, cooperative learning, and fitness for life/elementary) where at least a part of the workshop was given over to the use of technology within that curriculum model; and (e) on-going technology support via phone, e-mail, and personal visits to the school and home by a designated technology support person over the course of one academic year (all participants received at least two visits over the year, some more than five visits). Their results point clearly to the need for teachers to be trained to use the new technologies that exist and to integrate them into their instruction in ways that support and enhance their instructional goals without inhibiting them.

The study of curricular implementation is not a new line of research but one thing that has changed is the recognition of the need to address how context and content of the innovation influences knowledge, beliefs, and practices of teachers. Several recent studies in physical education have begun to identify potential features of professional development that may support teachers to examine and explore their beliefs, ideas, and practices related to the tenets of proposed reform in education. Next is a brief discussion of effective professional development practices in the context of standards-based reform

Effective Professional Development in the Context of Standards-based Reform

During the past decade, a considerable body of literature has emerged on professional development, teacher learning, and teacher change in education. This includes several recent studies on professional development activities in physical education designed to support reform-based efforts. The literature base of reform-based professional development contains a mixture

of large- and small-scale studies. Included are investigations of intensive case studies of classroom teaching, evaluations of specific curricular models to improving teaching and learning, and surveys of teachers about their professional development experiences (Desimone, Porter, Birman, et al., 2002; Desimone, Porter, Garet, et al., 2002; Garet, et al., 2001; Porter, et al., 2003).

A consensus is emerging describing best practices in professional development in general education, drawing on expert experiences (Loucks-Horsley, et al., 2003). Despite the size of the body of literature, however, relatively little systematic research has been conducted in physical education on the features of professional development that is focused on teachers' beliefs, knowledge and practices in the context of reform-based professional development.

Recently, Snow-Renner and Lauer (2005) from the Mid-continent Research for Education and Learning (McREL) conducted a review of literature to identify trends in regard to the effectiveness of professional development focused on standards-based reforms. They used a systematic search of the literature and clearinghouse services such as ERIC, Psychological Abstracts, and Dissertation Abstracts to identify research pertaining to standards-based professional development of teachers. To be included in this professional development synthesis, studies needed to address the following research question: "What is the influence of standards-based professional development on teacher instruction and student achievement?" (p. 5). Findings in this synthesis are similar to other findings in the literature (Borko, et al., 1997; Desimone, Porter, Birman, et al., 2002; Desimone, Porter, Garet, et al. 2002; Garet et al., 1999, 2001; Guskey, 2002; Loucks-Horsley, et al., 2003; National Staff Development Council, 2001; Porter et al., 2003; Putnam & Borko, 1997).

According to Snow-Renner and Lauer (2005) synthesis of literature of standards-based professional development features that have the greatest promise to promote and sustain change have the following attributes:

- They are of considerable duration
- They are focused on specific content and/or specific instructional strategies
- They are characterized by collective participation of educators (in the form of grade-level or school-level teams)
- They are coherent to other reform efforts
- They are infused with active learning that models reform-based instruction

Almost all of the recent literature on teacher learning and professional development calls for professional development that is sustained over time. The duration of professional development activities is expected to be important in two ways. First, longer activities are more likely to provide an opportunity for in-depth discussion of content, student conceptions and misconceptions, and pedagogical strategies. Second, activities that extend over time are more likely to allow teachers to try out new practices in the classroom and obtain feedback on their teaching.

Duration has been studied by: (a) the number of contact hours spent in the professional development activity, and (b) the span or period of time, in days, weeks, and months, over which the activity was spread. Studies from the National Science Foundation's Local System Change (LSC) initiative, suggest that the duration of professional development is related to the depth of teacher change (Supovitz & Turner, 2000; Weiss, Arnold, Banilower, & Soar, 2001; Weiss, Banilower, McMahon, & Smith, 2001). Supovitz and Turner (2000) used statistical associations between the amount of teacher professional development and use of inquiry-based teaching practices in science found that only after teachers had participated in at least 80 hours of professional development did the teachers demonstrate a change in practice. In terms of creating an "investigative classroom culture," the study found that substantive change occurs mainly after 160 hours of professional development.

Changes in practice also depend on a sustained and targeted focus on specific content and instructional strategies. Cohen and Hill (2000) found that the content that is presented is very important. Professional development focused on specific curricula resulted in more reform-oriented practice and related to student achievement. They suggest that for classroom practice to change, professional learning opportunities should be: (a) grounded in the curriculum the students will study; (b) embedded within an aligned system and connected to several elements of instruction (e.g. assessment, curriculum), and (c) extended in time, with time built in for practice, coaching, and follow-ups. Porter, et al. (2003) found when activities were focused on specific higher order teaching strategies there was an increase of the teachers' use of those strategies in their classrooms.

There is a growing interest in professional development that is designed for groups of teachers from the same school district, school site, department, or grade level. According to Garet, et al., (2001) the potential advantages to have a cohort group are: (a) teachers who work

together are more likely to have the opportunity to discuss concepts, skills, and problems that arise during their professional development experiences; (b) teachers who are from the same school, department, or grade are likely to share common curriculum materials, course offerings, and assessment requirements and then integrate what they learn with other aspects of their instructional context; and (c) teachers who share the same students can discuss students' needs across classes and grade levels. Using cohorts from the same school may also serve to help sustain changes in practice over time through developing a shared professional culture. A shared professional culture in this sense is when teachers develop a common understanding of instructional goals, methods, problems, and solutions. This is especially important when teachers leave the school's teaching force and other new teachers join the faculty.

Coherence is the extent that the professional development activities are perceived to be a part of a coherent program of teacher learning. Professional development for teachers is frequently criticized on the ground that the activities are disconnected and isolated bits of information. Professional development activities are more likely to be effective in improving teachers' knowledge and skills if it forms a coherent part of a wider set of opportunities for teacher learning and development (Porter, et al., 2003). Factors that should be considered in regard to coherence are: (a) the extent to which the program builds on what teachers have already learned; (b) content and pedagogy is aligned with national, state and local standards, frameworks, and assessments; and (c) teachers are supported in developing sustained, ongoing professional communication with other teachers who are trying to change their teaching in similar ways (Snow-Renner & Laurie, 2005).

Activities within an effective professional development program should support reform-based teaching. Desimone, Porter, Garet, et al. (2002) defines and categorizes activities as being either traditional or reform-based in nature. Traditional activities are (a) within-district workshops or conferences. (b) courses for college credit, and (c) out of district workshops or conferences. Reform-type activities were (d) teacher study groups, (d) teacher collaboratives, networks, or committees, (f) mentoring (g) internships, and (h) resource centers.

Summary

This review included a variety of literature bases in general education and in physical education. We know that practice and beliefs are connected within the change process and that

workplace conditions and school cultures may present barriers to teacher change. The reform agendas are asking teachers to teach and to assess student learning in ways that are different than how many were taught. Assessment of and for student learning is an integral component of this reform agenda. It is imperative that nature and quality of teachers' experiences in professional development activities are also significant and utilize, explore, and exhibit the type of learning the reform initiatives are advocating. This study is significant in that it is positioned to study the long-term changes in the ideas and practices of four veteran teachers as they explore content, instruction, and assessment in the context of standards-based reform. It is also significant that this study will investigate the features of a sustained, content-based professional development project that is contextual situated in physical education.

This chapter began with exploring teacher change literature and included the contextual factors that are often found to be barriers to change in physical education. This was followed by studies of implementation of standards-based initiatives, followed by a discussion of effective professional development features in the context of standards-based reform. As Guskey (2002) states, "the process of teacher change through professional development is complex" (p. 389) and there is a process through which change takes place. There are many factors that influence change as well as the design of professional development programs. Chapter Three discusses the methodology used in this study.

CHAPTER THREE

Methodology

This study examined the process of change experienced by four primary grade physical education teachers focusing on their thoughts and practices of classroom-based knowledge and skill assessments before, during and after their participation in a three-year professional development project. The specific research questions are: (a) How did the participants' thoughts and practices change as related to curriculum, instruction, assessment and self-as-professional change over the course of the project? (b) At the completion of the three-year professional development project, what features of the professional development project did the participants report as supportive and as hindering?

This chapter is organized as follows: research design, setting and participants, time line of the professional development project, data sources and collection, position of the researcher, data analysis, planning for trustworthiness, and researcher bias.

Research Design

The focus of this study was to gain an understanding of the participants' ideas and practices regarding classroom-based skills assessments before, during, and after the three-year professional development project. An emergent design best fits the purpose and exploratory nature of this investigation. Allowing the research design to develop as the professional development project unfolded served to provide flexibility (Merriam, 1998). The design of the professional development project was also emergent in nature. As topics or practices were introduced additional needs or interests would at times emerge and influence the direction or depth of exploration of a specific topic. This study began with a broad research focus that was refined based on the events and processes that unfolded over the course of the three-year professional development project.

Qualitative methods focus on "process, meaning, and understanding" (Merriam, 1998, p. 8). Qualitative research methodologies have been used by researchers to investigate the process of teacher change related to classroom-based assessment in areas such as math, language arts, and social studies. The research design in this study was based on the Borko, Mayfield, Marion, Flexer, and Cumbo (1997) investigation of teachers' process of change during a professional development project focused on math rubrics and reporting strategies at the elementary level.

The underlying principles of this emergent research design are found in the concepts of a naturalistic framework. Research in this framework is exploratory, descriptive, inductive, and emphasizes processes rather than ends (Merriam, 1998). The settings of the three-year professional development project and physical education classroom were natural and not controlled. An outline of the naturalist framework includes the following assumptions:

- the world is a function of personal interaction and perception in which realities are multiple, constructed, and holistic;
- the knower and the known are interactive;
- hypotheses are time and context bound;
- beliefs rather than facts form the basis of perception;
- causes and effects are mutually shaping;
- inquiry is value bound (Lincoln & Guba, 1985; Merriam, 1998).

The outcomes of this study represent the hypotheses constructed through my interaction with the data gathered from interview transcripts, researcher field notes, written surveys, and documents generated during my participation in the professional development project.

A multiple case design was used to examine the process of change experienced by the participants and understand how the process was supported or inhibited by the context of the professional development project. In this study, four case studies of individual participants' initial thoughts and practices regarding curriculum, instruction, and assessment and the changes each experienced during their participation in the project were assembled. Purposeful and convenience sampling methods were used to identify the cases. Cross-case analysis identified the similarities and differences in the process of change that occurred across the cases and to understand how the context of the three-year professional development project influenced the change (Merriam, 1998; Miles & Huberman, 1994). Further details of the data analysis procedures are explained later in this chapter.

Setting and Participants

The setting for this investigation was a small county school district in the Mid-Atlantic, Sommerville County Schools (a pseudonym). The approximate population of the County was 27,500. The dominant area of employment within the County was the government sector, which accounted for over 75 percent of the nonagricultural wage and salary employment. The public

school system consisted of five primary schools (K – 2), two elementary schools (3 – 5), two middle schools, (6 – 8), and one high school (9 – 12). The total average school enrollment was approximately 5400 students, of which about 1,300 students were enrolled in the primary schools.

Sommerville County physical education requirements stated that all students were required to have physical education from a licensed or credentialed physical education teacher. The District's physical education (PE) faculty consisted of 24 certificated teachers. The grade level configuration of the PE teachers were: four primary level teachers (K – 2), four elementary level teachers (3 – 5), eight middle school teachers, and eight high school teachers (9 – 10).

Allocated time for PE at the primary and elementary level was two days a week for 20 to 30 minutes a session. Middle and High School students alternated between health and physical education on a bi-monthly basis. The physical education teachers taught both health and physical education five days a week for 50-minute sessions. The allocated time for physical education to be taught by a licensed physical education teacher are displayed on the next page:

Table 1

Time Allocated for Physical Education to be taught by a licensed PE teacher

Grade Level	Days per week	Time Allocated per session for PE in minutes	Total minutes per week
Primary (K-2)	2	30	60
Elementary	2	30	60
Middle*	5	50	225
High School*	5	50	225

** Physical education and health were alternated on a bi-monthly schedule*

Sommerville County was selected due to the opportunities that resulted from my professional relationship with this school district. My collaboration with Sommerville County began Fall of 1995. I was hired as the curriculum consultant for the professional development project that was the setting in this study. This professional development project was initiated to: (a) develop a formal written curriculum that articulated standards-based content across the grade levels, K – 10; (b) encourage collaboration among physical education teachers from the same and different grade levels; and (c) begin to explore ways to improve instruction and student learning in physical education.

Initially, my role was to consult and facilitate the curriculum development process with a select group of physical educators. The district wanted to develop an articulated curriculum in physical education based on the recent National Standards (NASPE, 1995). To do so, they organized a committee of teachers that represented each of the ten school sites. This committee consisted of the nine physical education teachers serving on the curriculum development team. The grade level make up the curriculum committee was: four primary physical education teachers, two elementary physical education teachers, two middle physical education teachers, and one high school physical education teacher. Participation was not voluntarily but rather an assigned duty by the District's Administration.

My first meeting with the District Administration was to discuss the goals of the professional development project. Knowing that in order to better study the change process it was important to begin data collection at the start of the professional development project. I articulated that I was interested in an investigation that involved classroom-based assessment, professional development, and teacher change but that I had not yet clearly defined the parameters of a study. With the permission of the District Administration, I next contacted the teachers to gain their permission to begin collecting data at our first professional development meeting.

In order to meet each of the PE faculty and to discuss with each of them both the professional development project and possible research study I visited each of the school sites prior to our first meeting. As Seidman (1998) suggests, the researcher should not rely on other people to make contact with the participants because "building the interviewing relationship begins the moment the potential participant hears of the study" (p. 39). This initial site visit served several purposes. First, I was able to gain an understanding of the contexts within the

school district; secondly, introduce myself to the site administrators, and third, meet each of the physical education teachers. I visited each of the ten schools sites one month prior to the start of the professional development project. This experience provided me the opportunity to share my ideas about the project and my dual roles of as a professional developer and a researcher to the ten principals and twenty-four physical education faculty members.

I explained that my primary role would be that of professional / professional developer. I would be organizing and facilitating professional development meetings focused on curriculum, instruction, and assessment topics related to the national standards. My second role would be that of researcher. As a researcher I would be observing, documenting activities and practices, and interviewing them during their participation in the professional development project. At that time I did not have the foresight to know that this project would last three years. At our first professional development meeting, I gave each faculty member on the committee a consent form that discussed the general idea for my study. Following that first meeting, I returned to each school site and gave the teachers who did not serve on the committee a copy of the consent form and asked them to return to me upon my next visit to the County. This document stated the individuals who would have access to the data I gathered, and addressed issues of confidentiality and anonymity. I stressed that the data was not accessible to the District Administration. I explained to them that I would need to again ask for a formal consent after I completed my research proposal and that I had narrowed my study. Participants were told that at any time they could leave the study and that by doing so would not influence their job position. Twenty-three out of 24 members agreed to be participants in the study.

In order to manage and to make sense out of the large quantity of the data that was collected, I needed to narrow the sample and focus on a specific aspect of the process of change related to the demands of standards-based education. The process I used to narrow the sample and identify the focus of this study is discussed next.

Identifying the Sample

Qualitative research generates a large mass of data that needs to be continually organized (Miles & Huberman, 1994). From the onset of this three-year professional development project, I began constructing individual participant cases. The more I worked with the 23 participant cases, the more I truly realized I was amassing an extensive amount of data. I realized that the scope of

the sample was too large for a single researcher and that I needed to narrow my scope to effectively analyze the data. To do so, I used purposeful sampling to identify my participants.

Merriam (1998) describes purposeful sampling as being "based on the assumption that the investigator wants to discover, understand, and gain insight and therefore must select a sample from which can learn the most" (p. 48). Sampling in qualitative research involves the setting of boundaries or setting your case and creating a frame to uncover, confirm or qualify the basic processes that support one's study (Miles & Huberman, 1994).

Next, using "homogeneous samples" (Patton, 1990), the sample was furthered narrowed. Homogeneous samples are simply particular subgroups within a larger group. Homogeneous samples are used to study the subgroup in depth. Once I narrowed the focus of the study to examining the changes in thoughts and practices related to classroom-based skill checklists, I began looking at the richness in the data within the four grade level subgroups (i.e., primary, elementary, middle, and high school). I used these groupings because the physical educators in each of the grade level groups shared the same curricular focus and content in regard to the skills that were to be taught, had similar scheduling demands, and developmental age grouping of the students they taught. It was the richness of information that emerged from the level primary (K-2) subgroup as well as the individual cases within this sample that helped me to shape my research foci and identify my research questions.

Participants

Participants in this study were four veteran primary (K-2) level physical educators from a suburban school district in a mid-Atlantic state. Each taught Kindergarten through second grade physical education (K-2) and they also were members of the three-year professional development project. The participants were selected by purposeful sampling. Due to the nature of this professional development project participants did not have to possess extra-ordinary behaviors or beliefs to participate in this investigation. They did not have to be unique from one another in terms of race, ethnicity, gender, or religious background. Their pseudonyms are: *Nancy, Tom, Jack, and Pat*. A detailed description of each participant is given in Chapter 4.

Position of the Researcher

In a sense, all social research is a form of participant observation because we cannot study the social world without being a part of it (Atkinson & Hammersley, 1994). Alder and

Alder (1994) state that new conceptions of qualitative research have evolved and have proposed three predominant researcher membership roles: the complete-member-researcher, the active-member-researcher, and the peripheral-member-researcher. Complete or full-participant is defined as those researchers who study scenes where they are already members or who have become converted to genuine membership during the course of their research (Alder & Alder, 1994).

My role in this study was that of full-participant. The professional development project was a three-year project that included bi-monthly meetings that I was in charge of organizing and facilitating. From the onset of the three-year professional development project, I was a member of the community and a participant in the process of change. The teachers were free to talk to me at any time, although they knew that my purpose was to provide professional development as well as to observe, audio and video-record, and take notes during our meetings and interactions. Any incidental or informal conversations outside of the professional development meetings were recorded in a personal field notebook.

Oftentimes, I felt both at an advantage and disadvantage with my position as a full-participant. One dilemma that I was conscious of was the issue of power. I had full access to the teachers, their classrooms, as well as the time we spent in the professional development meetings. In this investigation, issue of power could come into play because the participants might view me as a member of the administration rather than a researcher. This is an important point due to it being a possible limitation to this study. However, I found that my dual roles allowed me to develop a trusting, open relationship with the participants that also served to give me insights on the participants as well as myself throughout the three years of the project. I was open with the participants and discussed my concerns with them about my dual role and the issue of power. I found that the participants were very open and willing to be apart of the research process. I was very open with sharing the data I had gathered before, during, and after the project and kept the participants informed of my insights and findings. In return, I received ongoing feedback and support in the research process from each of the professional development participants. The professional development participants would help by reading the transcripts and notes I had collected and made additions or corrections to the data and to my interpretations of the data. This dual role, for me, served as a positive and beneficial contribution to the

environment of the study and to the process of gathering insights on the participants as well as myself.

My journey as a researcher through this study at times was unclear. Because of the emergent design of this study, the focus and narrowing of the investigation evolved over the course of the project and into the analysis of the data. To better understand how the research focus was identified and narrowed, I have provided a reflective account of my experiences as a participant / researcher and professional developer later in this chapter.

Data Sources and Collection Procedures

Multiple data sources were used to help provide for triangulation "as a way of guarding against researcher bias" and to gain "a deeper and clearer understanding of the setting and people being studied" (Taylor & Bogdan, 1984, p. 68). Patton (1990) writes:

> Data collection methods in the qualitative tradition permit a detailed description and analysis of what it is persons know and accomplish as they interact with each other in the occasions they themselves create and manage. This means that qualitative researchers use materials collected from ongoing, naturally occurring occasions of social interaction usually by means of field and interview notes or with the help of audio- or videotaped recordings and transcripts (p. 392).

Data were collected beginning in January 1996 until the end of the three-year professional development project January of 1999. From the start of the project data collection was on going and included professional development meeting field notes, researcher field notes, written surveys, participant and student artifacts, and interviews. To better describe what data sources were collected during the phases of the three-year professional development project, Table 2 is provided on the next page that outlines the project dates and phases of the project along with relevant data sources collected during each phase. Descriptions of data sources collected during the three-year professional development project are provided after Table 2.

Table 2:

Timeline of Professional Development of Activities and Data Sources Generated and Collected

Year One of Professional Development Project		
Semester	Activity / Phase	Data sources
Spring 1996	▪ Initial contact with District regarding project and research	• Field notes
	• Met with PE Faculty within the District Curriculum Development Begins • Analyzed and critiqued existing curriculum • Identified areas of content change • Created new priority objectives using the reform documents • Shared new priorities and identified areas of change with staff and invited responses • Reached consensus on preliminary structure and scope of PE program	• Field notes • Informal Conversations • Field Notes • Participant Artifacts • Written Surveys • Semi-structured interview
	Summer Writing Workshop. • Subcommittee wrote grade level drafts • Compiled and formatted curriculum draft • Content identification and configuration within the grade levels.	• Field Notes • Informal Conversations • Written Survey • Participant Artifacts
Fall 1996	• Revision and refinement of curriculum guide – specifically content and design of written document • Began marketing new curriculum with District PE faculty and administration • Staff review of content and format- solicited input • Finalized curriculum content and format of document • Staff development of District PE teachers and administration • Budget for purchases of new equipment and materials necessary to implement the curriculum • Began classroom companion- Classroom Connections • Submitted and awarded USPE grant	• Field notes • Informal Conversations • Participant Artifacts • Student Artifacts

Table 2: Continued

Timeline of Professional Development of Activities and Data Sources Generated and Collected

Year Two of Professional Development Project		
Spring 1997	• Introduced instructional and assessment practices to support content of curriculum • Three separate PE professional development for entire PE faculty-DAPE, instructional and assessment practice, and technology related to standards-based reform. • Began marketing campaign for PE faculty - sweatshirts • January-February Committee Pilot • Focus meetings for grade level Committee members • Developed feedback forms with staff to collect data from pilot • Evaluation and refinement of content and document • March-Committee introduced curriculum to site PE faculty • Professional development workshop with entire PE faculty within the District. Focus was on • Distributed curriculum materials for field test with entire staff • Distributed marketing materials for PE Faculty T-shirts • Developed feedback forms with staff to collect data from field test • April- Marketing to parents and committee • Booth at Committee "Walk Against Drugs" • Distributed marketing materials to public • April-June—Weekly Site Visits • Solicited responses on what was working, not working, etc • Began revisions and participant review of document • Board of Education Approval	• Field Notes • Written Survey • Informal Conversations • Semi-structured Interviews • Participant Artifacts • Student Artifacts
Fall 1997	• Changes identified in the Spring 1997 survey were analyzed by the researcher and professional development participants. Findings shaped the decisions as to the subsequent district wide professional development days for the academic year 1997 – 1998. • Completed Curriculum handbook and *Classroom Connection* for classroom teachers. • Formal presentation with professional development participants at the State Governors' Conference.	• Field Notes • Informal Conversations • Written Survey • Participant Artifacts • Student Artifacts

Table 2: Continued

Timeline of Professional Development of Activities and Data Sources Generated and Collected

Year Three of Professional Development Project		
Spring 1998	• On-going site visits with participants • Monthly Professional Development Project Meetings • Formal surveys and interviews regarding the curriculum and the professional development process.	• Field Notes • Informal Conversations • Written Survey • Participant Artifacts • Student Artifacts
Fall 1998	• Revision and Refinement of Curriculum Content Guide and assessment practices. • Exit interviews.	• Field Notes • Informal Conversations • Written Survey • Semi-structured Interviews • Participant Artifacts • Student Artifacts

Field Notes.

Field notes were used to record notes, thoughts, feelings, experiences and perceptions I kept during the project. Each entry was identified by the date, location, time, and the person with whom I spoke or observed during the visit. These notes were focused on describing the context, actions, and reactions of the participants and my self during these visits (Bogdan & Biklen, 1992). By the time the project ended, I had gone through three 70-page spiral bound notebooks. This process of note taking served to help me articulate my thoughts and feelings and to provide a chronological account of the data collected. Two sets of field notes were used in this investigation. Both sets were kept in one notebook. The first set of information included the field notes that were taken during the professional development meetings and the second were field notes that were gathered during the site visits. Each is described next.

Professional development meeting field notes. Written field notes were used to describe the interactions of the participants, between themselves, and also with myself. Also included in the field notes were the agendas, materials that were given to the participants as well as artifacts collected. My personal thoughts, feelings, and comments were included in the notes. Artifacts or samples of assessment materials and student work they shared and other written materials were generated and / or shared at each of the meetings were organized by date and filed with the field notes. Written notes were created from these data sources and used to prepare the individual professional development meeting field notes. These were used to create a chronological account of the professional meetings and to also corroborate reported changes in the participants' thoughts and practices.

Site visit field notes. Observations allowed me to see the teachers' practice in their natural setting and to observe the nonverbal behaviors that occur in the teachers' natural environment (Bogdan & Biklen, 1992; Patton, 1990). Bogdan and Biklen (1992) suggest that it is important to reflect and describe the conversations, ideas, strategies, hunches, and patterns that may be emerging to the researcher. When I would visit the participants, I brought my spiral notebook to jot down notes and observations. Due to the distance between my residence and Sommerville County, I would sometimes audio-tape my thoughts, feelings, experiences, and perceptions I had during my visit on my journey home. These data were transcribed and stapled into the spiral bound field notebook.

Artifacts

Collecting materials and documents began prior to the start of the professional development project and continued throughout the three years of the project. Artifacts included a collection of documents and materials generated during professional development meetings as well as materials the participants' created and used in instructional and assessment activities in their individual classrooms were collected and analyzed. These materials were dated, cataloged and filed chronologically with field notes. These type of data was used to gain a better understanding of the participants' thoughts and practices before, during, and after the professional development project had ended. These data was used to document and verify the changes the participants reported as experiencing as a result of the project. There were two types of artifacts collected: (a) participant artifacts that were generated and gathered during the professional development meetings; and (b) student assessment artifacts that were gathered both at the meetings and during on-site visits. Both are discussed below.

Participant artifacts. As artifacts and other written materials were generated, shared, or distributed at each of the meetings they were cataloged by date and filed with the field notes. Also included in this collection were: printed copies of participant web pages; materials created to communicate program goals and expectations with parents and students; grading and performance standards; and copies of their planning materials.

Student assessment artifacts. Samples of the assessment materials that the participants created, found, and / or used as well as examples of student work were collected and analyzed. The participants were asked to share assessment artifacts during the professional development

meetings as well as when I would observe them in their classrooms. I chose to collect artifacts because I wanted to gain an understanding of the assessment practices of the participants. To better help me understand the participants' thoughts about the assessment artifact, I asked them to record a written reflection about the artifact and attach it to the artifact. The following prompts were used to help the participants reflect: (a) what was the purpose of the assessment? (b) did this assessment provide information about student learning? (c) would you use this assessment again? (d) what would you change about this assessment? These artifacts and the participant reflections were also used to corroborate reported changes in the participants' thoughts and practices.

Written Surveys

Written surveys refer to any paper-and-pencil, information-gathering instrument that is usually self-administered. Written surveys were given to all of the participants at the beginning, middle, and end of the three-year professional development project. The results from the written surveys were used in two ways. First, the information gathered was used to help guide the professional development and curriculum development process. Secondly, it was used to identify and trace participant changes in their ideas and practices regarding content, instruction, and assessment related to the national standards. The information gathered from the surveys was utilized with the other data sources as a way to triangulate the data from this study.

The foci of the written surveys evolved as the project progressed. The initial written survey focused on identification of content to be used in the curriculum. The second written survey was used to identify assessment practices participants were currently using and what practices they were interested in learning more about. The final written survey focused on the features of the professional development project, the effects of implementing classroom-based assessment; and their opinions and suggestions for improving the professional development project. The final written survey was a modified form of a Center for Research on Evaluation, Standards, and Student Testing (CRESST) written survey that was used to investigate implementation issues regarding alternative assessment in math and social studies (Aschbacher, 1993). A copy of these is found is Appendix B.

Interview Transcripts

Interviews were an important data source for the study. They provided a means for the participants to communicate and express their opinions, beliefs, and thoughts about professional development and assessment. Two interview approaches were used in this study. The first approach was informal conversations and the second was semi-structured interviews.

Informal conversations. According to Patton (1990) informal conversations are a natural part of ongoing fieldwork. Informal conversations rely on spontaneous generation of questions in the natural flow of an interaction. These data were very important in the shaping of the professional development project and used in the process of tracing the process of change for this study. Prior to the start of the project, I was able to meet with each participant and have an informal conversation about their ideas and practices regarding teaching, student learning, and assessment. Due to the nature of the conversations, they were not recorded but instead written in notes. Informal conversations occurred following each of the professional development meetings as well as classroom observations and in passing. These conversations were written in the form of notes and kept in a spiral bound notebook and transcribed for analysis.

Semi-structured interviews. Because this study focused on physical education teachers' perceptions and practices toward classroom-based assessment, in-depth semi-structured interviews were used to gain an "understanding of the experience of other people and the meaning they make of that experience" (Seidman, 1998, p. 3). The semi-structured approach used a list of questions or issues to be explored with each participant. This method presumes that there is common information that should be obtained from each person interviewed, but does not require a standardized set of questions to be written in advance (Patton, 1990). The flexibility of the interview guide was of value in this study because it allowed me to adjust the sequence and wording of the topics and issues. This provided me with the opportunity to explore the issues and topics in relation to the individual participants' and their specific contexts. The interview guides served as a basic checklist during the interview process and kept me focused on relevant topics to be covered.

Three semi-structured interviews were done during the course of this project. The first interview was done Spring of 1996 and focused on the participants' ideas of content to be

selected for the Curriculum Guide. This interview was roughly 20 minutes in length and took place at their individual school sites.

The second semi-formal interview occurred prior to the implementation phase of the curriculum in the Spring of 1997. In this interview, I focused on participants' ideas about the type of content and the guest speakers they felt needed to be included in the three upcoming district-wide professional development days dedicated to physical education. The final semi-structured interview was a group interview that occurred in January. 1999. I met with the four participants to work on curricular revisions they had initiated. This final interview was a follow-up based on previous interview transcript data, the written surveys, and my observations related to the participants' visions of reform and the professional development project. Since the purpose of the meeting was focused on curricula revisions, the discussions began with exploring their reasons for initiating the changes in the written document. The interviews were approximately 45 minutes in length and were based on the following topics:

- What were the goals for the revisions?
- What content and performance criteria were used at the end of each grade level?
- What assessment tools were used to gather information on student achievement of the identified performance criteria?
- How was this reflected in your assessment practices?
- How did each teacher store the assessment artifacts?

All three of these interviews were audio-taped and transcribed verbatim. The final interview was the basis for beginning analysis of the data. The next section describes in further detail the procedures used in the data management and analysis

Data Management and Analysis

Data Management

To deal with this large mass of raw data from the professional development project, I used Patton's (1990) suggestion of chronologically organizing, coding, and numbering all data collected into one complete file. To store this data, I used a portable file box with hanging file folders labeled with the date of each professional development meeting. Each of the hanging folders contained the agenda for each particular meeting, my notes about that meeting, and the documents generated or shared by the participants. On each piece of data collected, I recorded

the date, where the data were collected or generated, and the participants' codes that were involved with generating or contributing the data. Documents that were too large, specifically information that was collected on large chart paper, were copied onto a smaller sheet of paper and placed in the professional development folder. The original chart paper was labeled by date and topic, rolled up and then filed chronologically in a large box. Taped to the outside of this box was a data accounting sheet describing the data, the date it was created, who created it, and a brief summary of the topics. Data accounting sheets were created to help aid in the process of organizing and keeping track of the data. These accounting sheets were also used inside the individual professional development meeting file folders to help me keep track of what data was collected for each meeting.

At the same time, I created an individual folder for each participant. All four of the participant folders contained information about their school sites, documents they generated and shared during each professional development meetings or field observations, interview transcripts, and my field notes. Each participant folder was labeled with the participant's code and pseudonym. The data were labeled with the date, where the data was collected and / or generated, and the participant's code. Also, stapled to the inside of the participant's folders were data accounting sheets (Miles & Huberman, 1994).

Data Analysis

Constant comparative methodology was used to analyze the data. Throughout the project, I maintained the raw data in chronological order in each participant's files. Since the study occurred over a three-year period, the data were not analyzed by the research questions until well after the project had ended. When I returned to the data, I began my analysis by first reading the final interview several times and writing down my thoughts and impressions.

Lincoln and Guba (1985) suggest identifying "units of information that will, sooner or later, serve as the basis for defining categories" (p. 344). This is the process of coding and it consists of identifying words, phrases, sentences, or multiple sentences from the raw data (Lincoln & Guba). I began the process of coding by first identifying issues related to teaching, assessment, and student learning. I did this because I was curious to see what might be uncovered in the data in these areas. The codes that were used were instructional goals, planning for learning, instructional activities, instructional practices, assessment goals, assessment tasks,

assessment practice, teacher dilemmas, advantages and disadvantage to performance assessments, advantages and disadvantages of the project. Also, coded were the professional development agendas and field notes.

Based on the initial data analysis, I chose to focus the analysis on two topics of assessment. These were the design and use of knowledge and skill checklists in physical education. These topics were discussed and explored in-depth during the three-year professional development project and there were examples of the successes and challenges that these participants experienced. By choosing to focus on two types of assessments, I was able to identify and trace the change process. I recognize that by focusing on only two aspects of assessment, that the analysis does not capture the scope of changes in ideas and practices that were made by the participants.

Next, I compiled the coded data regarding knowledge and skill checklists. These data were organized by the changes that had occurred, the nature of the change process, and the ideas and practices of the participants (Patton, 1990). Summaries of the change process were written from the compiled information. These summaries focused on the changes that occurred in the participant's ideas and practices related to designing and using knowledge assessments and skill performance checklists.

Commonalties and differences among and between participants ideas related to the key factors supporting or hindering the change process were identified by cross-case analysis. Based on this analysis, four themes emerged that describe the key factors that supported or hindered the process of teacher change in the context of this professional development project. The themes are listed below. Chapter Four provides further details and examples to illustrate the factors that influenced teacher change in this study.

1. PE is an isolated enterprise. The social context of the professional development project supported change
2. Learning to teach as a situated endeavor. Situating the professional development project in the context of physical education supported change.
3. Providing adequate resources to maintain a sustained focus on implementing new ideas and practices presented in the professional development project supported change
4. Incompatibility of teacher knowledge and beliefs with the intentions of the professional development personnel was an obstacle to changing classroom practice.

Planning for Trustworthiness

To ensure the trustworthiness of this study, the following approaches were used: (a) long-term observations at the research sites, (b) triangulation, (c) member-checks, (d) peer examination, and (e) identification of the researcher's stance and location in the project. (Merriam, 1998). Regular and persistent observations throughout the professional development project, as well as in the participants' classroom, throughout the three years of the project provided the long-term observation. Triangulation of data resulted from the use of multiple data sources and collection methods. These include interviews, observations, field notes, assessment artifacts, and analysis. Data collection occurred throughout the project and provides a chronological documentation of the topics and discussion that occurred during the project. Member-checks were accomplished by inviting and requesting participants to read and verify my interpretations and descriptions throughout the analysis process. This ongoing dialogue regarding my interpretations of the participant's reality and meaning helped to ensure the truth-value of the data (Creswell, 1994). Dialogue took place in person as well as through electronic communication. Peer examination among colleagues and me allowed discussion on the findings as they appeared. By discussing my interpretations of the data, I used thematic analysis and other methodological issues that allowed me to gain a clearer understanding of my biases. This process served to help me gain a deep appreciation and respect for the process of qualitative inquiry. Through peer examination, I was able to identify and recognize my researcher's bias as well as clarify any assumptions I had about the study.

The idea of external validity found in quantitative studies is comparable to transferability in qualitative designs. Generalization is not the goal of interpretive research, but rather to provide a comparative understanding of the setting and of the case. Transferability occurs when the researcher has provided enough information about the context and conditions of the study for the reader to apply or transfer the findings to their own needs or situation (Lincoln & Guba, 1985). This study used the technique of a "rich, thick description" so that transferability was possible by the reader. Detailed descriptions of how the data were collected, analyzed, as well as the findings are provided.

A documentation of analysis was used to organize the data and to gain confirmability (Miles & Huberman, 1994). This was done to confirm that the extent of the findings were objective and representative of the situation. An audit trail was created and consisted of five

categories: (a) raw data, (b) data reduction and analysis products, (c) data reconstruction and synthesis products, (d) process notes, and (e) conclusions and comments.

Researcher Bias

This study focused on physical education teachers' thoughts and practices regarding classroom-based assessment before, during, and after a three-year professional development project. I was interested in identifying changes in the participants' thoughts and practices in content, instruction, assessment and self as professional. Also I wanted to explore the features of the professional development project that the participants reported as supportive and as hindering. In qualitative research, the researcher is the primary instrument for data collections and analysis (Merriam, 1998). By filtering the data through the researchers' eyes and ears, "interpretations of reality are accessed directly through their observations and interviews" (Merriam, 1998, p. 203). My beliefs and prior experiences affect my perspective as the researcher. I have included a description of my teaching and professional development experiences. This is followed by a brief discussion of my personal beliefs about teacher change and professional development.

My personal experience was the catalyst for this study. I came into this study with ten years of public school experience. I taught nine years at the K-8 level both in the regular classroom setting and as a physical education teacher. I have five years of high school coaching experience and taught one year at the high school level as a health and physical education teacher. Throughout my teaching experience, I was a member of several state and national professional teaching organizations and regularly attended and presented on topics related to educational reform and teaching at local, state, and national workshops and conferences. What I discovered from these experiences was that the content and quality of many of the professional development opportunities for physical educators did not address specific needs or context of physical education teachers.

My first long-term professional development project began at the beginning of my third year of teaching elementary school. My school elected to pilot a professional development project that emphasized teacher-designed rubrics and assessments in math and language arts. The premises for this project were based on the California Math Framework, California Language Arts Framework, and NCTM documents. The design of the professional development project

focused on creating a community of learners that provided release time each week to share and discuss the rubrics, assessments, and student products we had created and used. Topics of discussion were typically driven by the needs of the teachers. Some of the topics included design issues, using rubrics as instructional tools, and what were our successes and challenges we encountered. After completing the year-long project, the faculty felt that the time we had spent as a community of learners had strengthened our cohesion as a faculty and had helped each faculty member gain an understanding of designing assessment tools. We elected to continue the process of developing and using rubrics and assessment as well as providing release time for the faculty to meet as a community of learners. As I began designing and implementing assessments and rubrics, I found little or no literature or support from the state or national physical education community. I returned to the resources and guides that I had used during the project. Even though these documents did not contain or address physical education content, they served to validate my personal ideas about instruction and assessment in physical education.

This changed in the early 1990s when the NASPE National Content Standards, California Framework in Physical Education, and the Council of Physical Education for Children (COPEC) Developmentally Appropriate documents were released. Along with the release of these documents, California Public Schools launched a long-term professional development pilot project to assist in the changes that were being set forth in physical education. This project, California Academy for Physical Education (CAPE) was the precursor to the state-funded California Physical Education Subject Matter Project. This project was designed to help teachers actively explore their thoughts, beliefs, knowledge, and teaching practices in relation to the tenets of educational reform. As a participant in this project, I gained experience and discovered a model of a successful long-term professional development project.

As a result of my prior experiences, I hold the following beliefs about teacher change, professional development, and the change process. Without a doubt, teachers are the catalysts for change in schools (Sheurich & Fuller, 1995). Teachers are the people responsible for implementing ideas and practices. A new idea or practice does not cause change to happen. Change in one's practice or ideas only happens if and when an idea or practice is actually implemented (Lieberman & Miller, 1984, 1992; Romberg & Price, 1983; Scott Nelson & Hammerman, 1996).

Change takes time, effort, and support to happen. It is a process and not an event (Fullan, 1990, 1991, 2006; Guskey, 1986, 2002). Factors that must be addressed and honored throughout the process include the individual's beliefs, knowledge, perceptions, and teaching practices (Fullan, 1990, 1991; Guskey, 1986, 2002; Richardson, 1994, 1999; Scott Nelson & Hammerman, 1996). The process of changing beliefs and practices is interactive and is dependent on the types of changes and on the teachers themselves (Richardson, 1994).

I accept the premise that knowledge is a social product, and through shared experiences knowledge is created (Prawat & Floden, 1994). An individual's understanding is constructed based in part on one's beliefs and existing knowledge. Professional development designed as learning communities provides both individual and social processing of knowledge. New ideas, understandings, and shared meanings emerge from learning communities that provide the opportunity to question, discuss, negotiate, and build consensus.

Knowledge is inseparable from the context and activities in which it was developed (Bruner, 1990). The context of professional development needs to be situated in the context of the participants' particular classrooms and focused on their individual instructional goals. If teachers are to learn to teach in new ways, the knowledge they acquire must be grounded in the classroom contexts that it will be used (Borko & Putnam, 1995).

Professional development projects must be designed to address these conceptions of teacher change and must provide teachers with the opportunity to explore and discuss issues and ideas related to teaching and learning. Included in this vision is the support for individuals to experiment with their practice in order to come to terms with the demands of reform.

Chapter Summary

This chapter explained the methods used to complete this study. This study addresses the topic of professional development by exploring changes that occurred in the ideas and practices of four veteran primary (K-2) physical education teachers participating in a three-year professional development project. The analysis focused on two classroom-based assessment topics that were used by all four participants. These topics were knowledge assessments and skill performance checklists. The issues teachers faced, the professional developer / researcher's role in helping them explore these issues, and the ways that the participants embraced and / or resisted the change process where examined in the context of these two assessment topics. A

discussion of the changes and the features of the professional development project that supported and hindered the change process is found in Chapter Four.

CHAPTER FOUR

Results

This chapter provides a case analysis of the changes the four participants reported over the course of the three-year professional development project. This chapter is organized into two sections. The first section describes each participant individually and the changes they reported in (a) their ideas and practices about content, instruction, and assessment and (b) their perceptions of themselves as professionals. The second section is a cross-case analysis that examines parallel issues related to ideas and practices of content, instruction, and assessment in the context of the features of the three-year professional development project that were reported as supporting or hindering teacher change.

The reported changes are described under the separate headings of content, instruction, and assessment. It is recognized that these changes did not occur in isolation or due to one single event. The changes described in this study evolved and emerged over time. The individuals reported that the changes they experienced were not independent or discrete changes in content, instruction, and assessment ideas and practices. Rather, they felt that the changes they reported were intertwined and overlapping with each of three constructs and were not easily distinguishable as being only related to content, instruction, or assessment. As the participants began to change their ideas and practices about one of the areas, they changed their ideas and practices about the other two. Even though each participant reported similar changes in their ideas and practices about content, instruction, and assessment, each experienced change on nonlinear timeline and with varying depths of change.

The descriptions of the four participants and the changes they reported during the three-year professional development project begin this analysis. Each of these cases is organized as follows: first, a brief discussion of their demographic information and school settings followed by the changes in ideas and practices regarding content, instruction, and assessment. The four participants are two males, Jack and Tom, and two females, Pat and Nancy.

Participants

At the time of data collection the demographic information, school settings, and participant descriptions were accurate. It is recognized that data collection occurred nine years prior to the final analysis that is found in this dissertation. In addition, the school configurations

within this school district have changed. Each of the schools described in this study are now Kindergarten through 5th grade configurations.

Jack

Demographic Information and School Settings

Jack was a 52 year-old male at the time of the study. He has taught at the K-2 level for 13 years and has been teaching physical education in the Sommerville County Schools for 26 years. Of the four participants, Jack has taught the longest in the district and has more teaching experience. Jack says he "loves this level and age of child" and has no desire to teach at a different grade level or school site, even though he openly announced his desire to move into administration in the future. He informed the committee that he would like to end his career as an elementary principal.

The school site Jack teaches at is Garfield Primary. It is the newest and largest of the primary schools and it is located on the eastern corner of the county. The school's facilities include a large asphalt area, grass field, a multi-purpose room, and a portable classroom. The portable classroom is a double-wide trailer that is shared with the music teacher. Equipment is purchased through the Parent Teacher Organization (PTO). Due to the size of the school, another teacher is needed two half days per week. This other teacher is Pat who is also on the committee.

Jack is a quiet soft-spoken man. When he speaks, he carefully chooses his words and he has kind comments to share about others. During the two years I worked with him, I never observed Jack say a negative word or comment. He is an approachable individual who is friendly and easy to be around. The other participants describe him as hard working, loyal, and a dry wit. I agree with each of these descriptors and also observed thoughtfulness, the willingness to listen, and explore new ideas.

Changes in Ideas and Practices Regarding Content, Instruction, and Assessment.

Jack began the project with little knowledge of the content outlined in the national standards. When he began the project, he appeared to be ambivalent toward designing and implementing a new curriculum. By the time the project had ended, he had become an active participant in the design and implementation of the curriculum as well as creating assessment and recording tools for the K-2 teachers. He reported in the surveys and through interviews that

he had made “positive changes” in his ideas and practices about content, instruction, and assessment in physical education. He stated

> When we began I did not think about what I taught as being important. I just picked games I liked and that the kids seemed to like. I did not think about what they were learning I was thinking about what they were busy and moving. My eyes are open to new ideas and new ways of doing things.

Content. Jack reported that his ideas regarding curricular content were the first changes he experienced and became conscious of during project. He felt strongly that he had changed what and how he taught physical education. At the beginning of the project, he reported an emphasis in game-based curricula that consisted of low organized games that kept the students “busy and moving.” At the end of the project, the type of content he reported and that was observed consisted of a blending of skill-based activities that promoted “active participation.”

> I’ve found that when I focus on skills and plan activities that for the kids that are active they truly love it. P.E. is still fun but it is also learning and I know what they are learning. I’m not just picking and choosing activities because they are fun I’m picking them because they have a purpose.

This transformation of his ideas and practices about content began during the first year of the professional development project. We were beginning the writing phase of the curriculum. The participants had finished exploring the content outlined in the national standards and were beginning to identify content that was to be essential to the County’s Curriculum Guide. Each of the participants was asked to list specific content that they, as individuals, considered essential and inherent to a quality physical education program. This task was designed to distinguish curricular value orientations of the individual participants and to promote discussion and identification of the core content. The participants were to work on their lists outside of the project meeting. At the following meeting, they brought their list and any text or curriculum resource to share.

The essential content Jack identified was a list of children’s games. When the other participants discussed their curricular themes and content essential to a quality program, Jack did not contribute to the discussion. He sat quietly, took notes, and wrote on his list of games. At the end of the meeting, the lists of essential content were collected and compiled so they could be

shared at the next meeting. On his neatly typed list of games, he had identified and hand wrote the corresponding skills for each of the games. He told me after the meeting that he "did not think of content in terms of skills but activities and games." During this conversation, he asked "could you share any curriculum textbooks / guides and authors with me."

At the next meeting, he came prepared with several items. He brought in the latest textbooks from the two authors I had suggested as well as NASPE's National Standards document. He showed me his copy of the National Standards document and how he had highlighted the content related to skills and movement concepts. As we discussed and reviewed the compiled list of essential content, Jack interjected by sharing ideas from these two textbooks and the national standards. He went from not contributing at the last meeting to leading the discussions as to what content he felt should be included in the curriculum. He told me after the meeting "I'm really starting to get into this stuff."

Throughout the rest of the project, Jack continued to refer to the national standards and to the textbooks he had purchased during that first year. Between the first and second year of the project, Jack had enrolled in a class at the local university. The class focus was children's physical education and used one of the texts I had suggested he read. This experience appeared to further strengthen Jack's knowledge of K-2 content related to skill-based curricula.

He shared with me in our final interview that when we first began the project he was "unaware of the national standards" or the type of content outlined in this [Standards] document. He stated that he "felt that the project had helped me to gain a better understanding of [the content related to] the national standards." He further added that the class he had taken over the summer months further helped him "to become a better teacher."

The content he had listed at the beginning of the project reflected a games-based curriculum and at the end of the project he had shifted into a more skills-based curriculum. This shift was also evidenced in how he described his instructional and assessment practices and ideas.

Instruction. Jack's instruction at the beginning of the project focused on providing a fun environment for the students. At the first interview, he was asked to talk about his instruction and instructional goals. He told me that "PE should be fun and my goal is that students like PE." When asked "what did the student learn in his class?" his reply was "how to play games and

follow directions." Later in the discussion, he included "skipping, jumping rope, throwing and kicking " as the skills to be learned. At the start of the project, he focused on teaching games. By the end of the three years, Jack had shifted his focus to teaching skills and movement concepts. As he began to implement content that focused on the acquisition of skills, his instruction evolved to support skill-based content.

The most pronounced change he reported was that he was using a "bigger variety of activities" and planning for active participation of the students. The notion of active participation reflects his goal of students actively participating during physical education and promoting active learning as well as an increased fitness level of the students. This concept was presented during the second year of the project and remained an important goal for Jack.

At the beginning of the project, each participant was asked to discuss their strengths and weaknesses regarding their perceived pedagogical methods. Jack did not elaborate or discuss in detail either his strengths or weaknesses. He stated that he was "a good teacher and had high marks from my principal on my teaching evaluations." The vocabulary he used to describe his teaching and teaching in general had evolved over the three years. He shifted from using general terms to specific descriptions of his teaching. Based on the information he reported in the last survey, he felt that he had become more focused in his instructional delivery. He said,

> I'm trying to keep instructional time down and increase the amount of active participation time in each class. I'm also using more feedback and keeping my lesson focused on the objective and my cues are related to the feedback I give and what I'm assessing. I feel that teaching is so much more fun. I really enjoy planning my lessons and teaching. I've found that if I'm enjoying and having fun the kids have fun.

Assessment. Assessment of student learning was another topic he discussed while talking about his instructional practices. At the beginning of the project, he felt assessment and instruction were two very different and discrete aspects of teaching. During the first year, the notion of assessing students for the purpose of identifying student learning and teacher effectiveness was introduced to the committee. Assessment for Jack meant fitness testing and rules. Jack replied in an informal survey "because we don't grade in the K-2, I do not assess. I will try it. I see so many kids this will not be easy. " Jack had reservations about assessment and how to keep the process organized and manageable. By the end of the project, he had discovered

that assessment was manageable and that with forethought and planning it was possible. He shared that:

> It was not until I realized I did not have to assess every class everyday. ...until you start assessing it doesn't make sense [to assess part of the class at a time]. I think assessment is important, to find out if they understood and could do the lesson, outcome. Assessing is a part of instruction. I feel my assessing student learning is improving even though there is much more room to improve in this area.

When asked what advice he had for other teachers about to try assessment he said:

> Not to be afraid to try it. If it doesn't work that's fine at least you find out what they (students) did know and then you might find out that maybe your not doing the greatest job that you thought you were doing, that kind of thing. It will help you in the long run and you can come back and say we've got to do this lesson over because they didn't get it.

The connection Jack made between assessment and content was evident in the final survey and interview. He spoke of the benchmark guide that the committee created. The benchmark guide is a list of the benchmarks for each grade levels. The participants designed the guide to support planning lessons and to guide them in designing assessment tools. Jack reported, "by knowing what I need to teach and assess has helped me plan how I teach. I like knowing what I need to do and then be able to decide how I'm going to do it."

Self as a Professional

Jack began the project not contributing his thoughts or ideas to the group. He would often sit, listen, and take notes. When asked an opinion or to speak, he carefully choose his words. As the project progressed, Jack began to contribute and offer his ideas without prodding.

At the beginning of third year of the project, he announced to the group he was applying to be considered for an opening as an elementary principal within the district. Even though he had spoken of this possibility with me during our first interview, he had never mentioned it to his teaching peers. Upon Jack's announcement to his peers, they looked around in disbelief that he would pursue such a position. Jack stated, "even if I don't get this position, I will still continue to try to become a principal."

Pat

Demographic Information and School Settings

At the time of the study, Pat was a 42 year-old single female. She has taught physical education teacher for 21 years. Her teaching assignment included three different primary physical education school sites within the county, Garfield, Parkersville, and P. Frank Primary. Pat began her teaching career in a neighboring school district at the high school level. Her terms of employment included the contingency that she would also coach the high school girl's basketball and softball teams. As a coach, she developed a solid record of wins and a reputation of developing "a good sense of team and sportsmanship." Sommerville County recruited her to coach junior varsity basketball and softball as well as to teach 9th and 10th grade health and physical education.

After years of successful coaching, she was quietly removed from her coaching and teaching duties at the high school and reassigned as a primary level physical education teacher. This move was involuntary and due to a parental complaint connected with an incident on a varsity sports team.

Her teaching assignment included two of the smallest school sites in the county, Parkersville and P. Frank, and as well as a team teaching assignment with Jack at Garfield. Pat's schedule was designed as ½-day assignments. Mornings at one site, afternoons at another. She liked the diversity of the three school sites but also acknowledged the stress of being an itinerant teacher.

Parkersville Primary School was located on the northeastern edge of the county. This area was rural and isolated. Parkersville was the oldest building and school site in the district. The student population was approximately 50 students. As a result, Pat only worked at Parkersville two half days per week. When I asked Pat about the facilities for physical education she replied:

> PE is taught in the multi-use area…as well as inside the classrooms….. or outside on the lawn. That is when the weather is permitting. When all else fails, they go out in the trailer.

With the exception of the lawn, the teaching space is small. Her facilities included a multi-purpose area, a single-wide trailer which she shared with the itinerant music teacher, and a grass

field surrounded by trees. The equipment at Parkersville Primary was limited due to budgetary constraints and break-ins.

P. Frank Primary School was situated in the southwestern corner of the county. It was the second oldest school site in the district and it utilized the same open floor plan as Parkersville Primary School. At the time of the study, the student population is approximately 105 students. Pat's facilities included a separate large multi-purpose/gym building, two grass lawns in front, and a large field space behind the school. There was also an area containing playground equipment such as slides, climbing bars and structures, and swings. The multi-purpose/gym building was exclusively scheduled for physical education on the days that Pat was on site. Unlike Parkersville Primary, there was a piece of equipment for each student.

My first impression of Pat was that she was very quiet and reserved. Little did I know, she would become very animated and open in her responses to group discussions. Pat shared how deeply she cared about her students and the physical education program. She was accepting and respectful of each individual group member as to their thoughts and practices. The other participants also respected and supported her thoughts and ideas about the topics that were discussed.

Changes in Ideas and Practices Regarding Content, Instruction, and Assessment

At the onset of the project, Pat's beliefs were grounded in wanting to do the right the thing for children. Her lack of confidence in her knowledge and practice were her biggest barrier in the change process. Though she exhibited many changes, there were four significant areas of change that were related to classroom-based assessment reform. These changes included: (a) her understanding of content and how she selected and implemented content, (b) the instructional practices of active participation and purposeful practice, (c) her understanding and use of classroom-based assessment of student learning, and (d) her perception of herself as a professional.

Content. Pat began the project disconnected and not sure of what should be taught at the primary level. She was unaware of what a skill-based learning environment incorporated as well as being able to identify learning outcomes. She told me, "PE should be fun." She expressed that "games should be based on play." Pat was highly competitive and believed that competition was an integral part of physical education. Her stance on this did change.

As the project progressed, her program evolved from simple games selected for the purpose of keeping the students busy and moving to that of utilizing the curriculum benchmarks for lesson and program planning. Her lesson plan book also changed from a daily list of games to a binder identifying specific and discrete learning objectives. Each page in the binder contained an objective, the benchmark it addressed, and the activities she had used to achieve her learning objectives. What impressed me the most was she had written a daily reflection and included ideas about how to make her lesson more effective. She no longer viewed herself as the expert in the classroom and began to include the students' in several planning activities.

Another change that Pat exhibited was how she viewed physical education as a valued part of the curriculum and the significance of using benchmarks. At the onset, she expressed how physical education "took a backseat" to core subjects and how regular classroom teachers viewed physical education as a "release time" for them. As the project evolved, she began sharing her beliefs about the value of physical education and the importance of its place in the curriculum. Pat expressed that she believed by utilizing the national standards in designing the curriculum it would help lead to program validity. She said,

> I think they [standards] reinforce the things we already do. Being aligned with the national standards will lead to validity of the curriculum. Our learning experiences are fun and enjoyable. Students like what we do.

Instruction. At Garfield, Pat worked with another participant, Jack. She confided in Jack about "not feeling comfortable or confident [about] teaching K-2 students." Even though Pat and Jack were required to teach separate classes, Jack "took me under his wing and we team taught." As Pat became more comfortable, they separated but continued to plan lessons together. Pat had developed effective teaching practices and prided herself on how she delivered instruction.

One change that occurred was her desire to ensure students were given maximum activity time and the structure of the practice time was purposeful. Through effective planning, she adapted skills to the skill level and cognitive ability to the age of students that she was teaching. She stated,

> Planning is more important with this type of teaching than with any other types of teaching used in the past. It's more thought provoking to look at the outcome prior to planning and work on it. I think you put more forethought into your

> planning to make sure you get the outcome that you want and you know what the outcome is before you teach it so that you can cue in on the right things and not the wrong things.

Over the course of the project, Pat's stance on students having 'fun' remained the same. However, she changed how her activities were presented and delivered. Her expectations of herself changed as the project unfolded. She expressed that it was "very important to be a good teacher" and not just "roll out the ball."

Assessment. Pat was not comfortable with the traditional notions of test and measures and attributed this to her lack of expertise about assessment. Until Pat started this project, she stated " I've never used any form of assessment in physical education except fitness tests." Participants were asked to share their assessment trials and successes, and Pat did not volunteer and often appeared guarded when asked to share her assessments. She often voiced she was unsure of herself and uncomfortable as she began to implement assessment. To help ease some of her uncertainties, I asked if she would help the team by locating resources specific to the primary grade level. She found several books and also a website dedicated to elementary physical education. To my surprise, even after she had located the resources she still did not feel comfortable with assessing her students.

As the project progressed, she started becoming more active in sharing her thoughts and frustrations in regards to assessment. Pat informed the group:

> I am assessing my students now. I've found it very profitable for accountability. I do feel I lack sufficient knowledge in preparing assessments. I want and need more resources and guidelines. More examples of assessment appropriate to grade level or resources to find examples appropriate to my grade level.

During the second year of the project, I worked with Pat on a regular basis to discuss planning and utilizing assessment. We met once every two weeks to discuss her challenges and successes. The most significant changes I observed in her ideas and practices about classroom-based assessment included the types of assessment she used and the purposes for assessment.

For Pat, assessment initially was a tool to document student attainment of specific loco-motor skills such as skipping, hopping, galloping, and running. Her assessments always

resembled a simple checklist and did not vary. During the course of the year, this simple checklist evolved into a tool to document the process of the performance.

By the time the project ended, Pat had designed and implemented a reporting tool for each of the three primary grade levels. This tool was used to share student progress and achievement with parents and with the school district. It was based on the benchmarks of the curriculum and contained information regarding how grades were determined and what skills or concepts in physical education the student might need additional assistance.

Her purposes for using assessment also evolved. She started by first using assessment to document student learning to using the information gathered to reflect upon her instructional practice in order to make adjustments in her teaching and planning. The use of assessment influenced her view of content and instruction and ultimately self as a professional.

Self as a Professional

Pat began the project with the least amount of experience at the primary level. She went from being reserved during the professional development meetings to a conscientious contributor to group discussions. She even went as far as requesting and organizing professional development workshops after the project was completed. Pat shared that:

> For years I would attend VAHPERD and I always felt like we [the school district] were so far behind. You know I would hear all these neat things and I would bring some ideas back and I'd do some things a little bit differently and whatever. But getting into assessment it is so great to go to that conference and be able to talk to people and to network with people and see what they've done.

By the end of the project, Pat was actively involved in professional development that went from local and state conferences/conventions to selective participation in workshops directed at teaching skills. She flourished in technology that paved the way to her setting up and creating district websites that included specific pages designated for physical education. She stated, "I'm starting to feel like I'm finally making a difference in physical education and not just coaching."

Tom

Demographic Information and School Settings

At the time of the study Tom was 44 years old and has been teaching K-2 physical education for 10 years. Tom grew up in the local area and with the exception of a ten-year assignment in the armed forces he has lived in and around Sommerville County all of his life. When he was discharged from the armed forces, he returned to Sommerville County to be close to his parents and to begin and complete a bachelor's degree in physical education. Over the past 10 years, he has only taught at Coventry Primary.

Tom is the only male teacher at the school site and he wears many hats during the day. One hat that he wears is a teacher counselor. As the teacher counselor, he works with students who have been referred for counseling prior to being sent to the vice-principal for disciplinary reasons. To accommodate the time constraints of this duty, the site principal scheduled a 30-minute block of time first thing every morning for Tom to work with the student referrals. This approach to counseling has alleviated many student discipline problems. Tom's teaching assignment includes teaching 40 class periods per week each 30 minutes in length. Students receive physical education from Tom twice a week in grades K-2. In the event there was a student problem, Tom was released from his teaching duties to provide assistance and counseling for the students.

Coventry Primary houses 370 students. Each student receives physical education taught by Tom twice a week for 30 minutes. The facilities include a multi-purpose/cafeteria that he uses on bad weather days. This room is located at the center of the main building. Tom also has a portable classroom to use when the multi-purpose/cafeteria is unavailable due to assemblies or lunch. The portable classroom is an older single-wide trailer. Tom does not like to use this space because he has several safety concerns. His main concern is the limited space and sharp edges of the permanent cabinets located along three of the walls in the portable. He has requested wall-to-wall gymnastics mats be placed on the floors and padding covering the cabinets in the classroom. This request has gone unfulfilled due to the upcoming move to the old middle school building. The district has recently built a new middle school and the old building is in the process of renovation to be used as the new Coventry Primary School.

Tom speaks with a thick southern drawl and possesses a warm quiet demeanor intertwined with an appreciable respect for authority and for the children he teaches. He is friendly, disarming, and very social. Typically, he is the center of a funny story and/or laughter during the professional development meetings. He enjoys the meetings and participation in the project with his colleagues and states:

> Being a part of the committee and then implementing the curriculum has been very good for me. It has increased my desire to teach and I hope it has made me a better teacher. Having heard the input from the other PE teachers when we were developing the curriculum was important for me. Being a part of this group has increased my awareness of everything I'm doing concerning my teaching.

Changes in Ideas and Practices Regarding Content, Instruction, and Assessment.

Tom reported that the changes he felt he had made were most evident in his instructional practices. He said "my kids are not waiting in lines or waiting for equipment and I'm very careful to keep my instruction time…talking, and talking in general as low as possible." Tom reports the only real change he made was how he approached activity time and his goal of keeping the students physically active. This change was observable as was the influence it appeared to have on his evolving ideas of content, instruction, and assessment. His interviews, document analysis of lesson plans and assessment pieces, and video-taped lessons reveal that changes did occur in his ideas and practices over the course of the three years.

Content. In the beginning, Tom kept his vision or ideas about what was to be taught (content), how to teach (instruction) and assess what was learned (assessment). By the end of the first year, Tom began to interject questions during conversations about content in physical education. One reoccurring topic Tom often brought to the conversations was his ideas about social skills and the need to keep PE fun. Tom would always listen and support what others said regarding content, but also never missed the opportunity to bring up the need to incorporate social skills into the curriculum. He never disagreed or discouraged the other participants' ideas about the content to be included in the curriculum, but let his ideas be known to the group. At the beginning of the project, Tom's content included social skill acquisition and some simple games.

During the last meeting of the first year, when we were finalizing content for the initial draft of the curriculum, Tom spoke up and shared with the group "our classes need to 'feel

good.' Our kids need [to] feel good about themselves. PE should be fun and not stressful." Tom's focus remained on personal and social education through physical education throughout the three- year project. During the interview at the end of the project he said:

> I feel that social learning (skills) are more important than skill learning. If a student cannot act right or doesn't know how to act right we need to focus on that…. Not skills. I feel that it is up to us to give the students some sense of right and wrong and that they feel good about what they can do…. Not can they throw a ball right. I'm not saying it's [throwing a ball] is not important… just not the most important thing for me when I'm teaching. I agree, skills are a big part of what we teach, or should teach. But kids need to have fun and feel good about themselves.

During the second year of the project, the topics shifted from identifying content to focusing on current research and practice in the areas of instruction and assessment. As these topics were addressed, Tom began to change his practices and ideas about instruction and assessment.

Instruction. Over the course of three years, the only change that Tom thought he had made was increasing student activity time. When Tom observed his instructional practice, through a video-taped lesson, he discovered that he had decreased his instructional time and increased more physically active activities into his repertoire.

During the second year of the project, changes began to occur when the participants began exploring their instructional practices. Participants were invited and encouraged to explore their instructional practice through a video-taped lesson and then perform a time analysis. Tom and Nancy did participate in this activity and each completed a time analyses of their lessons. The time analyses were done to establish how much time the students were engaged in physical activity, how much time the teachers spent on instruction and management, and student wait time during activity. Student wait time analyses were done to determine if students were waiting due to poor equipment usage and/or teacher organization of the students as to groups.

Tom identified that he spent a large amount of time talking to his students rather than having them engaged in physical activity. His analyses revealed that about 20% of his total class time was spent on him talking. He found that his talking was not always instructionally based, but rather just talking and visiting with the students. He noted that "I'm happy that the students

sit and listen to me, but I'm not happy they are not out running around and being active. This is eye-opening for me." This knowledge helped him to concentrate on increasing student physical activity in his lessons.

Tom also identified that he was 'bothered' by the social interactions that seem to occur when the students were in large groups. He felt that the large groups did not accomplish the type of social interaction he wanted. Another shift in his instruction was that of utilizing smaller groups in game play. Traditionally, Tom placed students in large groups and had them play each other in a game. As the project progressed, he began to use smaller groups and partners rather than one or two large groups. This in turned influenced how he utilized equipment. Rather than utilizing one or two pieces of equipment for the entire class, he began using one piece of equipment per 1 to 4 students. This change was observed during the final year even though Tom did not report equipment usage as a direct change.

During the final year of the project, we began to work very heavily on assessment practices and purposes. Tom stated, "Hey, I've been using some of those checklists to see if my kids can perform skills that we identified in our curriculum." By the end of the project, he was teaching more skill-based lessons than what had been previously observed. I had the opportunity to observe the changes that Tom reported. Some of the changes included his ideas and practices as well as increasing physical activity time for his students. This change was not an isolated change, it manifested in how he used equipment, selected activities and content, and how he designed and delivered his instruction. Tom began to change his instruction to support more physical activity during the lesson. He also began to use activities that were more physically active in nature. However, Tom's belief that social skills were important and that they should be included in the curriculum of physical education never wavered. His lesson objectives stayed consistent throughout the project, but the activities he selected changed to support physical activity and began to also support more skill acquisition and skill practice.

Assessment. Assessment for Tom was more of a conscious change in his ideas rather than in his practice. By the end of the project, he had made some changes in his ideas about the purposes and uses of assessment. He found value in the assessment process, but due time restrictions, he did not actively include assessment of student learning on a regular basis. Tom utilized assessments with his students only when he was asked to incorporate it. One instance

was when his principal requested it for open house night. The other was when he was to do some for several different activities that we were doing for the project. He stated in the final survey that, “I am much more conscious of assessing the students than I have ever been before. Trying to find new ways such as checklists, drawings, and etc.” Working on the curriculum and participating in the workshops on assessment increased Tom’s understanding and influenced his ideas about the purposes and uses of assessment. By the end of the project, he had experimented with a few new ways of assessing student learning in physical education.

Tom found assessment time consuming and stated that “skill-based assessments did not address [the] skills and knowledge that I feel are important, like social skills.” He honestly states:

> I feel [my] assessment of student learning is improving even though there is much more room to improve in this area. I believe it is important to know what students can and cannot do. I also believe we need to also include other aspects of the curriculum not just physical skills.

Assessment of social skills was discussed during the workshops and Tom was encouraged to explore and create assessments that were aligned with the concepts and skills he was teaching. Change takes time and the type of changes Tom made indicate that perhaps more time was needed to support his efforts to implement standards-based assessment. Tom made conscious changes throughout the project as well as changes that he perhaps did not perceive as being a change in his ideas or practices. The many hats Tom wears at Coventry seem to hinder him in the change process and that his time is divided. This supports Templin, Sparkes, Grant and Schempp (1994) conclusion that the multiple roles held by an individual (teacher, athletic director, assistant and varsity coach) are not a source of conflict. These roles served to be “a good match in terms of his own sense of self-efficacy” (p. 290). Tom enjoys his varied roles and this appears to be reflected in his self-efficacy.

Self as a Professional

Being a physical education teacher was not Tom’s first priority. He viewed himself as a counselor first and a physical education teacher second. At the beginning of the project, he did not clearly articulate his vision or ideas about what a quality physical education program entailed. He had a better understanding about working with students on socials skills and

disciplinary procedures based on his role as a counselor. During our meetings, he would merely listen and nod his head without any contributions to the group discussions.

As the project progressed, Tom started taking ownership in the changes that occurred in the physical education curriculum and being a member of the team. He stated, “being a part of the committee and implementing the curriculum has been very good for me.” During the second year of the project, there was a noticeable increase in Tom’s motivation and attitude about teaching physical education.

By the end of the project, Tom reported that this experience has “increased my desire to teach and I hope it has made me a better teacher.” Even though he enjoyed being a counselor more than teaching physical education, he believed that he was “setting a better example for the students in my diet, my exercise, and my overall attitude towards what I do.”

Nancy

Demographic Information and School Settings

When this study took place Nancy was a 41 year-old divorced mother of two. She had taught physical education for 18 years, 12 of which have been at the same school. She grew up in the rural south and attended a small Christian college in the mid-Atlantic. Over the course of the project, I came to know Nancy the best of the four participants. She began the professional development project with effective teaching practices in place and a strong set of beliefs about teaching and learning. Over the three years I was involved in the project, she undoubtedly was the most persistent and determined to improve her teaching and her assessment practice.

Ward Primary School is located in the northern portion of the county. Her facilities include a cafeteria/gym, a classroom, an extremely large grass field, a prefabricated metal storage shed for equipment, and an office with a computer and the Internet. This is unique for an elementary physical education teacher to have a designated office space. There is a lot of equipment and it is sized appropriately for the age of the students.

Ward Primary houses about 370 students. Each student receives physical education three times a week for 30 minutes. Of the four participants, Nancy’s schedule was the most demanding. Her day consisted of an average of 10 back to back classes. When asked her about the schedule, she stated, “it was my choice because students need 3 days a week of PE.”

When I first met Nancy, I was introduced to a confident, happy, and playful teacher. There is not a shy or timid bone in her body. Nancy is enthusiastic and confident in her teaching abilities, but she's self-conscious about her general knowledge. She stated in her southern drawl, "I am just a PE teacher …what do I know." During our conversations, she made fun of herself frequently.

Changes in Ideas and Practices Regarding Content, Instruction, and Assessment

Nancy began the project with mixed emotions about how to utilize the national standards and how she would be held accountable for each standard. She seemed to be enthused and excited about being given the opportunity to participate in the project because she felt that she had been "burned by the district in workshops and left out of attending local and state conferences." The most predominant changes Nancy made were in the selection of content, her approaches to instruction, and the purpose and use of assessment. Other interesting changes she reported were an enhanced enthusiasm for her profession and a positive motivation and attitude toward teaching physical education.

Content. The changes in Nancy's ideas and practices about content were manifested in her planning and organization of content and instructional activities. Nancy came into the project using simple games as the basis of her curriculum. As we began the process of identifying and discussing the content advocated in the national standards, she progressively became a strong supporter that a change was needed in what was taught in the primary grades. While observing her class, I realized that her practice did not match the beliefs she had stated during the project meetings. The content of her lessons was that of game play and fitness concepts rather than the acquisition of proficient skill performance and skill knowledge. Nancy was aware that the lessons I had observed did not contain the content she was advocating in the meetings. She quickly stated, "I did not want to jump into it with out having time to think and carefully plan."

By the end of the first year of the project, Nancy had begun to identify and analyze activities and games that supported the benchmarks. She had created a plan book and stapled to the inside jacket was a list containing the benchmarks the committee had tentatively selected. She had listed games she referred to as 'her staples' or 'old stand-bys' and identified the skills that were inherent in each specific game. From this list, she created a matrix of the benchmarks and the games. There were several 'old stand-bys' that would support the benchmarks. This

served as Nancy's safety net as she attempted to change the content of her program to match the benchmarks. This proved to be a successful tactic for her. She was able to focus on the objectives stated in the curriculum and use activities she and the students were already familiar with to address these objectives.

Her ideas about content continued to evolve throughout the project. Nancy went from playing simple games and fitness to skill-based learning that was driven by the national standards. Once she adopted the national standards as part of her teaching repertoire, she felt it was necessary to continue planning and collaborating with the other primary physical education teachers.

Due to Nancy's efforts to continue planning and collaborating, she met with the Director of Instruction in her county to ask for continual release time to revise the curriculum to meet the national standards. Support was also given for me to continue working with the group in my role as professional developer. This time and acknowledgement by the district as to the importance of the primary physical education program and the processes of collaborative curricular and professional development served to validate for Nancy her professional contribution and significance in the total curriculum. Nancy stated, "Getting new ideas and communicating with others has helped with the motivation and attitude of the elementary teachers. We have made more of an effort to work hard so we all look good."

Instruction. Her new enthusiasm also manifested in her instruction. At the start of the project, Nancy shared some of her ideas and experiences that guided her practices. Her undergraduate experience advocated large group activities and did not address the need to provide individual practice time for skill attainment. She did not receive training on how to organize and manage a lesson in which each of the students were given their own equipment to practice a skill at the same time. She was trained in large group games and it was challenging for her to change to small group games. For such a change to occur in her organization of the students and how equipment was used, a change in her beliefs and knowledge regarding her teaching would have to take place (Richardson, 1994).

By the second year of the project, Nancy began to incorporate small groups and greater amounts of equipment. She expressed to me, "I really make it a point in my planning and

instruction that students do not have to stand and wait for a turn. It works. I am striving for total involvement and this works." It was perhaps one of the most significant changes Nancy made.

By the end of the project, Nancy had reported she changed her instructional practices to include what she called "total involvement." She defined this as "planning instruction so the students are not standing in long lines waiting for their turn." Nancy explained to me that having the benchmarks "gave me a direction in my planning and instruction." She further clarified that she now had daily expectations for her classes by asking herself "what do I want them to know when they leave."

Assessment. The most pronounced area of change was the assessment purposes she had developed. She began by only assessing students to provide tangible evidence about student behavior for the purpose of reporting problems to parents. Student learning was not assessed or reported when we first began the professional development project. Of the four participants, Nancy was the most willing to try assessment and to share her successes as well as her failures. She began by assessing students' locomotor skills. I had suggested to begin by using a skill they were familiar with and one they felt could be observed and documented quickly. Her first attempts were with simple yes / no checklists of the four locomotor skills: skipping, hopping, jumping, and running. The checklist was helpful to identify students who could not perform these skills. The problem with this type of assessment is that it did not provide Nancy with the information she wanted. She wanted to know specifically what part of the skill the students could not perform. She shared the following discovery with the group:

> First, figure out what it is you want to know. I thought I wanted to know can they [the students] skip. Well the checklist told me because it was yes/ no. But it did not tell me what they were doing wrong or if they understood the skill.

She was not discouraged or dismayed with the outcome but instead motivated to revise her checklist to match her instructional purpose. She enlisted the help of a second grade classroom teacher to help her create a written assessment that would help compliment her revised checklist to include the components of the skills. In turn, she created an assessment that the students could use to assess themselves, which was known as a peer assessment. She found that second grade students could give reasonable written responses Nancy stated, " I was

surprised when I finally did try it as to what they did write and how well they wrote and it was a good feedback for me to say either they have it or they don't."

From this time forward, Nancy used assessment to guide her planning and her instruction. When asked, at the end of the project, about her beliefs regarding the significance and her purpose of using assessment her reply was:

> Learning how important assessment can be, not just for students but to let me know if learning is taking place. Assessment has made me rethink how I present something. I wanna know what they to get out of a lesson? I mean is it just a fun lesson or did I emphasize the fact that if we're doing throwing, they need to step with the opposite foot. If we're doing, dribbling a soccer ball, am I emphasizing the fact –don't kick it ten yards a head of you and chase it. You know, in other words, what do I want them to learn today? So it's made me rethink how I present it. Because a lot of times I would tell them but I wouldn't focus on what I told them. I wouldn't be watching to see if Sally Jo was dribbling the soccer ball correctly and using the inside of her foot and you know does she know the difference between the inside and the outside and the top, just you know rethinking for me.

Self as Professional

When the project began, Nancy was not excited about previous workshops because of her prior experiences with the district administration. She stated on numerous occasions that she was confident in her teaching abilities but not her knowledge of the standards. She always said that she was "just a PE teacher" and she felt as if what she taught was not as valued as the classroom teachers.

By the end of the project, her fire was 'refueled' and believed that "what I do is important." She initiated presentations to the classroom teachers about the changes in physical education content and her program. She developed topics and meetings with the other three project participants. She also created a physical education webpage for her school. Nancy told me that "Seeing that the change is taking place makes me excited. All the talking with the other teachers has been motivating. I got rid of some of the staleness."

Cross-Case Analysis of Changes in Content, Instruction, and Assessment Ideas and Practices

My cross-case analysis begins with themes that emerged from the group's thoughts and practices regarding content, instruction, assessment, and their perceptions of self as a professional. The themes are described under the separate headings of: (a) nature of content, (b) nature of instruction, (c) nature of assessment and (d) self as a professional. It is recognized that change is non-linear and the themes are intertwined and overlapping within the constructs of content, instruction, and assessment. An analysis of the features of the professional development project that supported or hindered teacher change will be discussed.

Nature of Content

The following theme entitled "Nature of Content" related to the group's thoughts and practices regarding content. The participants all affirmed that the nature of content needs to be focused on learning outcomes yet still be fun and enjoyable. The notion that 'PE needed to fun' appeared throughout the three years of the professional development project. This idea is found in the group's discussions of content and instruction. At the first meeting of the professional development project, Tom, Jack, Pat, and Nancy (the group), were asked to complete the following questions as a group:

1) As a result of being in Sommerville County Physical Education program for several years, I would like my students to *do*:
2) As a result of being in Sommerville County Physical Education program for several years, I would like my students to *know*:
3) As a result of being in Sommerville County Physical Education program for several years, I would like my students to *feel:*
4) As a result of being in Sommerville County Physical Education program for several years, I would like my students to *learn*:

The responses from the group emphasized the need, "to have fun in sports and games." When probed further about 'to have fun' the group responded, "Enjoy class and enjoy moving and playing. What we teach needs to be fun and excite the kids." At this meeting, I asked the group to begin identifying 'what students should know and do'. I did this so I could compile a

list of content for the next meeting and discuss the information. The list generated from the group was sparse and identified mostly simple games and a few skills necessary to play the games.

Examples of games listed included, but were not limited: “Duck, duck goose”, “Red rover”, a variety of tag games, “Dodgeball”, “Sharks and Minnows”, and etc. These games alone did not include content that supported the standards. Due to their unfamiliarity of what content meant and the focus on skills-based education, Pat felt that she was teaching content by teaching fun games. Tom, Nancy, and Jack also felt they were addressing content in their classrooms. When I explained to them the difference between simple games and skill-based content, there was discord among the group. The room got quiet and the four looked at each other and shook their heads. Nancy piped up “this is crazy, we have been teaching games since I started here [primary level] 12 years ago. You mean you want us to think about skills with our little Kindergartners.” Jack interjected, “I can barely keep the kids on task and focused. How do you expect me to teach them skills?” Being the newest to the primary level, Pat expressed “I’ve got to keep them entertained. This has got to be fun.” This conservation brought to the surface that there was a disconnection between the group’s ideas of content and instructional practice. As the meeting continued, Jack repeatedly stated “I must not be doing anything wrong. I get good marks on my evaluations. The kids are busy and having fun.”

This meeting gave me insight to the group’s ideas about content. They were not aligned with the standards. To help the group’s begin to organize their ideas of content to meet the standards, I prepared a chart that identified recommended content areas at the primary grade level (see Appendix C). Having this chart to guide the discussions of content at our next meeting helped the group to better understand the difference between games and skill-based content. At the meeting, Pat asked: “is this new?” Nancy playfully asked, “I can’t believe I’ve been teaching this long and I’ve never seen this before. Why hasn’t our District shared this with us?” Tom tilted back his chair, shook his head, and giggled at Nancy’s response. Jack sat quietly, took in the conversation, and said nothing. After further exploration of skills in games as well as the conversations that occurred between the members of the group during the meetings, the comments soon shifted to “you know, I do do this [teach skills], I just did not think about it.”

Over the next few months, we continued to explore content and identify the grade-level benchmarks. It was a somewhat gradual transition, but by the end of the 3 years, the group based

their lessons on the content outlined in the national standards. Fun remained a focal point in each of the interviews and surveys throughout the project. Fun, however, did take on new meanings as the teachers changed their ideas about content, instruction, and assessment.

It was interesting that all of the four group members resisted the notion of skill-based content at the beginning of this project. By the end, they were advocating the benchmarks identified in the curriculum guide. In our last interview, Tom stated: "I like it. It shows all of the things we teach and I think that is important. Like I said before – letting the parents know what we do. That we are not just playing games."

Nancy's conversation below shows the connection she made between content, instruction and assessment. She begins with content and deciding what to focus on and how it is delivered to her students and ends with identifying whether or not they achieve the lesson objective. Below is an excerpt from our final interview:

> Yeah, … well I think I need to focus on, cause with this assessment it's made me rethink how I present something [content] and … what do I want them to get out of this lesson? I mean is it just a fun lesson or do I want them to emphasize the fact that if we're doing throwing do they need to step with the opposite foot? If we're doing, dribbling a soccer ball am I emphasizing the fact - don't kick it ten yards a head of you and chase it? We do, you know, in other words, what do I want them to learn today. So it's made me rethink how I present it. Because a lot of times I would tell them but I wouldn't focus on what I told them the lesson was about. I wouldn't be watching to see if Sally Jo was dribbling the soccer correctly and using the inside of her foot and you know does she know the difference between the inside and the outside and the top, just you know rethinking for me.

These changes support earlier findings that professional development focused on specific content and based on contextual factors appears to have a greater impact on teacher knowledge acquisition (Porter, et al., 2003; Kennedy, 1998; Hiebert & Davinroy, 1993). In part, researchers base this argument on the fact that many teachers lack strong content-specific teaching skills and as Rhine states "teachers are hungry for continuing education that provides novel ways to address content" (1998, p. 27). Kennedy (1998) found that, compared to more general professional development, professional development that focuses on specific content and how students learn that content has larger positive effects on student achievement outcomes,

especially achievement in conceptual understanding. Another factor is the amount of time that was spent on exploring and working with content appears to have beneficial to these teachers. This supports earlier findings the literature on sustained duration of activities within professional development projects are necessary to promote change in knowledge. Corcoran, McVay, and Riordan (2003) found that teachers who had 80 or more hours of science-related professional development were significantly more likely to use reform-based teacher instruction than teachers who had fewer hours.

Nature of Instruction

The group began the professional development project with a sense that they were effective teachers. Throughout the three years of the project, their ideas about effective teaching evolved. Four themes pervaded their work: (a) student learning became a priority; (b) how to shift to skill-based instruction; (c) instruction to support active participation; and (d) using benchmarks from the District Curriculum to plan.

The professional development project began its focus on content related to the national standards. To reduce the information from the Standards, we created statements or benchmarks to describe the content to be taught. An artifact from the original District Curriculum Guide that displays the benchmarks appears in Appendix D. During the second year of the project, the focus of the meetings shifted from content to that of instructional practices to support this content. As we began exploring instructional practice, it became evident the group's instructional practice did not support the type of teaching outlined in the standards. To address this need, three professional development workshops for the entire Physical Education faculty were initiated. To no surprise, the workshop topics appear in the emerging themes as areas the group expressed as instructional foci.

Theme 1: Student learning is a priority. From the onset of the professional development project, it was important to the group that their students feel "PE was fun" and that they liked PE. Tom stated, "I want my kids to want to come to PE because, it is fun. I'm afraid if I put too much emphasis on learning and skills the kids won't view PE as fun. I can see it now, …… discipline problems." Pat also expressed this thought, "I plan my classes to be fun. The activities I choose are those I know the kids will like." During one of the professional development project meetings we explored the notion of student learning and ways to verify or document learning. To

find out what instructional practices the group used to support student learning, I asked them to quickly jot down strategies they used to teach.

This activity proved very insightful. The group's strategies at that time were a bag of tricks or a list of games that they knew would keep the kids busy and engaged. At the next meeting, we explored the following strategies of instruction: (a) instruction is direct and focused on the learning objective, (b) activities that are used to provide practice of the objective, (c) checking for understanding, (d) positive congruent feedback, (e) active participation of the students, (f) utilizing cues that support the objective, and (g) closure that summarizes and reviews the lesson objectives. This discussion was received with some apprehension and resistance. Again Nancy shares with the group her thoughts of the lack of support from the District in regard to supporting physical education teachers. "Is the District aware that this is what good teaching is suppose to be? I can't understand why in my 18 years with Sommerville County they have not let us in on this little tidbit of information." At this point in the project, Jack had taken a class at the local university and felt he had a better handle on what instruction should look like. He shared with the group, "I have learned so much. I took a class not long ago on elementary PE. It was good but now I think it makes sense – it did then but now I understand what you are talking about when you mention things like positive congruent feedback, cues to support the objectives." He further expressed a concern that his principal was not up to date or aware of effective teaching practices that support student learning in PE. His comments were:

> I don't think my principal has any idea what teaching in PE should look like. When I was rolling out the ball she told me what a great job I was doing and how happy she was. At the time I can't say if my kids were learning or not. I also don't think she cares if they learn.

Nancy also had concerns about student learning. She felt it was not a priority in her schedule and uttered that it "did not support effective teaching." There are days that she teaches ten classes back to back. Her concerns are expressed below.

> …and my other problem is that I have, with the seven classes in a row in the afternoon, I swear by the end of the day, it's just not left in me to be a good teacher. And I have, like Barbie Cottrell's class, the only time I have them is Monday and Tuesday afternoon, at the end of the day. So it's like I want to have that a schedule change for next year and if we have this, if it stays that way, I'm going to have to make a better focus to be a better

teacher for them, I mean those are the problems I see because I bet a dollar if I were to ask them let's say like Bee Tee's class that I have from 10:00-10:30 on Monday, Tuesday, you see what I'm saying.

By the end of the project, student learning was a priority. The four group members initiated the benchmark checklist (see Appendix E) that they used for planning and to verify if the students had been introduced or taught a concept or skill. The use of assessments in this sense helped this group of four teachers to document student learning as well as verify what they taught and how well it is was taught. In addition to modifying or changing their assessment, they also initiated assessment change at their individual school sites as well as the District. The group created an observation guideline for the principals to use when they were being evaluated, and Nancy addressed her site principal of the need to change the schedule to better support learning throughout the day.

As student learning became a priority, these teachers changed their instructional practice as well as their assessment practice. Furthermore as in Nancy's case she began to address contextual factors at her school to insure student learning would happen. What is interesting is that change happened both individually and as a group. The ideas and meaning of what student learning should look like and the outcomes of student learning came from a shared experience of designing and implementing the curriculum. It was not imposed but constructed as a community of professionals (Fullan, Hill, & Crevola, 2006; McLaughlin & Talbert, 2006).

Theme 2: Skill-based instruction. As the four group members shifted from games-based content to that of skill-based, their teaching changed as well. As mentioned in the section above, much time and resources were spent improving instructional practice. There were three, daylong workshops with various established educators in each of the areas presented. One of the areas was that of skill-based instruction. The group had begun exploring the notion of effective instructional practices prior to attending the workshops. The workshops verified the information and provided further ideas for the group in regard to their instructional practice related to skill-based instruction.

The group expressed how much they enjoyed this workshop and that they felt they understood the concepts and were willing to implement the strategies. Tom was especially

candid in his remarks that he felt he was, “in the know and it was nice to be one of the ones who was in the know.” He later shared with the group that he had begun experimenting with the idea of “cutting down the time my kids spend in lines and try to get them out there moving and grooving.” Later that spring, Tom volunteered to have a lesson video-taped and attempted to analyze the lesson to identify the strategies we were working on. He did so and shared with the group, “It really made me think about my teaching. I’m talking the whole time. I’m not sure if this is how I always teach or if it was because of the video-camera.” Nancy chuckled “Oh, Tom, it is how you always are…. I don’t think your teaching is any different.” As the group became more familiar with the content standards, they became more comfortable in making changes in their thoughts and practices about their teaching.

The changes that the group experienced are reflective of Guskey’s (2002) principle that change takes time.

> Learning to be proficient at something new and finding meaning in a new way of doing things requires both time and effort. Any change that holds great promise for increasing teachers’ competence and enhancing student learning is likely to require extra work, especially at first (p. 386).

Theme 3: Active participation. Another predominant theme was the desire to have their students active and participating in the lesson. At the onset of the project, the group was unaware of the importance of not having students wait for turns or equipment. They were actually trained to teach children in lines. This was a difficult concept for them to grasp. I recall one meeting when Tom explained “what the heck you talkin’ about.” Nancy simply stated, “this is how I was taught.” The look on each one of the group members faces was that of dismay. They were sure that what and how they were teaching was the correct way. The rest of the group members shared the same consensus. Pat’s frame of mind was still focused on how she taught at the high school level. She expressed several times about her confidence being low at the primary level. She made it known throughout the discussion, “if it wasn’t for Jack and I team teaching, I wouldn’t know the first thing about teaching kids this age.” And each time Pat mentioned this, Jack quietly nodded his head and smiled without speaking a word.

In both the written final survey and final interviews, each of the members of group stressed that this was important and they had changed their instructional practice to include this aspect of teaching physical education. Nancy spoke up during the group interview and shared:

> I always thought I knew what was important. I would have the kids playing games and running all around and thinking that I was a really good teacher….my kids were moving and having fun. Then we bring in the benchmarks and wham I'm having to really think about my teaching and what I need to do to keep the kids active and on task. Even though I may be sounding like it is a complaint, I really believe the kids need to be focused on the lesson. I keep them from standing in lines by making sure I have plenty of equipment and small groups. I also make sure I know what it is the lesson is focused on. If I don't I don't pay attention and the lesson is all over the place and the kids really don't know what to do.

Tom interrupted:

> All over the place??…. That is putting it mild for you Patrick (Nancy's last name). I do agree with you…. With this type of teaching it is important to know what it is you are going to teach and stay focused. The workshops we have attended have helped me to add these things to my repertoire (wink and smile). Active participation really hit home and I thank you for bringing that to our attention. It is not roll out the ball anymore at Coventry. My kids are movin' and groovin'.

Pat jumped into the fun and spoke up "Well at Garfield we are 'rockin' and rollin'. We agree this is one thing that we are really working on it too." Jack added, "got that right…. No waiting in lines for our kids."

Theme 4: Using the benchmarks to plan for instruction. In the beginning, the idea of using the benchmarks to plan instruction was not well received. Looking back on the process to identify content for the curriculum, the group was resistant to changing how they taught and what they taught. In reviewing their plan books, the progression began with a simple list of games or blank piece of paper with the date on it. When asked about the organization of their plan books Tom stated, "it is all in my noggin." He pointed to his head and giggled. Pat was not shy and shared her plan book. She had just switched grade levels and was not comfortable with planning at the primary level. She did share, "most of my planning is from Jack and his ideas.

I'm feeling better but I still am not confident in my choices." Jack in turn opened his book and stated he selected activities from a new textbook he had purchased and was trying to "think outside of the box" of games and activities. His plan book was immaculate and neat. Each entry was dated and notes were next to the lesson plans if the lesson was successful or not. His selection of content was closest to the standards of the four. As for Nancy, she laughed and put her hands over her book and asked that I do not look at her book at that moment. She did share her plan book at my next site-visit and confided that she too was "not the most diligent at planning."

At the end, it was the four group members who on their own designed and implemented a benchmark checklist to be used for both planning and for verifying what, when, and how well a concept or skill was taught and learned (see Appendix E).

Nature of Assessment

Assessment became an instructional tool and was used to inform the teachers of their teaching and student learning and progress. This was a departure from the initial purposes and uses of assessment for each of the group members. Each felt physical education needed to be fun and that games and teams were the essence of physical education. Assessment was associated with systematic skill testing that did not align with the benchmarks / outcomes of the District Curriculum. Assessment was seen as additional paperwork and effort, rather than on class management and supervision of game play. As teachers began to use the benchmarks and design assessments that were aligned with these benchmarks, their ideas and uses of assessment changed.

The reoccurring themes for assessment were: (a) identifying if learning took place, (b) is assessment used to influence/support instruction, and (c) communicating student learning. When the project started, all four of the group members focused their assessment on fitness testing and following rules. They were unaware of what to assess or how to assess a skill. As the project progressed, we were exploring the implications of assessment on standards-based instruction. Linn and Herman (1997), state "standards-led reform, in contrast, advocates a tight coupling between what is taught and what is tested. The power of assessments to shape teachers' practice once seen as an unfortunate and unintentional side effect, becomes desirable." (p. 5). This notion of a tight coupling between content, instruction, and assessment was explored in-depth the

second and third year of the project. From the analysis of the interviews, field notes, and artifacts assessment is the most prolific of the topics.

Theme 1: Assessments provide information to identify if learning took place. The first type of assessment that the group explored was that of skill observations. First, the group identified a skill to be taught and the performance criteria for the skill. The assessment piece was identifying the students who were having difficulties performing the skill. There were several responses that indicated resistance from the group. The first was Jack, who felt that assessments would add more work to his already full teaching schedule. He stated, "I think we assess everyday. In the activities that we do, I'm assessing everyday by observing the students. Now that we are 'documenting' (smile) I think it might take more time."

The second to share his thoughts was Tom.

> Other than making time for it, it's something you can do in bad weather when you know you're going to be inside, let's go ahead and use one of these sheets real quick, you know we can take a few minutes here, we're here anyway, it's easier when kids are sitting down, things of that nature. I don't want to have to have the kids do this outside and worry about the papers flying away in the wind.

He also shared that he did not assess students on a regular basis. He only did so when asked by his principal for occasions such as Back to School Night and Open House.

In the beginning, Nancy was the most willing to try assessment. She had used assessment for the purpose of reporting student behavior to parents or to her administrators. She was very honest in her open comment of

> I only thought of assessment as something I used to monitor student behavior. Here I thought I was really smart using it to communicate to parents that their little darlings were naughty in phys ed. Little did I know I need to use this to show that we actually were teaching and not just playing games.

Last but not least was Pat. Keeping in mind she had recently been involuntarily transferred from the high school level to the primary, her comment about assessment was priceless. With a shrug and crossing her arms, she muttered "this isn't High School. I can't image Kindergarteners taking a multiple-choice test on the rules of basketball. At the end, Pat made the most pronounced change in her thoughts and practices. Tom, Jack, and Nancy each

commented that it was Pat's influence that helped them experiment in the design and implementation of assessments in their classrooms. She had initiated and designed a data-base to document student learning of loco-motor skills in Kindergarten. Our conversation about the data-base is below:

S: What grade levels are you targeting for the data-base?

M: Basically Kindergarten, I'm just doing loco-motor skills how they skip. I'm taking your advice and starting small and figuring out if this will work or if it will be more work.

S: What have you learned from the information in the data-base?

M: I was surprised at how many of them [students] could skip. I assumed most of them couldn't skip, but a lot of them could skip. I was totally surprised. Some of our people surprised me that could hop on the left foot but couldn't hop on the right foot and they are basically right handed. I was surprised at that.

Nancy demonstrated a progression of how she used assessment. As mentioned above, she began by using assessment to document student behavior. As we started to explore how to design and use checklists, she was one of the first to try and use them. From the checklists, she progressed to creating written peer assessments that the students helped to create and implement. Nancy was very excited to share her assessment portfolio with me. Her narrative of the contents of the portfolio is shared below:

> And these were, um, in other words benchmarks, things I've taught, these weren't just taught these had been taught since September and I thought well let's see if they remember anything and thought well this might give me a good focus for my second grade especially what we need to work on before they go to third grade. In other words, if they are clueless on the difference between hopping and jumping or they are clueless about the fact that you have to put the opposite foot forward you know, these are things we need to go over before they leave here.

The changes that the group made in their thoughts and practices regarding use of assessment to identify student learning included: creating a variety of tools and helping other teachers to incorporate classroom-based assessments into their practice.

Theme 2: Using assessment to influence and support instructional decisions. At the beginning of the project, the group used very few assessment tools. The most popular assessment tool was the fitness test. Elementary, middle, and high school levels were required by the District and the State to administer and report the fitness tests at the beginning and end of each school year. The primary level was not required to give the fitness test nor were they asked to assess students on content that was taught. Another type of assessment the group identified, was that of multiple-choice knowledge tests of game rules. When asked about multiple-choice uses at the primary level, Jack responded, "well no, our kids can't read well enough to give them a written test. We [primary PE teachers] assess by watching to see if they can do the activity."

The group was unfamiliar with the idea of using assessment to find out if the students understood the concepts and skills presented in the lesson. Using assessment to gather information to guide instruction was new to the group. We began examining assessment and how to use the information gathered from assessment to guide instruction. At first, the group was unsure of where to begin. One conversation I had with Jack when he first attempted assessment brought to light his struggles with managing assessment.

> There's,… here there is just so many of them and I would say, we had to assess everybody, but we did the hopping thing with so many, it was just all day long and after a while you kind of got worn out and so tired of taking the paper work out there [outside to the field].

I asked him what he did to not be so overwhelmed with paperwork and the process. His response was:

> Well, like you suggested just pick out one or two classes, like you did it with every class it would be kind of overwhelming. And um, just pick out things that you work on and make it as simple as possible.

I then asked Jack to further comment on assessment. I asked him "because I know this is really one of your first years of being so involved with assessment. What would you tell other teachers about it?" With a smile, he shared this insight:

> Auh, don't be afraid of it, just go ahead and try it and if it doesn't work that's fine at least you find out what they did know and then you might find out that maybe you're not doing the greatest job that you thought you were doing, that kind of thing. It will help

you in the long run and you can come back and say I've got to do this lesson over because they didn't get it. I have been kind of leery of it. I would go over throwing and thought they had it down and I'd come back a couple of weeks later and do throwing and be like, whoa what happened, a lot was forgotten!

Tom made a similar observation:

> It's made me stop and think about what, you know, are they, are the students actually retaining any of what I say. Before I actually starting assessing or even thinking about assessment, it was like do it, if they get it they get it, if they don't, they don't. And know you have to study, you look at the answers and you kind of sit back and say whoa, maybe I need to stress this a little bit more or I don't need to stress this, they've got this concept or is this what I want them to do. Most of the part with the skills I found that we were doing okay. A lot of the stuff with the, you know with the reasons for running or moving for the benefits of health. I got some really wild answers for the reasons. I found out that they didn't really have a good grasp of that. They really didn't.

Nancy also supported this notion:

> I think I was really a surprised that they didn't grasp things as much as I thought they had. In the detail that I thought they would have. You know, you stress something over and over and you say it over and over again and all of a sudden when you ask them what it is, they haven't, it went right over their heads. (she laughed) I know I've said this every class, every day how did you miss it, you know. Or where were you. I mean they get one or two things but they don't get all of it. And I was surprised at that, I thought they would grasp a little bit more than they did.

At the beginning, the group was not familiar nor did they use assessment to guide their instructional decisions. By the end of the study, the group became accustomed with a variety of assessment techniques and tools and used assessment to support instruction as well as to report student learning. In addition, the group co-authored an article about assessment and their suggestions for implementing assessment in a state educational newsletter.

Theme 3: Using assessment to communicate student learning. At the onset of the program, the group explained that they communicated student learning only when asked to do

so. Tom and Nancy expressed their uses of assessment in the section of identifying student learning. Neither assessment was used for communicating student learning. For Nancy, assessment was to report behavior problems and for Tom it was a chore he was asked to do by his principal to have student projects up at Back to School or Open House events. The need to communicate student learning became important for each of the group members as they began to share with their school sites and the parent community the changes that were occurring in their classrooms. Several of the activities or products that the group designed and initiated to communicate student learning included: (a) implementation of web-pages dedicated to PE, (b) articles in each of their site newsletters, (c) collections of student work to share with one another, classroom teachers, and with their site administrators, (d) student performances and samples of student written assessment displayed at Back to School and Open House Nights, (e) inclusion of benchmarks and expectations for physical education in the Back to School packet for parents, and (f) physical activity homework.

In the final interview, it was Jack and Pat that first began the conversation regarding communication of student learning. Jack began by sharing how he communicates with the classroom teachers at his site:

> I do that now— well most of the time. I give the teachers an outline of what we [the classes] are doing in PE, let's say Kindergarten and ask them if they can help reinforce these things in class. I admit I have not followed through by asking the teachers what they have done. What is hard about Garfield is the number of classes we have. Thank heavens for Pat and the data-base to track the things the kids do in class. We print up a copy every grading period and share this with the Kindergarten teachers. This really helps me to let the teachers know what the students can and cannot do. I also give them a copy of the benchmarks from our guide … the games that are in the 'classroom' guide is something the teachers can do on their own."

Later in the conversation, he brought up the web pages that Pat had designed. A printed copy of one of the web-pages that Pat created is found in Appendix F. When asked about the web-pages, Jack said:

> The web page has made it easy for us [Pat and Jack] to let parents know we are teaching and the kids are actually learning something in class. Pat is working on a page that shows

samples of the work [student]. Another thing, are the newsletters. We are sending these home and I think it has made a difference. [pause]

Pat did not say much at first. She grinned and blushed a little each time Jack referred to her accomplishments. She did share:

> With focusing on the benchmarks I think it gives us credibility with teachers [classroom], our principals, the District, and parents. I now have something to share with the parents and it is important. I was always good about communicating when I coached not with my teaching. But now….well I see things differently….and I think I'm doing things differently. Before I hated having to create and grade written tests [referring to High School], now I get excited to try and figure ways to assess and to see what my students know. You know, to be creative. [pause] I share what I do with the group and we meet as much as possible. Another thing I do to communicate with the classroom teachers is to work with them to create assessments. Mrs. Paul [Kindergarten / First grade teacher] and I talk about what it is I want to focus on, we work together to create things that the kids can read or do.

Tom was the last to share his ideas of what he had done and what he wanted to implement in the near future:

> First, I want to focus on my school. I've got a lot of support – I have a principal that really believes in what I do and what I am. The teachers are wonderful. I want to focus on using the curriculum and changing things about my teaching to make things better for the children. I believe once this happens then the word will get out on what we are doing. I think the promotion we have done – the grant and the professional development with all of the teachers has been great. I think that this needs to continue. [pause] Another thing I would like to do is to let parents know how important active participation is and what that means in terms of their child at home. I think we need to encourage the kids to have activities outside of school. I am also toying with developing a list of home activities and having the parents sign off on the kids. Something like reading for a pizza – but I haven't figured out what to do for a prize. Maybe batting cage time, or a certificate to go bowling.

He ends the conversation by saying:

> I like the idea of targeting the parents, principals, administration, and other PE teachers. I think letting each of the levels or individuals know what we are doing and what we are trying to do is important. Our main concern is for the children and that is the most important thing.

This statement ties back to the notion that student learning is a priority as well as active participation. In this example, he mentions the desire to share the concept of active participation with parents. Tom also articulated the importance of establishing and maintaining communication with parents, administration, and to other teachers what is happening in his classroom and what, how, and if the students are learning. This is further explored in the section Self as a Professional.

Nature of Self as a Professional

Theme 1: Knowledge and teaching of content standards. When I first started working with the group, their knowledge of content standards was obsolete. It was like writing this dissertation. Every time I mentioned a new concept, the group perked up, like a child on Christmas morning. Their eagerness and questions fueled my desire to help them understand and emulate the standards. It didn't take the group long to catch on to the importance of implementing the standards, or at least attempt to implement the standards on a daily basis. Jack was the first to take an initiative when he enrolled in a course on teaching elementary physical education. Nancy was not far behind due to her sheer enthusiasm; she was willing to try anything. Tom and Pat were more on the same page. Tom was playing a dual role as a counselor/PE teacher and Pat was still trying to adjust from high school to primary. Both of them worked hard at gaining their own individual knowledge of the standards. Since the members of the group were all veteran teachers, they were not trained in the national standards (NASPE, 1995). Therefore, their teaching did not reflect the standards in their daily lesson plans.

Upon completion of the project, every group member had greatly expanded their knowledge of the standards and used them in their daily lessons. The group was able to share their knowledge of the standards to other primary physical education teachers within the district as well as their administration. As a group, they designed a template to be used to create

individual newsletters that focused on physical education content, expectations of their classes, and any pertinent information parents needed to know.

Theme 2: Increased professional involvement and increased feeling of value. The group's professional involvement was limited to an occasional one-day school-wide workshop that failed to address physical education. They had to adapt their specialty to the core classes (Language Arts, Math, Science, and Social Studies). Since it was difficult to adapt such information that was presented in these workshops, they told me that they "didn't do it." I could sense the frustration from the group since their needs were not being met in the school-wide workshops. In this meeting, Pat expressed that she "felt like an outsider looking in." Jack in turn made the comment, "out of sight, out of mind." He elaborated with saying that the teachers really didn't view him as a teacher, he was just "PE." Nancy concluded, "I feel like a glorified babysitter."

By the end of the project, Nancy and Pat attended and presented at local and state physical education conferences. They also created individual physical education websites for their respected schools. They presented information on the topics and changes that we covered in the professional development project to the faculty and administration at their schools. Nancy also expressed, "networking with others and being on the cutting edge so to speak. This has been a real shot in the arm and being a part of this group has been wonderful. Thanks for the opportunity." Unlike Pat and Nancy, Tom and Jack focused their attention on themselves and the district. Tom stated,

> I like the idea of targeting the parents, principals, administration, and other PE teachers. I think letting each of the levels or individuals know what we are doing and what we are trying to do is important. Our main concern is for the children and that is the most important thing.

Jack nodded his head in agreement. The overall feeling from the group was that they were "preparing better lessons, collaborating with other teachers, felt more professional," and sensed that they were more "respected as a teacher." Tom explained with a smile, "I feel that my participation on the committee has helped my teaching… has helped me more to just understand what it is we should be and are teaching." The group had a marked enthusiasm for teaching and the profession of physical education. They no longer wanted to merely "roll out the ball."

At the beginning of the professional development project, the teachers spoke of content in terms of activities and games. Actual skills or outcomes for learning were not identified and vague at best. This notion of content evolved as we explored the national standards and began to develop the District's Curriculum Guide. As the group began to create a shared vision of content to be included in the Curriculum Guide, their conversations and ideas expressed from the artifacts that were generated or collected during the professional development meetings began to reflect this change in knowledge and practice. All of the group members agreed that having identified and assessable benchmarks as outlined in the curriculum served to guide their content selection decisions, instruction, and the way they assessed their students.

Each group member evolved from a secluded individual within their own schools to collaborating members of a group dedicated to changing their traditional styles of teaching. Their transition into "better teachers" who were conscious of standards, instruction, and assessment changed each member in numerous ways. They (a) became more effective and efficient teachers in the classroom, (b) became more involved in the school and district, and in Nancy and Pat's case on the state level, and (c) viewed themselves in a more positive light as educators who actually made a difference in the school and in the lives of students and parents.

In conclusion, as content became more familiar and the group began to experiment and use the content student learning became an instructional priority. In turn, as they focused on instructional practice to better support student learning they also began to use assessment to document student learning and to provide feedback for their teaching.

Features of the Professional Development Project that Supported or Hindered the Change Process

Theme 1: PE is an isolated enterprise. The social context of professional development project supported change. Social constructivists accept the idea that the creation of knowledge is a social endeavor and that knowledge is a social product (Prawat & Floden, 1994). The group setting of the professional development project created a learning community that provided a means for the group to discuss their ideas and knowledge related to curriculum, instruction, and assessment. These interactive processes of discussion and sharing served the individuals of the group in the construction of knowledge. By providing a means for the group to be together to

discuss and create a shared vision of content, instruction, and assessment the professional development project allowed them to grow personally and professionally.

The discussions of content, instruction, and assessment changed over the course of the three years.

Nancy shared in our last interview the following insights:

> I think the most powerful thing that has happened is that we are given time to get together with other teachers at the same level to share, discuss, and complain about what is happening. Finding out what others are doing, what worked or didn't work.

She later injected:

> I have been excited about the fact that change is taking place. All the talking with the other teachers has been motivating. Got rid of some of the [my] staleness. Communication has been much better between the elementary teachers and I hope it continues. Even with you, Tom, old boy.

Tom contributed this insight:

> What has helped me the most with the curriculum is the work we have done on assessments. We spent a lot of time on this topic. I have a better understanding of assessments but what I need now are specific examples for specific benchmarks. I appreciate the in-services with all of the PE teachers…when you have brought in speakers. It helps to hear it again from others and to see assessment really does work.

During a site visit, I noted a comment from Jack that expressed the isolation he felt on days Pat was not at Garfield:

> When I'm at school and Pat is not here it is really hard. Honestly, when we were first beginning to use assessment I did not try them unless Pat was here so we could talk and figure them out. I loved the days we were working on the curriculum and all together. I really got a lot out the conversation and ideas everyone had. I can't thank you enough for letting us talk and figure things out together. No one made us feel that we could not do this or our ideas were not important. I really feel we are a strong group and this will continue into the future.

Pat was the last to comment on having the opportunity to work on the project. She summed it up as:

> When I was moved down here with y'all, I did not know what to think or do. I felt like a failure and I was not comfortable teaching little kids. Each of you accepted me and allowed me to contribute my ideas without making me feel like I was dumb. This opportunity has opened my eyes and made me realize the importance of having a clear picture of what I'm going to teach. Working on this [curriculum guide] and really thinking about the stuff we have covered has helped me to understand my teaching. Having you all here to support me has really been the best part of it all.

One of the elements of effective professional development is providing time and organization structures to allow teachers to be able to share their expertise and learn from one another (Lieberman, 1995; Little et al., 1987; McLaughlin & Marsh, 1979). Professional development that values and embraces teachers to share their knowledge and expertise has shown promise in that teachers appear more willing to experiment and try new ideas and practices (Lieberman, 1995; Lieberman & McLaughlin, 1996). This feature provided the group to share their experiences, ask questions, share ideas, share concerns, and to use these to help one another. Teacher networks are one of the best ways for teachers to reflect on their teaching and to have their voices heard which results in the creation of new knowledge and valuing it (Lieberman, 1995).

Looking back, the social context of the professional development project was filled with open conversations and the group shared an abundance of ideas and thoughts. Learning was indeed a social endeavor and in this context, also very lively much of the time. From the beginning of the professional development project, the group discussed the topics and the events that occurred informally outside of the meetings. During the last year of the project, the group began meeting once a month on their own to discuss topics related to physical education and teaching. The collective participation by the group supported the change process. This feature served to create a grade-level network that was a supporting factor in both the process of change and sustaining change once the professional development project had ended.

Theme 2: Learning to teach as a situated endeavor. Situating the professional development project in the context of physical education supported change. Situating the professional development topics and activities within the settings of physical education allowed the group members to explore the new instructional strategies and ideas in the context of their

teaching practice (Lieberman, 1995; Lieberman & McLaughlin, 1996; Little et. al., 1987; McLaughlin & March, 1979; McLaughlin & Talbert, 2006). This is supported by Borko and Putnam's (1995) view that cognition is situated, and that if teachers are to learn to teach in new ways, the knowledge they acquire must be grounded in the classroom contexts that it will be used. Each of activities and ideas presented to the group were grounded in the context of physical education.

Another example of situating the context of the professional development into the context of the group was that during the second year of the project. The group was charged with designing and selecting guest speakers for the three District-wide professional development days. Lieberman and McLaughlin (1996) feel that most teachers are implicitly told what is important by having outside experts come in without any consideration of the needs of the teachers. The guest speakers at the District-wide professional development workshops were physical educators who were well known in the area and requested by the group. This feature of effective professional development features is supported in the literature on situating professional development. By selecting 'experts' who addressed the work and context of the group provided experiences that were meaningful and relevant (Lieberman, 1995, 1996, Little, 1982; Loucks-Horsely & Stigelbauer, 1991). Each member of the group expressed their appreciation for keeping the topics content specific and relevant to the context of teaching physical education. Here are a few of the comments from the group:

- I appreciate the in-services with all of the PE teachers when you have brought in speakers. It helps to hear it again from others and to see assessment really does work. (Tom)
- …I've enjoyed the speakers. It is so nice to finally have in-services dedicated to us. I'm so tired of having to go to math or language art in-services and come away with nothing I can use. I used to always hate professional development days because I felt they were…a, a waste of my time. These in-services have been good. I even have taken notes for a change. Not don't share that with Tom… he might … (Susan)
- Just getting ideas, from that workshop with XXXXX, hearing her ideas on the how to do it, and I've never thought of using pictures before. I think pictures really made it easy for them [students] because that way all they did was circle the thing that rolls and that was a an easy enough to do. (Jack)

The professional development project was situated in the group's teaching and learning contexts. In turn, the change process was also situated in the context of the group's teaching and learning. This was evidenced by the design and implementation of the classroom-based assessments and other ideas or strategies presented in the professional development project. The group openly shared their successes and challenges with one another and supported each other's effort in this process. The artifacts gathered during and after the professional development project further support that this group did explore many of the new ideas and practices in the context of their classrooms. Situating professional development efforts on specific curricula is a contributing factor of change (Cohen & Hill, 2000). This study supports this idea and by situating the project in the context of physical education served as an effective and supporting factor in promoting teacher change.

Theme 3: Providing adequate resources to maintain a sustained focus on implementing new ideas and practices presented in the professional development project supported change. Changes in instruction, like those advocated in the national standards, take time, practice, and support (Little et al., 1987; McLaughlin & Marsh, 1979; Snow-Renner & Lauer, 2005). Evaluation of the Eisenhower Professional Development program indicate that the features of long-term professional development which emphasize examining content in-depth and providing opportunities for networking and sharing ideas appears to support change. This type of professional development is resource dependent in that it takes time and money to create and sustain (Garet, et al., 1999).

This professional development project included the feature of long-term commitment to: (a) providing personnel release time to attend the meetings; (b) on-going regularly scheduled meetings to discuss curriculum, instruction, and assessment; and (c) workshops where outside experts shared information. Due to the attention and resources that were being spent on this project, the group members began to feel physical education was becoming viewed as a valued component of the total curriculum.

The resources provided in this project were supportive and very much contributed to the process of change. Due to the length of the professional development project, the group was able to study and design the curriculum, practice the new instructional techniques, and address the needs that emerged during this process (e.g., equipment, teacher evaluation materials to address

effecting teaching in PE, scheduling dilemmas). It is important to note that the amount of time given was critical in the success experienced by the group.

The group felt that the time devoted to the project was valuable and each member was appreciative of being given the opportunity to be a part of the project. Information shared in the survey, interviews, and field notes indicate that time was the most important factor identified by the group as promoting and supporting the changes they made in their teaching practice. Here are some of the insights that were shared.

Jack started:

> Having the time to work. I think it is important that we have worked together and had input on the process. I have learned so much and we all thank you. I've taken classes here and there but nothing compares to this project. I really got into the standards and assessing. I can't believe the district has given us so much time to work and keep working on things.

This was further supported by Tom's comment of

> Another thing, I'm feel that my participation on the committee has really helped my teaching and I appreciate all that you have done. I know the other primary teachers and have met the elementary and middle school and high school teachers. I've coached at the high school but this experience has helped me more to just understand what it is we should be and are teaching. And to also know what other levels are teaching and the difficulties they face with facilities and equipment.

The final question I asked Nancy was "If you could give me one thing that was most beneficial to you in the project, what would you say?" She slowly smiled and shared:

> Oh, my gosh, where do I begin….hmmm …I'll start with being able to share my two-cents and to hear what others had to say. Just learning from the others [group and committee as a whole]. I think that since you asked everyone for input during the development of the curriculum and also shared what we were learning about, we got buy-in and credibility. This means a lot, remember 'we are just PE teachers' you know…. Or no, what did Jo [district administrator] call us….. 'phys ed' [pronounced fizzzzzz ed, with emphasis on the fiz]. Another thing I really liked is that we are not all having to teach the same thing on the same day. We actually have freedom to implement OUR program to suit the needs of OUR students not Garfield's, not Coventry's… I get to

decide and teach what my little ones at Ward need. I know this isn't one thing…. You know there really wasn't just one thing.

Theme 4: Incompatibility of teacher knowledge and beliefs with the intentions of the professional development personnel was an obstacle to changing classroom practice. Teacher knowledge and beliefs about teaching, learning, and content are important determinants regarding if and/or how a new educational idea is implemented and / or used. Anders and Richardson (1994) caution that by ignoring teachers' beliefs and knowledge when attempting to introduce new ideas and practices, the results may in turn be disappointing. A key theme that emerges from the literature on teachers' beliefs and knowledge is that teachers' beliefs and knowledge affect how they perceive and act on various messages about changing their teaching. Teachers' starting points vary, and the evolution of beliefs is a complex process that is unique to each individual teacher. The evolution of changing thoughts and practices unfolds as they relate new information and experiences to what they already know, believe, and do (Prawat, 1992).

According to Borko and Putnam (1995) "any effort to help teachers make significant changes in their teaching practices must help them to acquire new beliefs and knowledge. The same beliefs and knowledge that function as filters through which change takes place are also the practical targets of change" (p. 60). It is through teachers' existing beliefs and knowledge that teachers come to understand recommended changes in practice and activities. Prior beliefs and understandings serve to influence and determine how an innovation may or may not be used in the classroom (Borko & Putnam, 1995).

During the activities to select content for the District's Curriculum Guide, it was apparent the group members' ideas and beliefs about content differed from my own conceptions of content. I recall Nancy saying "how's this different from how I've been teaching?" Pat verbalized that "my physical education background is from a highly respected university." Initially, the discussions were tense and led to resistance of new ideas of content and how to organize the content within the guide (discussed under nature of content p. 121). Because the group held these beliefs and the group mutually accepted them, this did impede the process of change. In disbelief, Nancy expressed "how much change has occurred in PE, you tell me that I don't know what needs to be taught. " The rest of the group sighed and nodded their heads in agreement. In my effort to resolve this dissonance, I reorganized the content of the professional

development and shifted the initial focus to examining the underpinnings of the standards and a shared understanding of the content advocated. This did serve to help relieve the discord and support dialogue. After seeing the standards, Jack said aloud, “Now we’re talkin’, we’re on the same page now.” Tom added, “I’m really starting to understand this stuff.” Over the next two meetings, the focus returned to skill-based content.

The incompatibility of my beliefs and that of the group, regarding content was a hindrance, but it also served as a learning opportunity for everyone. I came to understand the important influence that one’s beliefs and knowledge has on the likelihood that a new idea or practice will be embraced or discarded. Just as the group held their beliefs about content, so did I. I also came to realize the significance that knowledge is constructed as a shared experience.

Another factor was the incompatibility between the group’s initial idea of self as professional and that of efficacy. Teacher efficacy includes those factors that contribute to the confidence one has to successfully achieve a goal related to classroom practice. From the onset, the group members would make comments about ‘we are only PE teachers.’ This was an incompatibility with my intentions and beliefs and may have been a factor that inhibited the change process. Guskey (1988) found that teacher efficacy played a role on the implementation of adopting new instructional programs. Teachers that were more efficacious were more likely to implement a new program than teachers who were less efficacious. One of the factors that influences teacher efficacy he found was the possession of content knowledge. In this study, as the group became more familiar with content and comfortable with their knowledge and understanding of content, they began to share ideas and practices that differed from what was identified at the beginning of the project. As the features of the professional development project that supported change emerged in a non-linear and interconnected fashion, so did the factors that seemed to inhibit change.

Chapter Five discusses the discoveries related to the changes in the participants’ thoughts and practices. Also discussed are the implications and conclusions related to this study.

CHAPTER FIVE

Discoveries and Suggestions

In the previous chapter, the themes were identified and discussed. In this chapter, I summarize the results of the four case studies of Tom, Jack, Nancy, and Pat, as well as the cross case analysis in the context of the changes that occurred in the participants' thoughts and practices related to content, instruction, assessment and self as professional. Also summarized are the features of the professional development project that supported or hindered change. This is followed by my proposed implications of this study for the professional development of physical education teachers in regards to standards-based education and areas for future research.

Summary

The purpose of this study was to investigate the thoughts and practices of four veteran primary level (K-2) physical education teachers as they began to use classroom-based assessments before, during, and after a three-year professional development project. Classroom-based assessments in this investigation were assessments the teachers' designed that were based on content outlined in the National Standards for Physical Education (1995). The setting of the study was in the classroom which these teachers taught and the professional development project that they participated in during the course of the three years. The primary (K-2) teachers were one of the four sub-groups of teachers I worked with during the three years of the professional development project.

The design of this study emerged as the professional development project evolved and unfolded. This study began with broad research topics of assessment, teacher change, and professional development. The refinement of this investigation came about based on the events and processes that unfolded over the course of the three-year professional development project. This study examined multiple data sources that included (a) field notes of my observations and conversations that occurred during professional development project meetings and during site visits with the participants; (b) artifacts that were generated and collected during the professional development meetings and those that the participants created during the three-years of the project, as well as student assessment artifacts created by the participants to use with their students; (c) written surveys were given during the three-year professional development project to gather information regarding curriculum content, areas of interest in regard to professional

development, and final interview about their perceptions of the professional development project as being either supporting or inhibiting to their process of change; and (d) interview transcripts that explored the results of the written surveys.

The participants were identified utilizing purposeful sampling. Data analysis focused on the thoughts and practices of the participants related to the design and use of classroom-based assessment. The richness of information that emerged from the primary (K-2) subgroup, as well as the individual cases within this sample, served to define my research foci and identify my research questions.

The first question that guided this study was how did the participants' thoughts and practices related to content, instruction, assessment and self-as-professional change over the course of the project?

An interrelationship between content, instruction, assessment, and self as professional emerged in how the participants' change was evidenced over the course of the three years. Change did not occur in a linear fashion nor was it sequential or identical in how it manifested in each of the participants. At the onset of the professional development project, the four participants, Tom, Jack, Nancy, and Pat, did hold common or similar conceptions or definitions about content in physical education. Their conceptions of content were centered on games and activities that in their words needed to be 'fun.' The idea of 'fun' continued through the three years and did evolve to reflect the thoughts and practices the group developed during the three years of the professional development project. The group's notions of content became refined and redefined to reflect each individual's ideas and understanding of the content identified in the standards. These changes were evident in their instructional practice(s) and use of classroom-based assessment(s).

As the group began to explore and implement the content outlined in the standards, they found a need to also adjust their instructional ideas and practices. They discovered if the content stressed skill acquisition then instructional practice needed to change in order to support this new focus. As they began to change their instructional practice, their conversations and written surveys reflecting their ideas about the content changed too. Predominant areas of change in instructional and assessment practice were making student learning a priority, using the benchmarks they identified for the curriculum guide as a planning tool, and assessing student learning of the identified benchmark to inform instruction. The changes in the thoughts and

practices experienced by the individuals of the group were not linear or discrete. These changes were interconnected and at time could not be distinctly categorized as being just content, instruction, or classroom-based assessment. This interconnectedness of content, instruction and assessment experienced by the group is confirmed in Shepard's (2000) conceptual framework of learning theories, curriculum theories, and classroom assessment theories. She attests the need to align content with important instructional goals and use assessment to confirm learning and evaluate teaching.

Classroom-based assessment was a major topic during the professional development project. At the onset of introducing classroom-based assessment, the idea of designing and using assessment to inform instruction was unfamiliar to the group. There was apprehension and concern about the amount of additional 'paperwork' in designing and using assessment and what this would mean in terms of workload for these physical education teachers. A change in thought shared by the group was that assessment helped them to stay focused on their goal of student learning and guided their planning and instructional decisions. By the end of project, assessment was no longer viewed as the final product of instruction, but rather an important and integral process of instruction. How these teachers use assessment is consistent with current reform and conceptions of standards-based assessment for learning and of learning (Guskey, 2002; Shepard, 2000; Stiggins, 2002).

In summary, the changes that occurred in the participants' thoughts and practices regarding content, instruction, and assessment were interconnected and non-linear. As the group began to use benchmarks to plan instruction and classroom-based assessments, there was a new focus placed on student learning. Student learning emerged as a predominant instructional goal for each of the participants. This was a departure from the group's content and instructional practices that were identified at the beginning of the project: using a list of traditional games with the instructional goal focused on having fun. Thus, through their participation in the professional development project, these teachers developed new thoughts and practices that are connected to the reform agenda outlined in the standards in regard to content, instruction, and assessment.

Each of these individuals wanted to be on the "cutting edge" and not viewed as "behind the times" in regard to practice or knowledge of current standards. Thoughts and practices related to self as professional changed over the course of the three years. In the beginning,

individuals within the group often mentioned feeling they were ‘alone’ and ‘on their own’ at their respective school sites. A lack of awareness of the current standards in physical education was apparent by the participants in the conversations that took place during the first few professional development meetings. According to the group, prior to the professional development project, issues or information related to physical education were not addressed in district professional development programs. The ideas inherent in the standards were new to the group and did create some resistance to the presentation of these tenets of reform. Also mentioned by the participants was that as physical education teachers they were not given many opportunities to share or to ‘network’ with others in the district in regard to instruction of current trends in physical education. Other subject matter committees were in existence, but there had never been a subject matter committee or professional development project dedicated to physical education. This supports other research (Sparkes, Templin & Schempp, 1990; Sparkes, Templin & Schempp, 1993; Stroot, Collier, O’Sullivan & England, 1994) that finds physical education teachers struggling for legitimacy and begin marginalized within the context of their school sites and within the district. The four teachers in this study began with identities as marginalized teachers with classroom teaching colleagues, their administration, and for some with the parents of the students they taught. Each group member evolved from an isolated individual within their respective schools to a contributing and collaborating member of a group dedicated to changing their traditional ideas and practices of physical education. This transition of self as professional manifested into teachers who were conscious of the standards, instruction, and assessment practices. This supports earlier findings from the Saber-Tooth Project as well as the PEP-Stars (Deglau & Sullivan, 2006; Ward, Doutis, & Evans, 1999) that following participation in a quality content-based professional development endeavor changing participants’ identities as self as professional.

Predominant changes in self as professional included participants’ ideas and practices related to: (a) instructional practices described by the standards, (b) professional affiliation and involvement in professional activities both inside and outside of the school district, and (c) viewing themselves as educators who actually made a difference in the school and in the lives of students and parents. These changes that occurred in the group’s perceptions of self as professional are important and related to how these teachers view themselves in the context of their schools and in the enterprise of education. The participants in this study made changes that

are compatible with the type of instruction advocated in the standards. It is recognized that depth and breath of change experienced by each participant was individual and unique to the individual's understandings, beliefs, and experiences of content, instruction, assessment, and self as professional.

The second question that guided this study was "at the completion of the professional development project, what features of the professional development project did the participants report as supportive and as hindering?"

During the analysis of the data, I noticed a number of factors that supported teachers' attempts to change their thoughts and practices regarding content, instruction, assessment, and self as professional. There were also factors that inhibited or hindered the change process. The data were viewed through the lens of the professional development project. Ideas from my understanding of literature regarding teacher change, in particular ideas related to the notion that learning is situated and the roles of knowledge and belief in learning, shaped my analysis and understanding of the themes that were identified.

Four predominant themes were identified. These are: (a) Physical Education is an isolated enterprise. The social context of the professional development project supported change; (b) learning to teach as a situated endeavor. Situating the professional development project in the context of physical education supported change; (c) providing adequate resources to maintain a sustained focus on implementing new ideas and practices presented in the professional development project supported change; and (d) incompatibility of teacher knowledge and beliefs with the intentions of the professional development personnel was an obstacle to changing classroom practice.

At the start of the project, each of the participants felt they were isolated and alone at their school sites. The social nature of the project provided a means for the participants to share their ideas about content, instruction, and assessment. Collaborative relationships were built out of this experience. The relationships that evolved, conversations and activities that created opportunities for the participants to gain information about the standards served to provide both support and a professional network. This confirms and illustrates what have come to be associated with teacher learning communities (Fullan, Hill, & Crevola, 2006; Little, 2003; McLaughlin & Talbert, 1993, 2006).

It is suggested in the literature that teachers' ability to successfully adapt their practices depends upon "participation in a professional community that discusses new teaching materials and strategies and that supports the risk taking and struggle entailed in transforming practice" (McLaughlin & Talbert,1993; p 15). McLaughlin and Talbert (2006) further elaborate by saying:

> As teachers rethink practice, knowledge for practice—formal knowledge and theory for teachers to use to improve their practice—is an essential asset. Such knowledge draws from the various outside resources available to the community (workshops, university partnerships, networks, and other expert-based opportunities) to learn about cutting edge content and pedagogy, as well as state and professional association standards for student performance. A teacher learning community provides a forum in which teachers can translate knowledge from the environment – knowledge for practice—in terms specific to their students, subjects, and classroom settings (p. 6).

By situating the professional development project in the context of physical education and in their own practice, the participants were given the opportunity to practice what they were learning which provided an effective strategy in supporting change. This finding supports other research (Deglau & O'Sullivan, 2006; Doutis & Ward, 1999; Ince, Goodway, Ward, & Lee, 2006; Ko, Wallhead, & Ward, 2006; Ward, Doutis, & Evan, 1999). By providing support in their individual classrooms, we were able to talk and reflect about the practices they were trying to implement as they were implementing them. This feature was not explicitly planned for in regard to the professional development project design. It came out of my desire to observe and work with the participants in regard to the practices outlined in the standards and for the purposes of this study. In turn, the participants were greatly appreciative of the added support that was given. Other studies on professional development have identified classroom-based support and supervision provided by research/professional development teams helped teachers as they attempted to implement new ideas developed during workshops (Borko, et. al., 1997; Fennema, Carpenter, Franke, & Carey, 1993; Schifter & Simon, 1992).

This also supports Guskey's Teacher Change Model that change in attitude and beliefs happens after a practice has been implemented, and that support is crucial as teachers begin this process (2002). Guskey states:

> If a new program or innovation is to implemented well, it must become a natural part of teachers' repertoire of teaching skills. Especially for program continuation and

expansion, teachers must come to use the new practices almost out of habit. If this is to occur, continued follow-up and support are essential (p. 388).

This project is also reflective of Snow-Renner and Lauer's (2005) ideas of what constitutes effective standards-based professional development this project. This project included each of the five components they advocate. Below is how this project evidenced these components:

- It was of considerable duration in both the span of the project and in how often we met throughout the three years.
- It focused on specific content and/or instructional strategies related to content, instruction, and assessment as advocated in the national standards (NASPE, 1995)
- It was characterized by collective participation of educators. This was in the form of content specific teachers. Specifically that of physical educators across the district. At the K-2 level this included all of the K-2 physical education teachers. The K-2 teachers are the participants in this study.
- It was coherent with current reforms taking place in the state and nationally. It was coherent with the focus of the district on standards-based content and instruction.
- The activities were designed to incorporate reform-based learning that was active and collaborative in nature.

This type of professional development is resource dependent. Resources may be reflected in release time for teachers to meet during the school day, financial support reflected in office supplies and duplicating documents and materials, the professional developer cost, time and energy of all involved to begin, implement and sustain the proposed changes, and equipment and materials to support the curricular changes proposed by such a project. In the case of this professional development project, it was fortunate that much time and energy was spent to sustain the project and changes that occurred throughout. It takes time to change teacher instruction. Supovitz and Turner (2000) studied statistical associations between the amount of professional development and the use of new teaching strategies that were presented in the National Science Foundations' Local Systemic Change Initiative. They found it was only after teachers participated in at least 80 hours of professional development that they reported using the new teaching strategies. Boyd, Banilower, Pasley and Weiss (2003) findings support the

notion of time. They found that the more time spent on professional development, the more coherent teacher instruction was relative to standards.

Resources were focused on sustaining duration of this project and providing adequate time to support change. The content of the professional development project was focused on the standards in physical education and the instructional strategies necessary to support them. To further support the content, several outside educators were contracted to work with the teachers within the district. Another resource that was provided was that of release time so the participants could meet. Due to the coaching commitments of many of the members of the professional development project, it was necessary to meet during the school day.

The incompatibility of knowledge and beliefs of the participants and myself created a hindrance to change. It became evident to me that by simply telling the teachers about the new content advocated in the standards was not going to lead to them instantly embracing the ideas and practices or even wanting to know and use them. This resistance by the group was an opportunity for me to reflect and to revise my pedagogy. It opened my eyes about the significance of the type of approach or process that is used to deliver the tenets of reform to these teachers. I wanted them to explore more deeply the content outlined in the standards and the type of pedagogy required to support the standards. I gave the information and expected them to know what to do with it, to understand it, and become engaged in this new knowledge. In this case, I learned by doing and I learned by reflecting on my mistakes. I found that direct instruction and lecture-based delivery of the content and pedagogy advocated by the standards did not promote the type of dialogue that would lead to the development of deep and broad understanding of the content. This method of delivery I used could be termed, stand and deliver. It stood in this case, to turn these teachers off and inhibited the progress of the project. I needed to revise my strategies and it was through subsequent activities that did involve and engage the participants in the process of examining their content beliefs that a culture of sharing ideas, knowledge, and trust began to emerge. This, I attribute to providing time and support for these teachers to share their beliefs and understanding of physical education and the content that was being advocated in relation to what was happening in their classrooms. Richardson (1999) feels there is a need to focus on cognitions, beliefs, and the making of meanings as the desired outcomes of professional development rather than prescribed skills and behaviors. She defines constructivism as

> …a theory or a set of theories based of learning or meaning making. It suggests that individuals create their own new understandings, based upon the interactions of what they already know and believe, and the phenomena or ideas with which they come into contact (p. 146).

Richardson (1999) advocates a need of a mixed strategy of constructivist and non-constructivist content and process in professional development. Content refers to the subject matter being explored. This may be content that are grounded in constructivist learning theories or exploring problems and promises of classroom dialogue. An example of content that is non-constructivist would be fitness testing and issues of validity and reliability of the test or test procedures. Process refers to the instructional approach or methods utilized by the professional developer. Non-constructivist process would be traditional workshop-style of delivering information on how to do something. Richardson does caution "it is important to bring students [teachers] into contact with formal knowledge as they work on their ideas" (1999, p. 159). Constructivist process, may include the use of dialogue to elicit the sharing of knowledge, beliefs, and ideas to facilitate the development of individual or groups meanings around classroom teaching (Richardson 2003). She presents five characteristics of constructivist pedagogy process:

1. attention to the individual and respect for students' background and developing understandings of and beliefs about elements of the domain (this could be described as student-centered);
2. facilitation of group dialogue that explores and element of the domain with the purpose of leading to the creation and shared understanding of a topic;
3. planned and often unplanned introduction of formal domain knowledge into the conversation through direct instruction, reference to text, exploration of a Web site, or some other means.
4. provision of opportunities for students to determine, challenge, change or add to existing beliefs and understandings through engagement in tasks that are structured for this purpose; and
5. development of students' meta-awareness of their own understandings and learning processes (2003; p. 1626)

It was through our (the group and myself) existing beliefs and knowledge that we collectively came to understand recommended changes in content and practice outlined by the standards. This process of change we each experienced was supported by the creation of the professional development project but more importantly the experience we shared with each other over the course of the three years.

Implications

In conclusion, there are several discoveries from this study with implications for professional development related to the standards in physical education. These implications are based on the results and discoveries from the data and the sample in this study.

1. Provide time for change to take place. In order for a reform effort to happen, teachers need time. Time to learn about and practice the new ideas. Time to implement the ideas presented in the reform effort. Time to reflect about the changes in practice and /or ideas they may or may not be making in relation to a reform effort.
2. Create and sustain a teacher network or collaborative group that provides the opportunity to meet with each other, meet with experts, experiment with new techniques, and reflect on their practices.
3. Researchers and professional development personnel should take on the role of facilitator and help guide teachers in the construction of new knowledge and practices. Simply describing a reform will not bring about change. In order for change to happen, teachers need examples and a vision of what change is to look like in their classrooms.
4. Ground the content of physical education professional development in the contextual situation of the teacher. Focus and sustain the content and pedagogical strategies on the context of physical education.

In this study, time was afforded to the participants to explore and to implement changes into their practice. Due to coaching and extra-curricular activities that occurred after school for the participants in this study, this school district created time during the day for the teachers to meet and to work together on the project objectives. The multi-roles that many physical educators have do impose an issue of trying to find time to plan, implement and reflect on

change. The literature is full of examples of how teachers feel they are not afforded time to implement change. In Cohen's (1990) findings the teachers wanted to do what they had always done, and then add the new materials - if there was time. The researchers believe that future development and implementation of performance assessments in these classrooms will hinge on teachers' beliefs about the usefulness and practically of alternative assessments and having time to implement them into their practice (Aschbacher 1993; Bechtel & O'Sullivan, 2007; Borko, Flory, & Cumbo; 1993; Borko, Mayfield, Marion, Flexer, & Cumbo, 1997; Chen, 2006; Cohen, 1990; Flexer & Gerstner, 1993; Hiebert & Davinroy; 1993; Ko, Wallhead, & Ward, 2006; Richardson, 1992; Shepard, et al., 1995; Ward, 1999). Guskey's (2002) three principles from his Model of Teacher Change provide some insight. First, by recognizing that change is gradual and difficult process for teachers and the extra energy and time required to learn and implement change will add to one's workload. Second, ensure regular feedback on student learning and student progress. The use of classroom-based assessment does provide this and did so, in the case of the participants in this study. Also, in this case, classroom assessment provided motivation for the participants to become proficient with designing and using them (Fullan, Hill, & Crevola, 2006). Lastly, teachers need follow-up, support and pressure. It takes time to provide these and a commitment by professional developers and school districts to ensure that these happen and are sustained (Guskey, 2002). In this study, the teachers created their own support system and well as a method to provide pressure, the benchmark checklist. This did not happen overnight, it was three years in the making and emerged slowly over time.

The second implication, creating and sustaining teacher networks or collaborative groups is well established in the literature and challenge the assumption that only outside experts can provide training and professional development for teachers (Betchel & O'Sullivan, 2007; Deglau, Ward, O'Sullivan, & Bush, 2006; DuFour, 2004; Fullan, 2006; Fullan, Hill, & Crevola, 2006; Little, 2003; McLaughlin & Talbert, 1993; 2006). According to Betchel and O'Sullivan (2006) professional development for a long time was about "providing time to upgrade teachers in national curriculum initiatives" (p. 377). Most of the time and money was spent on training teachers about the innovations with little money, time, or support being devoted to implementation the innovations in the context of the classroom. Betchel and O'Sullivan (2006) further argue that physical education "teachers' knowledge of context, of the subject matter, and

of students was not only *not* valued, but was considered a barrier to successful implementation" (p. 377).

McLaughlin and Talbert (2006) describe the image of a "professional community where teachers work collaboratively to reflect on their practice, examine evidence about the relationship between practice and student outcomes, and make changes that improve teaching and learning for the particular students in their classes" (pp. 3 – 4). According to McLaughlin and Talbert (2006) teacher learning communities serve three interrelated functions: (a) they build and mange knowledge; they create shared language and standards for practice and student outcomes; and they sustain aspects of their school's culture vital to continued, consistent norms and instructional practice. Louis and Kruse (1995) suggest five critical elements that underpin effective learning communities; reflective dialogue, de-privatization of practice, collective focus on student learning, collaboration, and shared norms and values. They further identify two major conditions that must be present: structural conditions of time to talk, physical proximity, interdependent teaching roles, communication structures and teacher empowerment, and school autonomy. The second condition is that of culture. Culture includes the openness of the teachers to improve their practice and knowledge, trust and respect, cognitive and skill base, supportive leadership and socialization of current and incoming members.

According to Fullan (2006) individual and collective professional learning must be built into the cultural norms of the school, the district, and in other external interactions. Cultural change is a type of change that is tied to every aspect of current reform today. It will take time, support, resources, and commitment to establish and sustain. Physical education has traditionally studied the barriers to reform as being contextually based and now it is time to also look at the culture that is inherent and imposed in our discipline. If current reforms in physical education are to reflect collaboration, dialogue, and a culture of learning it is time we begin to put energy and resources into making this happen.

The third implication, regarding that researchers and professional development personnel should take on the role of facilitator and help guide teachers in the construction of new knowledge and practices. Current reform advocates that teachers are to attempt new methods of instruction and to introduce new approaches of learning (Borko, 2004; Borko, Davinroy, Bliem, & Cumbo, 2000; Fullan, Hill, & Crevola, 2006). Richardson (1999) feels that as constructivist pedagogy in staff development holds great promise for deeply engaging teachers in ideas and

issues related to teaching in the context of reform. Constructivist pedagogy requires the professional developer to have "considerable subject-matter knowledge, cognitive flexibility, and the ability to quickly diagnose participant thinking" (p. 162). This may create some tensions with professional developers who have grounded their practice in traditional stand and deliver methods compounded by the design being a one-day workshop. Again, the issue of time, sustained support, and feedback come into play and cannot be ignored (Guskey, 2002).

Current literature advocates that content of effective professional development programs needs to be grounded in the subject matter and context that it is taught (Borko, 2004; Cohen & Hill, 2000; Snow-Renner & Lauer, 2005) Returning to Cohen and Hill's (2000) findings, the content that is presented was very important and that by focusing on specific curricula resulted in more reform-oriented practice and related to student achievement. They suggest that for classroom practice to change, professional learning opportunities should be: (a) grounded in the curriculum the students will study; (b) embedded within an aligned system and connected to several elements of instruction (e.g. assessment, curriculum), and (c) extended in time, with time built in for practice, coaching, and follow-ups. Porter, et al. (2003) also found when activities were focused on specific higher order teaching strategies there was an increase of the teachers' use of those strategies in their classrooms. This is important for physical education. The subject matter content of physical education is typically marginalized by general education and to some extent is not well understood. In order for physical educators to understand the content and type of teaching advocated by reform initiatives in our discipline professional development activities needs to focus on physical education and topics that support reform efforts in this subject matter.

Future Research Directions

The findings of this study present a rationale for further research into standards-based professional development in physical education. There are very few studies that have examined the impact that standards-based professional development has had on the thoughts and practices of teachers in general, and to my knowledge none in the area of physical education.

Data was collected, before, during and after the professional development project had ended. The articulation and analysis occurred several years following the end of the project. An area for further study would be to investigate the thoughts and practices of these teachers' today. It would be interesting to examine the results of the efforts these teachers have made since the

project ended. By studying what the thoughts and practices of these teachers are today compared to when this took place would provide information about whether or not the changes that emerged were sustained.

Another area would be the exploration of the changes experiences by other teachers in the school district who were also involved in the professional development project. I am curious to see what types of changes teachers at the elementary, middle, and high school experienced and if there are similarities or differences to those experiences by the primary teachers in this study.

Teacher learning communities are one avenue in professional development that holds promise for increasing sense of efficacy relating to teaching and that results in increased motivation in the classroom (Louis & Kruse, 1995; McLaughlin & Talbert, 2006). Investigating teacher interactions, across a range of settings that include both formal settings such as in a structured professional development project and in naturally occurring school contexts. Future research to explore the nature of such interactions and the possible influence they may have on teaching in the context of physical education.

Further research to identify and compare resources that are dedicated to physical education professional development programs between two school districts or multiple districts. By studying the existing resources dedicated to physical education, insights as to the areas or deficiencies in current professional development programs may need to be further addressed. Like Nancy said, “I don’t know other school districts might be doing, but it would be nice to know.”

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Appendix A: Initial Consent Form

Informed Consent for Participants of Investigative Projects

The Purpose of this Content Form

During the course of the professional development project I will be collecting information to describe and analyze the professional development project, implementation process of a standards-based curriculum and classroom assessment in physical education. Due to this project beginning before I have proposed my research project I would like to have your permission to use such information if applicable in my dissertation project.

Procedures

Procedures may include questionnaires, conversations, interviews, and documents that we create during the professional development project. I may also request documents such as lesson plans, yearly plans, student assessments, materials used for instruction and documenting student learning. The data collection procedures and materials obtained from these procedures are at the researcher's expense. Procedures for the interviews will include audio taping the discussions and transcribing the conversations verbatim. All interviews will be scheduled at the discretion and convenience of each participant.

Risks and Benefits of this Project

There are no known risks involved with participation in this study. This investigation is not the subject of an evaluation of individual teaching abilities or site administration of physical education programs. No promise or guarantee of benefits are made to encourage participation in this study. Results of this study will be documented and shared with the educational community through papers, workshops, and conference presentations.

Extent of Anonymity and Confidentiality

Every precaution possible will be taken to protect the participant's identity. (i.e., pseudonyms will be used in all publications for the location, site, and individual's name). The identity of the participants will be recorded as a code name selected by each participant. This code will be used to identify information and data gathered from this investigation. Information gathered from this investigation **will not be used by the school district for teacher or program evaluation purposes**.

All recordings and information gathered as part of this study will remain in the possession of the investigator and shall remain secure from unauthorized access.

Freedom to Withdraw

Participants are free to withdraw from this study at any time without penalty. There may be circumstances under which the investigator may determine that a participant should not continue in this investigation. Because no compensation is involved, no penalty or forfeiture will be incurred as a result of withdrawal. Participants are free not to answer any questions or not to respond to any investigative inquiry that they choose.

Approval of Research

Participants understand that a formal research proposal has not been created at this date. When my final research proposal is approved I will notify each participant, obtain formal informal consent, and begin the formal data collection.

Subject's Permission

I have read and understand the Informed Consent and conditions of this study. I have had all my questions answers. I understand that if I participate, I may withdraw at any time without penalty. I agree to participate and be a part of this study to describe and analyze my experiences during the first year of standards-based education in physical education.

Should I have any questions about this research or its conduct, I may contact:

Sarah Westfall **540 953 - 2785** **swestfal@vt.edu**

I hereby acknowledge the above and give my voluntary consent for participation in this project.

_____ _____

Name Date

Appendix B: Exit Questionnaire

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Informed Consent for Participants of Investigative Projects

The Purpose of this Research Project

This is a study to identify, describe and analyze the implementation process of a standards-based curriculum (Physically Active for Life) in physical education and to examine the factors teachers identify as facilitators to curricular change.

Procedures

Procedures include completing a questionnaire and may include one 30 minute follow-up interview and the sharing of instructional documents related to the research. Documents may include lesson plans, yearly plans, student assessments, materials used for instruction and documenting student learning. The data collection procedures and materials obtained from these procedures are at the researcher's expense. Procedures for the interviews will include audio taping the discussions and transcribing the conversations verbatim. In the event of follow-up interviews, scheduling will be at the discretion and convenience of each participant.

Risks and Benefits of this Project

There are no known risks involved with participation in this study. This investigation is not the subject of an evaluation of individual teaching abilities or site administration of physical education programs. No promise or guarantee of benefits are made to encourage participation in this study. Results of this study will be documented and shared with the educational community through papers, workshops, and conference presentations.

Extent of Anonymity and Confidentiality

Every precaution possible will be taken to protect the participant's identity. (i.e., pseudonyms will be used in all publications for the location, site, and individual's name). The identity of the participants will be recorded as a code name selected by each participant. This code will be used to identify information and data gathered from this investigation. Information gathered from this investigation **will not be used by the school district for teacher or program evaluation purposes**. All recordings and information gathered as part of this study will remain in the possession of the investigator and shall remain secure from unauthorized access.

Freedom to Withdraw

Participants are free to withdraw from this study at any time without penalty. There may be circumstances under which the investigator may determine that a participant should not continue in this investigation. Because no compensation is involved, no penalty or forfeiture will be incurred as a result of withdrawal. Participants are free not to answer any questions or not to respond to any investigative inquiry that they choose.

Approval of Research

This research project has been approved, as required, by the Institutional Review Board for Research Involving Human Subjects at Virginia Polytechnic Institute and State University.

Subject's Permission

I have read and understand the Informed Consent and conditions of this study. I have had all my questions answers. I understand that if I participate, I may withdraw at any time without penalty. I agree to participate and be a part of this study to describe and analyze my experiences during the first year of standards-based education in physical education.

Should I have any questions about this research or its conduct, I may contact:

Sarah Westfall	**Investigator**	**540 953 - 2785**	**swestfal@vt.edu**
Dr. George Graham	Faculty Advisor	540 - 231 - 7545	ggraham@vt.edu
Dr. Jan Nespor	Departmental Reviewer	540 - 231 - 8327	
Dr. Tom Hurd	Instructional Research Board	540 - 231-5281	

I hereby acknowledge the above and give my voluntary consent for participation in this project.

_____ _____

Participant

Part I: Supporting Factors to Implementation.

Please help me to document the factors you feel most supported your efforts to implement Physically Active for Life this year. Please rate the importance of each factor and briefly describe how it helped you to implement the curriculum.

Supporting Factors

	Strong Positive	**Positive**	**Neutral**	**Negative**	**Strong Negative**
Staff input on the writing of Physically Active for Life	**5**	**4**	**3**	**2**	**1**

Describe how this factor helped you to implement the curriculum:

Staff development days dedicated to:

a) Curriculum planning in physical education for your specific site **5** **4** **3** **2** **1**

Describe how this factor helped you to implement the curriculum:

b) Information about "Appropriate Practices" (session 1) **5** **4** **3** **2** **1**
([redacted])

Describe how this factor helped you to implement the curriculum:

c) Information about Assessment practices (session 2) **5** **4** **3** **2** **1**
([redacted])

Describe how this factor helped you to implement the curriculum:

d) Information about Assessment practices **5** **4** **3** **2** **1**
([redacted])

Describe how this factor helped you to implement the curriculum:

Access to materials / equipment to implement the curricular changes **5** **4** **3** **2** **1**

Describe how this factor helped you to implement the curriculum:

Freedom to design site PE lessons and units to meet the needs of your students **5** **4** **3** **2** **1**

Describe how this factor helped you to implement the curriculum:

Access and communication with
District Administrators **5 4 3 2 1**
Describe how this factor helped you to implement the curriculum:

Administrative support:

a) District Office **5 4 3 2 1**
Describe how this factor helped you to implement the curriculum:

b) Building Principal(s) **5 4 3 2 1**
Describe how this factor helped you to implement the curriculum:

Opportunities to communicate and
network with other PE teachers **5 4 3 2 1**
in the district
Describe how this factor helped you to implement the curriculum:

Benchmark /Assessment Record **5 4 3 2 1**
(to be turned in at end of the year)
Describe how this factor helped you to implement the curriculum:

New Lesson Plan Format **5 4 3 2 1**
(High School Only)
Describe how this factor helped you to implement the curriculum:

Classroom Connections **5 4 3 2 1**
(Primary and Elementary Schools Only)
Describe how this factor helped you to implement the curriculum:

Other: **5 4 3 2 1**
Identify this factor and describe how it helped you to implement the curriculum:

Is there something we did not do to make implementation easier or better for you?

Based on your experience with implementing Physically Active for Life, describe what you think other school districts would need in order to develop and implement a similar K -10 physical education curriculum.

Part II: Effects of Implementation

A: Instructional Cycle

Some people feel that a curricular reform in physical education calls for teachers to change the way planning, instruction, and assessment are approached. This section explores the effects that implementing Physically Active for Life has had on the way you now approach planning, instruction and assessment of student learning.

Please describe what changes were necessary in how you approached planning, instruction, and assessment, in order to implement Physically Active for Life.

Planning

Instruction

Assessment of student learning *(Not Grading)*

Other

To what extent do you feel you made these changes?

	A Great Deal	**Quite A Bit**	**Somewhat**	**Very Little**	**Not At All**
Planning	5	4	3	2	1
Instruction	5	4	3	2	1
Assessment of student learning *(Not Grading)*	5	4	3	2	1
Other	5	4	3	2	1

What specific factor (s) helped and/or hindered you to implement changes in how you approached:

Planning

Instruction

Assessment

Other

Part II: Effects of Implementation

B. Personal Experience

What effects have you experienced personally as a result of implementing Physically Active for Life?

Effects	Strong Positive	Moderate	Neutral	Moderate	Strong Negative
Instructional Practice Describe how this is demonstrated in your teaching:	**5**	**4**	**3**	**2**	**1**
Professional Empowerment Describe how this is demonstrated in your teaching:	**5**	**4**	**3**	**2**	**1**
Motivation and attitude toward teaching Describe how this is demonstrated in your teaching:	**5**	**4**	**3**	**2**	**1**
Enhanced Professionalism Describe how this is demonstrated in your teaching:	**5**	**4**	**3**	**2**	**1**
Communication with other district physical educators Describe how this is demonstrated:	**5**	**4**	**3**	**2**	**1**

Clarified PE program
goals for student learning **5 4 3 2 1**
Describe how this is demonstrated:

Daily expectations for student learning **5 4 3 2 1**
Describe how this is demonstrated in your teaching:

Communication of student learning
and PE program goals to parents **5 4 3 2 1**
Describe how this is demonstrated:

Communication of student learning and
PE program goals with other **5 4 3 2 1**
teachers outside of PE
Describe how this is demonstrated:

Increased student participation **5 4 3 2 1**
Describe how this is demonstrated in your teaching:

Professional involvement outside
of Sommersville County **5 4 3 2 1**
Describe how this is demonstrated:

OTHER: **5 4 3 2 1**
Please specify:

Part III: Effects of Implementation

C. Observed in Other Physical Education Teachers

What effects have you observed in other PE teachers in the district as a result of implementing Physically Active for Life?

Effects in Others	**Strong**	**Moderate**	**Neutral**	**Moderate**	**Strong**
	Positive		**Neutral**		**Negative**

Instructional Practice **5 4 3 2 1**
Describe how this is demonstrated in their teaching:

Professional Empowerment **5 4 3 2 1**
Describe how this is demonstrated in their teaching:

Motivation and attitude toward teaching **5 4 3 2 1**
Describe how this is demonstrated in their teaching:

Enhanced Professionalism **5 4 3 2 1**
Describe how this is demonstrated in their teaching:

Communication with other **5 4 3 2 1**
district physical educators
Describe how this is demonstrated:

Clarified PE program
goals for student learning **5 4 3 2 1**
Describe how this is demonstrated:

Daily expectations for student learning **5 4 3 2 1**
Describe how this is demonstrated in their teaching:

Communication of student learning
and PE program goals to parents **5 4 3 2 1**
Describe how this is demonstrated:

Communication of student learning and
PE program goals with other **5 4 3 2 1**
teachers outside of PE
Describe how this is demonstrated:

Increased student participation **5 4 3 2 1**
Describe how this is demonstrated in their teaching:

Professional involvement outside
of Sommersville County **5 4 3 2 1**
Describe how this is demonstrated:

OTHER: **5 4 3 2 1**
Please specify:

What new understandings or insights do you have as a result of implementing Physically Active for Life this year? Please describe the changes that have happened in the following areas: a) your philosophy of education; b) your teaching skills (include your strengths / weaknesses); c) your beliefs on student learning in physical education; d) your beliefs about student assessment; and e) other?

Part III: Identifying Future Needs

What help, if any, do you need **now** in order to make or continue the changes in *planning / instruction / assessment / other?*
Please be very specific as to what exactly you feel is needed to help you next year to further implement <u>Physically Active for Life</u>

Do you feel your site program is ready to be recognized and serve as a demonstration site for effective instructional practice and quality content in physical education?

If so, please describe specifically the content and instructional practices you are using and why your program should be considered to serve as a demonstration site for quality physical education.

If not, please describe what content areas and/or instructional practices you will need to improve in order to be considered to serve as a demonstration site for quality physical education?

Appendix C: Handout on Content Discussion

Two Day a Week Program
Content Outline
Primary

Topic of Lesson/Activity	Approximate Percentage of School Year	Number of days
Establishing a Learning Environment	4	3
Space Awareness	9	6
Effort	5	4
Relationships	5	4
Traveling	7	5
Chasing/Fleeing/Dodging	4	3
Jumping and Landing	5	4
Rolling	7	5
Balancing	5	4
Transferring Weight	5	4
Kicking & Punting	7	5
Throwing & Catching	7	5
Volleying	3	2
Dribbling	3	2
Striking with Racket	4	3
Striking with Hockey Sticks	2	1
Striking with Golf Clubs	2	1
Striking with Bats	3	2
Fitness Concepts	8	6
Field Day & Other Events	5	3

Graham, G., Holt/Hale, S., & Parker, M. (1993). *Children moving: A teacher's guide to developing a successful physical education* program (2nd ed.). Mountain View, CA: Mayfield.

Kindergarten
Movement Principles and Skill Development
Body Awareness - Identification of Body Parts

Benchmark K.1
Identify selected body parts.

Enabling Objectives:
The student will:

1. Identify the following body parts:

ankles	knees
arms	legs
elbows	neck
feet	shoulders
head	stomach
heels	wrist

Activities for Lesson Development:

A. Students will play a game of "Follow the Leader" in which the teacher will demonstrate a locomotor movement and describe the corresponding body part. The teacher then observes students to determine if they can repeat the action as demonstrated and name the body parts involved correctly.

B. Students are asked to balance on specific body parts or a specified number of bases of support.

C. Carpet squares or hoops are scattered throughout general space. Students travel through general space, on signal children put specified body part on their carpet square or in their hoop.

Assessment Ideas:

Kindergarten
Movement Principles and Skill Development
Space Awareness, Relationships, and Effort Qualities

Benchmark K.2
Distinguish contrasts between concepts of space, relationships, and effort.

Enabling Objectives:

The Student will:

1. Identify general and personal space.

2. Demonstrate and distinguish while traveling the concepts of:

Space	*Levels*	*Pathways*	*Directions*
Personal	Low	Straight	Up/Down
General	Medium	Curved	Forward / Backward
	High	Zig Zag	Right / Left
			Clockwise / Counter-clockwise

3. Identify and distinguish the effort concepts of:

Force	*Time*
strong / light	fast / slow

4. Travel, demonstrating a variety of relationships with objects people, and self:

Objects and/or People	*With People*	*Body Parts*
On / off	Groups	Round
Near / far	Partners	Narrow
In front / behind	Alone	Wide
Leading / following		Twisted

Activities for Lesson Development:

A. While in self space students put a ball in front of them, behind them, above them, or under them.

B. Students are provided props such as parachutes, rhythm sticks, scarves, and streamers. Students use the props as they work in groups on sequences focusing on speed, force, or flow.

Assessment Ideas:

Appendix E: Benchmark Checklist

Physical Education Curriculum
Sommersville County Schools
Kindergarten Benchmarks
Name _____ Classroom

Date Completed / Comments	**Benchmark**
	K.1 Identify selected body parts. *(list those that are incorrect)*
	K. 2 Distinguish contrasts between concepts of space, relationships, and effort.
	K. 3 Move safely and efficiently using personal and general space.
	K. 4 Recognize basic emotions.
	K. 5 Perform rocking and rolling movements in different directions.
	K. 6 Hold a balanced position using different body parts.
	K. 7 Transfers weight from feet to hands to feet.
	K.8 Explore a variety of locomotor and non-locomotor skills.
	K.9 Participate in simple rhythmical activities.

Physical Education

In Physical Education (P.E.) at Coventry Elementary, we work on a wide variety of activities with our K-2 students.
With our K-2 students, we work on basic gross motor skills such as running, skipping, galloping, hopping, etc. We discuss things like general space and personal space, along with non-locomotor skills such as balance. We work with our students on skills like throwing, catching and kicking, using items like playground balls, hoops, beanbags and sponge balls. We also discuss sharing, taking turns, and following 1, 2, and 3-step directions.

We also will be doing some basic tumbling skills, beginning with simple logrolls and forward rolls in the K-2 classes.
With all of our students we discuss the importance of exercise. We talk about how exercise affects our bodies, including cardio-vascular for heart and lungs, stretching for flexibility, and strength training for muscular endurance.
Most of all, we want P.E. at Conventry to be fun, to encourage our students to be as active as possible while at School, and hopefully with their families at home as well. We want them to be “Physically Active for Life”!

Physical Education at Garfield

Current research indicates that physical activity enhances academic achievement - children learn best through movement.

Physical education in the Sommervilles County Public Schools is an organized effort to teach students to "learn to move" and "move to learn". It is developmentally appropriate, student centered, inclusive, and focuses on presenting a variety of movement options for learning. The new physical education stresses cooperation, integration of other subject areas, and motivation to succeed.

The Top Ten reasons to never miss Physical Education:

1. **Reduces the risk of heart disease, diabetes, high cholesterol, high blood pressure, colon cancer, and depression.**
2. **Improves personal fitness.**
3. **Strengthens peer relationships through team building.**
4. **Reduces Stress.**
5. **Helps control weight.**
6. **Improves physical skills.**

7. **Prepares students for a lifetime of movement experiences.**
8. **Supports other subject areas.**
9. **IT'S FUN!**

CURRICULUM VITA

Sarah Ann Westfall

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EDUCATIONAL EXPERIENCE

Virginia Tech (August, 1994 – September, 2007)

Major:	Curriculum and Instruction
Cognate:	Public Administration and Urban Studies
Advisors:	Richard Stratton and Susan Magliaro
Dissertation:	The effect of professional development on physical education teachers' use of assessment in the classroom.
Degree:	Doctor of Philosophy

California State University, Fresno. (August, 1983 – May, 1985)

Major:	Physical Education and Exercise Science
Cognate:	Elementary Education
Advisors:	Tim Anderson
Degree	Masters of Arts
Non-Thesis Option	
Credentials:	California Multiple Subject, Clear
	California Single Subject: Home Economics, Sports and Games, Biology and Life Science, Clear
	California Adult Education, Clear

California State University, Chico. (August, 1978 – May, 1982)

Majors:	Nutrition and Food Science, Bachelor of Science
	Physical Education and Exercise Science, Bachelor of Arts

ACADEMIC POSITIONS

2000-2001 **Instructor**, California State University, San Jose. Department of Human Performance.
Responsibilities*:* undergraduate courses in foundations of physical education, practicum in physical education, technology and the classroom teacher, motor development, stress and cultural influences, classroom assessment practice, elementary curriculum in physical education. Supervisor of student teachers and undergraduate advisor in the teacher education program in physical education. Served on technology acquisition committee, undergraduate program committee, teacher education, and NCATE preparation committee.

1999-2000 **Instructor**, Radford University. Department of Health, Physical Education, and Recreation.
Responsibilities: undergraduate courses in elementary methods in physical education, secondary methods in physical education, measurement and assessment in physical education, theory and practice of team sports and activities. Supervisor of student teachers and undergraduate advisor in the teacher education program in physical education.

1998-1999 **Instructor**, Virginia Polytechnic Institute & State University. Department of Teaching and Learning. Health and Physical Education Program.
Responsibilities: undergraduate courses in elementary methods in physical education, secondary methods in physical education, educational gymnastics, and inclusion in the general education classroom. Supervision of student teachers.

1994-1998 **Graduate Teaching Assistant**, Virginia Polytechnic Institute & State University. Department of Teaching and Learning. Health and Physical Education Teacher Education Program and Basic Instruction Program.
Responsibilities: undergraduate courses in the basic instruction program (physical activity courses).

1986-1993 **Part-time Instructional Staff**, California State University, Fresno. Department of Kinesiology. Basic Instruction Program.
Responsibilities: undergraduate courses in the basic instruction program (physical activity courses).

RECOGNITION OF ACHIEVEMENT IN TEACHING

1995-1996 The Fitness and Wellness Instructional Services Graduate Teaching Award
1994-1995 The Fitness and Wellness Instructional Services Graduate Teaching Award

SUPERVISION OF STUDENT TEACHERS

2000-2001 CSU, San Jose, Department of Human Performance
1999-2000 Radford University Department of Health, Physical Education, and Recreation
1997-1999 Virginia Polytechnic and State University, Department of Teaching and Learning

SUPERVISION OF STUDENT RESEARCH

2000-2001 CSU, San Jose Department of Human Performance, Masters Thesis Committee Member.

ADVISING

Undergraduate:
2000-2001 CSU, San Jose, Department of Human Performance, Teacher Education Program
1999-2000 Radford University Department of Health, Physical Education, and Recreation, Teacher Education Program

PUBLIC SCHOOL EXPERIENCE

August 2001 - present

Elementary Physical Education Teacher, Menlo Park City Schools, Menlo Park, CA
Responsibilities: taught all students in grades K – 5 physical education in a general education setting. Inclusion model that focuses on TEACH method for Autistic and spectrum type disorders. Served on curriculum development committee, differential instruction team, district wellness committee, and past teacher representative to grievance procedures.

August 1993 - June, 1994

High School Health and Physical Education Teacher, Fresno Unified School District, Fresno, CA
Responsibilities: taught grades 9 -11 physical education in the general education setting. Taught senior health education and family life course. Additional responsibilities including coaching varsity girls swim team, freshman volleyball team. Served on restructuring steering committee and FUSD implementation planning committee for the California State Framework.

September 1985 - June, 1993

Elementary Classroom Teacher and Elementary Physical Education Teacher, Pine Ridge School District, Auberry, CA
Responsibilities: taught grades 2, K, and helped to develop and implement an un-graded primary classroom grades K through 2. Taught physical education, health, family life and AIDS education to all grades (K-8). Initiated the family life and AIDS education program. Served as mentor teacher (1991-1992) and developed and implemented a skills-theme approach in teaching physical education. Supervised instructional aides in Chapter 1 reading and math. Committee work includes student study team, search committee for teacher hires, and teacher representative to contract negotiation.

September, 1983 – June 1985

Substitute Teacher, Fresno and Clovis Unified School Districts, Fresno, CA
Responsibilities: taught all academic subject areas to grades K – 12.

September, 1982 – June 1983

Substitute Teacher, Merced City and County School Districts, Merced, CA
Responsibilities: taught all academic subject areas to grades K – 12.

PROFESSIONAL ORGANIZATIONS

American Educational Research Association
Association for Supervision and Curriculum Development
California Association for Supervision and Curriculum Development
American Alliance for Health, Physical Education, Recreation and Dance
California Association of Health, Physical Education, Recreation and Dance
National Association of Sport and Physical Education

AWARDED GRANTS

Westfall, S. (2005). *Wellness Wednesdays*. Jeanne Richie Grant for Innovation in Teaching Menlo Park Atherton Education Foundation Grant. Developed program to deliver health and wellness information to the K-5 school population utilizing close circuit TV project on site. $2500.

Westfall, S (2004*). You otter be a yogi.* Jeanne Richie Grant for Innovation in Teaching Menlo Park Atherton Education Foundation Grant. Developed and implemented a teacher training program to provide pedagogy and teaching strategies for classroom teachers to teach yoga in a K-5 school setting. $2500.

Westfall, S. (2004*). El Camino real: Every step counts.* Jeanne Richie Grant for Innovation in Teaching Menlo Park Atherton Education Foundation Grant. Continuation and extension of a interdisciplinary pedometer program for fourth grade students to increase physical activity related to the California Mission Trail, El Camino Real. $1000.

Westfall, S. (2003*). El Camino real: Every step counts.* Jeanne Richie Grant for Innovation in Teaching Menlo Park Atherton Education Foundation Grant. Developed and implemented an interdisciplinary pedometer program for fourth grade students to increase physical activity related to the California Mission Trail, El Camino Real. $2500.

Westfall, S. (2001). *Department of human performance marketing grant.* Submitted to the San Jose State Faculty Grants, Spring Funding. Used to purchase marketing materials for Department. $1500.

Westfall, S. (1991). *Choose well, be well grant.* California Department of Education Wellness Education Grant. $4500.

Westfall, S. (1990). *Computers in schools grant*. California Department of Education, Technology Grants. $15000.

SCHOLARLY ACTIVITIES

Publications

Refereed Publications

Graham, G., Wilkins, J. L. M., Westfall, S., Parker, S., Fraser, R., & Tembo, M. (2003). The effects of high-stakes testing on elementary school art, music, and physical education. *Journal of Physical Education, Recreation & Dance, 73* (8) 51-54.

Wilkins, J. L. M., Graham, G., Parker, S., Westfall, S., Fraser, R.G., & Tembo, M. (2003). Time in the arts and physical education and school achievement. *Journal of Curriculum Studies, 35* (6) 721-734.

Darden, G., Moore, A., Scott, K., & Westfall, S. (2001). The student teaching experience. *Journal of Physical Education, Recreation, and Dance, 72*, (4) 50-55.

Abstracts (Refereed)

Brown, K., Westfall, S., Krouscas, J., Manross, M., Graham, G., Poole, J., Pennington, T., & Person, L. (1999). Survey of workplace conditions for K-12 physical education teachers. *Research Quarterly for Exercise and Sport (Supplement) 70,* (1) A – 75.

Book Reviews

Graham, G., Bell, K., Doering, N., Elliott, E., Krouscas, J., Manross, M., McCollum, S., Oliver, K., Pennington, T., Person, L., Poole, J., & Westfall, S. (1997). [Review of the book Student learning in physical education: Applying research to enhance instruction]. *Journal of Teaching in Physical Education, 17* (1), 130-134.

Non-Refereed

Westfall, S. (1998). Setting your sights on assessment: Describing student performance in physical education. *Teaching Elementary Physical Education. 9,* (6) 5-9.

Westfall, S. (1995). Are you ready for change? *Teaching Secondary Physical Education*. Reprinted in *Teaching Elementary Physical Education,* and the *Washington Alliance for Health, Physical Education, Recreation, and Dance*.

Westfall, S. (1995). Portfolios in physical education. *Teaching Elementary Physical Education. 6,* (2) 4-10.

Convention Papers and Presentations

National Presentations

Westfall, S. (1999). *Trekking the Cyber trail: Using Internet web-sites in planning your lessons.* A hands-on presentation at the annual American Association of Health Physical Education, Recreation, and Dance (AAHPERD), National Convention, Boston, Massachusetts, April.

Westfall, S. (1999). *Word tricks.* A hands-on presentation at the annual American Association of Health Physical Education, Recreation, and Dance (AAHPERD), National Convention, Boston, Massachusetts, April.

Brown, K., Westfall, S., Krouscas, J., Manross, M., Graham, G., Poole, J., Pennington, T., & Person, L. (1999). *Survey of workplace conditions for K-12 physical education teachers.* Poster presentation at the annual American Association of Health Physical Education, Recreation, and Dance (AAHPERD), National Convention, Boston, Massachusetts. April.

Graham, G., Elliott, E., Fowler, J., Manross, M., Pennington, T., Poole, J., Stratton, R., & Westfall, S. (1997). *Technology is great: But how do we know it works?* Presentation at the National Conference on Technology in Physical Education and Sport. Muncie, IA, July.

Westfall, S., & Pennington, T. (1997). *USPE-L: Breaking the barriers of isolation.* Presentation at the National Conference on Technology in Physical Education and Sport. Muncie, IA, July.

Regional and State Presentations

Westfall, S. (2000). *Standards-based assessment in physical education.* Presentation at the annual Fall California Association of Health Physical Education, Recreation, and Dance (CAHPERD). Sacramento, CA, October.

Westfall, S. (1999). *Physical activity: Ideas and practices to increase physical activity in children.* A week-long presentation at the annual California Elementary Physical Education Workshop. San Luis Obispo, CA, August.

Westfall, S. (1999). *Planning and using technology in physical education: Management and instruction.* Week-long presentation at the annual California Elementary Physical Education Workshop. San Luis Obispo, CA, August.

Westfall, S. (1999). *Technology and YOU!* A day-long hands-on technology presentation given in conjunction with Wichita AHPERD conference and Wichita State University. Wichita, KS, March.

Westfall, S., Clipp, C., & McDaniels, L. (1997). *From standards to implementation.* Presentation at the annual meeting of the Virginia Association of Supervision and Curriculum Development. Williamsburg, VA, December.

Westfall, S. (1997). *Creating rubrics to assess performance in physical education.* Presentation at the annual Virginia Alliance of Health, Physical Education, Recreation, and Dance conference. Richmond, VA, October.

Westfall, S. (1997) *Classroom e-mail applications*. Presentation at the Fall California Association of Health Physical Education, Recreation, and Dance (CAHPERD). Sacramento, CA, October.

Westfall, S., & Palmer, S. (1997). *Video-tape analysis of skills in physical education.* Presentation at the Fall California Association of Health Physical Education, Recreation, and Dance (CAHPERD). Sacramento, CA, October.

Westfall, S. (1997). *E-mail & physical education teachers*. A single session presentation at the annual California Elementary Physical Education Workshop. San Luis Obispo, CA, August.

Westfall, S. (1997). *Implementing the California framework.* A week-long presentation at the annual California Elementary Physical Education Workshop. San Luis Obispo, CA, August.

Mustain, W., & Westfall, S. (1997). *"Appropriate" assessment practices in physical education.* Single session presentation at the annual California Elementary Physical Education Workshop. San Luis Obispo, CA, August.

Westfall, S. (1996). *Round table discussion: National standards in physical education.* Presentation at the annual Virginia Alliance of Health, Physical Education, Recreation, and Dance conference. Roanoke, VA, October.

Westfall, S. (1996). *Internet and e-mail for physical education teachers.* A week-long presentation at the annual California Elementary Physical Education Workshop. San Luis Obispo, CA, August.

Westfall, S. (1996). *Volleyball skills.* A single session presentation at the annual California Elementary Physical Education Workshop. San Luis Obispo, CA, August.

Westfall, S. (1996). *Appropriate practices: What does this look like?* A week-long presentation at the annual California Elementary Physical Education Workshop. San Luis Obispo, CA, August.

Westfall, S. (1996). *Social skills: Identification and assessment strategies for students.* A single session presentation at the annual California Elementary Physical Education Workshop. San Luis Obispo, CA, August.

Bell, K., & Westfall, S. (1996). *Incorporating the eight sub-disciplines in physical education.* Presentation at the first annual California Middle School Physical Education Workshop. Sacramento, CA, July.

Westfall, S. (1996). *Developing and assessing social skills in physical education.* Presentation at the ninth annual Sharing the Wealth Physical Education Conference. Jekyll Island, GA, January.

Graham, G., Doering, N., Manross, M., McCollum, S., Westfall, S., & Whitlock, S. (1996). *What kids can learn about motor skills in 72 days (or less).* Presentation at the ninth annual Sharing the Wealth Physical Education Conference. Jekyll Island, GA, January.

Graham, G., Bell, K., Doering, N., McCollum, S., & Westfall, S. (1995) *Assessing student understanding.* Presentation at the eighth annual Sharing the Wealth Physical Education Conference. Jekyll Island, GA, January.

Richmond-Klein, C., & Westfall, S. (1995). *Social skills: What do they look, sound, and feel like?* Presentation at the annual spring meeting of the California Association of Health Physical Education, Recreation, and Dance (CAHPERD). Sacramento, CA, March.