A MULTIPLE CASE STUDY: THE NATURE OF REFLECTION IN EXCEPTIONAL PHYSICAL EDUCATION TEACHERS

by

JINHONG JUNG

(Under the Direction of Paul G. Schempp)

ABSTRACT

The purpose of this study was to explore the nature of reflection as it was revealed in the activities and thinking processes of three exceptional elementary school PE teachers in terms of both “reflection-in-action” and “reflection-on-action.” Particularly, this study placed the focus on classroom incidents that the participants perceived as critical.

This study was a case study grounded in a social constructivist framework. The participants were selected by two criteria: (a) she/he is recognized as an exceptional teacher by students, peers, and administrators in physical education and (b) she/he has at least 10 years’ teaching experiences as a teacher. The data sources included interviews, observation, and archives such as lesson plans, written reflections, and field notes. All the data were analyzed through the constant comparative method using computer software for qualitative data analysis (i.e., Atlas.ti).

Through the data analysis, three main themes emerged: content of reflection, role of reflection, and factors promoting reflection. The major content of the teachers’ reflection included (a) students, (b) instruction, (c) context, and (d) critical incidents. Regardless of the
content of reflection, the teachers’ reflection was oriented toward students’ learning, since they perceived that their primary role as a teacher was to facilitate students’ learning.

The narratives of the revealed four major roles played by reflection: (a) making sense of unforeseen events, (b) developing knowledge-in-action, (c) making on-the-spot decisions, and (d) reconstructing teachers’ belief systems. Particularly, reflection-in-action enabled the teachers to make on-the-spot decisions in the act of teaching. The exceptional teachers’ immediacy, flexibility, and problem-solving skills were grounded in their reflection-in-action. Concerns associated with students’ learning and safety greatly motivated the teachers’ reflection-in-action. In addition, five factors that facilitated reflection were identified: (a) students’ learning, (b) performance as a teacher, (c) subject matter, (d) professional development work, and (e) educational context.

Based on the findings, this study discussed several subjects such as the importance of reflection-in-action, importance of self-monitoring, significance of time and opportunity of reflection, relationship between knowledge and reflection, and effect of educational context on reflection.

INDEX WORDS: Reflective teaching, Reflection-in-action, Reflection-on-action, Content of reflection, Role of reflection, Factors promoting reflection, Exceptional PE teachers, Critical incidents, National Board Certification
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DEDICATION

To my wife, Soonhye Park, for your support, love, and trust

and

to my son, Jiung Jung, for your endearing smile and your presence itself
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Figure 1: A conceptual map from literature review

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CHAPTER 1

INTRODUCTION

There are multiple ways to understand teacher actions (Feldman, 1997): (a) the teacher knowledge perspective (e.g., Shulman 1986, 1987) the much of which has been derived from work done by Shulman and colleagues on the knowledge base for teaching, (b) individual cognitive models which view teaching as a process of decision making through reasoning processes (e.g., Fenstermacher, 1986; Sanders & McCutcheon, 1986; Ross, Cornett, & McCutcheon, 1992), or through reflection-in or -on action (e.g., Schon, 1983, 1987), and (c) the sociocultural perspective which views teaching as social behavior being acted upon and acting on their social context (e.g., Clandinin & Connelly, 1992). There is no clear-cut separation among these perspectives but they are interrelated. Among those perspectives, this study employed the individual cognitive model drawn from Schon (1983) to examine the teaching of three exceptional physical education teachers.

Darling-Hammond (1998) asserted that “teachers learn best by studying, doing, and reflecting; by collaborating with other teachers; by looking closely at students and their work; and by sharing what they see.” (p. 7). In particular, Schon (1983, 1987) suggested that teachers should be reflective practitioners who contemplate and negotiate the complexities of teaching and learning in order to enhance their decision-making power and autonomy in classrooms. Reflective teaching is not viewed as synonymous with any particular changes in teacher behaviors (Wunder, 2003). Rather, it seeks to help teachers become more aware of themselves and their environments in a way that changes their perceptions of what is possible (Wunder,
2003). In this regard, reflective teaching emphasizes the importance of teacher inquiry and counteracts a more limited interest in teachers’ behavior without considering what is going on in their minds and hearts (Valli, 1997).

The term, reflective teaching, has been frequently used by educators these days. The process or method of reflection as integral to teaching has been the subject of much theoretical and empirical research literature (Rossi, 1996). A fast-growing literature on reflective teaching has suggested the importance of reflection both in the initial process of learning to teach and in professional growth (e.g., Bednar, 1991; Calderhead, 1989; Gipe & Richards, 1992; Korthagen, 1985; Rovegno, 1992; Russell, 1993; Strahan, 1990; Tsangaridou, N., 2005).

One reason why teachers’ reflection has become popular in recent years is that the field of psychology has become more interested in explaining the ways in which thinking affects behavior. Cognitive psychologists have become increasingly interested in the complex relationship between thought and action. This complexity is evident in the work of Donald Schon (1983, 1987), which suggested a new way of conceptualizing the relationship between theory and practice. Schon (1983) criticized “technical rationality” (p. 182), the traditional Western separation of theory and practice.

In The Reflective Practitioner (1983) and Educating the Reflective Practitioner (1987), for example, Schon described teaching as an activity filled with uncertainty. He claimed that, like many occupations, teaching is so complicated that teachers cannot merely apply what they have learned in an unvarying manner. In this vein, Schon (1983) argued that the concept of technical rationality fails to acknowledge that thought does not merely guide action; it also arises out of action.
Schon’s work (1983), then, prompted new forms of investigation into teacher thinking, which can help us identify ways in which excellent teachers reflect on their teaching actions. He argued that teachers reflect “in” and “on” action. According to him, teachers make adaptations to their own unique situation. They respond to the unpredictable situations that arise everyday in classrooms, for which there are no obviously correct answers. The desire to understand this complexity has stimulated researchers to study how teachers think about critical teaching incidents (Valli, 1997).

The importance of reflection is associated with the fact that teaching is a complex activity that occurs in a complex environment. According to Richardson (1999), “we have shifted our concept of teaching from one that suggests teaching as exhibiting a set of behaviors toward one that views teaching as requiring complex thought and decision making within situations of uncertainty and diverse contexts” (p. 151). Each day teachers face a number of complex and context-specific problems about which there are no easy answers. No singular “right” course of action is available, although teachers can envision certain courses as better than others. In facing these problems, they must take action. Underlying these actions is a personal guiding theory (McCutcheon, 1985, p. 48). In this regard, it has been advocated that teacher educators prepare teachers to cope with their unique teaching situations. However, teacher education programs cannot prepare teachers for every situation they may encounter, nor can the programs provide teachers with all of the knowledge and strategies they will need for an entire career. Instead, teacher educators can educate pre- and in-service teachers to become effective decision makers who are able to appropriately translate content or pedagogical knowledge into practice (Berliner, 1985; Zeichner, 1986).
There are many teachers who have a great deal of content knowledge, but are not recognized as expert teachers, and who may still struggle with teaching. We cannot take for granted that teachers will become reflective practitioners with experience. There are also too many experienced teachers who have not become experts at their craft, who do not carefully think about their work or try to constantly improve. So it is necessary to look beyond content, experience, and competence to improve the teachers’ professional development. Teaching is regarded as a practical, disciplined art. Good teaching depends upon insight, and insight comes from reflection (Mackinnon, 1987). Dewey (1904/1965), as far back as 1904, emphasized that teacher educators should prepare teachers who are able to think and reflect on their actions and practice.

Research has provided a scientific basis for teaching. There are a variety of psychological, social, and educational theories that hold implications for teaching and learning in the classroom (Kelsay, 1989). There is research on effective teaching practices that identifies and describes teaching skills and behaviors that correlate positively with student achievement. There also exists a body of craft knowledge or wisdom of the profession that consists of distillations of experience passed on from teacher to teacher (Smith, 1980). As Sergiovanni (1987) observed, “the issue is not whether scientific or craft knowledge should be used but how they are used by professionals in practice” (p. xv).

Routine application, without reflection, of effective teaching skills identified in research may result in competent teaching, but arid instruction, and in a demonstration of the craft of teaching, but little artistry (Ducharme & Kluender, 1986). Berliner (1987) claimed that teachers become experts in teaching through critique of routine application. Drawing on the work of Dewey (1933) about the distinction between reflective action and routine action, Zeichner and
Liston (1987) stated that reflective action “entails the active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that supports it and the consequences to which it leads” (p. 24). In contrast, routine action is governed by external authority and hierarchy, tradition and circumstance.

In accordance with this, Dewey (1933) emphasized that the utilization of reflection in teaching emancipates us from merely impulsive and routine activity. He further argued that reflection enables us to direct our actions with foresight and to plan according to ends in view of purposes of which we are aware. In other words, reflection makes us know “what we are about when we act” (Dewey, 1933, p.17). Schempp (1989) also argued the importance of reflection in education, stating:

Reflection allows teachers to separate useful perspectives and practices from those are dysfunctional and debilitating. Reflection permits teachers to consciously chart their future professional activities and reject the reflexive practices imposed by an unconscious past. (p. 58)

Reflection has appeared to play a critical role in developing professional knowledge, which is essential to expert teaching (Sergiovanni, 1987). Reflection can make insights possible, experiences comprehensible, problem solving practical (Holly, 1989). Thus, through reflection in which teachers interact with the complexity of variables related to teaching and learning in active, thoughtful, reflective practice, they are able to develop their professional knowledge. When a teacher faces a complex, ill-defined, and context-specific problem, he or she has to decide a course of action, engaging in reflective practice. As thought and action work together in this reflective practice, a teacher creates professional knowledge (Sergiovanni, 1987).
Analyses of practical problems and of teaching itself reveal that teachers, like many other professionals, must manage complexity and solve practical problems on a daily basis. As Schon (1987) noted, “the problems of real-world practice do not present themselves to practitioners as well-formed structures. Indeed, they tend to present themselves as problems at all but as messy, intermediate situations” (p. 4). Frequently, that situation is a conflict of values, which a teacher cannot resolve solely by applying theories or techniques. Although research-based knowledge may help teachers identify the best method for reaching a specified goal, it does not help them prioritize goals. Teachers have to resolve the context-bound problems of practice by mentally experimenting and manipulating contextual factors, by generating alternative hypotheses about the problem, and by mentally testing these hypotheses in order to come up with a discovery that leads to action.

This way of thinking about practice is what Schon (1987) called “knowledge-in-action” and requires a teacher to reflect “in action” and “on action” to construct knowledge-in-action. Reflection in teaching encompasses the thinking a teacher does about teaching, as well as the thinking done while teaching. In discussing how practitioners of various professions utilize reflection, Schon (1983) termed thinking done about one’s profession as “reflection-on-action” and thinking done about the situation at hand as “reflection-in-action.” Though Schon talked about these as separately distinguishable processes, he presented the processes as being interrelated. This would imply that the thinking a teacher does about teaching may have some relation to the thinking a teacher does while teaching and the reverse may also be true.

While the necessity of developing reflective practitioners has been highlighted throughout the teacher education literature (e.g., Carr & Kemmis, 1986; Gore, 1987; Hatton & Smith, 1995; Schon, 1987; Zeichner, 1987), there is a relative dearth of research studies on
reflection in the physical education field. Since the early 90s, however, there have been a few studies that examine the reflection of physical education teachers (e.g., Gore, 1990; Kirk, 1995; Sebren, 1992; Rovegno, 1992; Tsangaridou & O’Sullivan, 1994).

Historically, in the physical education area, there has been much work done that challenges the conventions of performance pedagogy (e.g., Gore, 1990: Kirk, 1986; Kirk & Tinning, 1990; Macdonald, 1992; Petit, 1992; Schempp, 1989; Tinning, 1987). Some have taken their work into the feminist field (e.g., Humberstone, 1990; Scraton, 1990; Wright, 1990), some into the socialization field (e.g., Lawson, 1986; Templin & Schempp, 1989), and some are more overtly political (e.g., Evans, 1988). These efforts, which represent a small portion of the work going on, have revealed the importance of reflection or reflective teaching as being fundamental to alternative forms of educational practice. In addition, the voices in favor of reflective teaching in physical education have multiplied (e.g., Bain, 1988, 1990; Crum, 1993; Hellison, 1988; Hellison & Templin, 1991; Kirk, 1986; Lawson, 1990; Mckay, Gore & Kirk, 1990; Schempp, 1989; Sebren, 1992; Rovegno, 1992, Tinning, 1990, 1991; Tsangaridou & O’Sullivan’s, 1997).

Rationale of the Study

This study is significant because it contributes to answering some of the problems regarding teacher professionalism and the dissatisfaction with the quality of schools. Professionalism, in this context, means workers with specialized body of knowledge who govern themselves by setting their own professional standards (Valli, 1997). In many ways, teachers have not been treated as professionals. They have not set their own standards, they have not been well paid, they have lacked social status, their voices have not been listened to, and their craft knowledge has not been valued. Perhaps one reason why teachers have not been regarded as
professionals is that their preparation has focused only on narrow instructional behaviors rather than on how to think carefully and reflectively about what they are doing.

There is also dissatisfaction with the quality of schools and the belief that schools will only improve if the quality of teaching improves. This means we need an emphasis on teachers learning how to teach. It is not enough for teacher education programs to help teachers develop instructional skills. They must also help teachers develop ways of thinking about their classrooms, ways of carefully looking back on their actions, and ways of reflecting on their own knowledge and preparation. Teachers must learn how to recognize weaknesses in their teaching so their students will be more able and better motivated to learn (Valli, 1997).

Fostering teacher thinking promotes teaching as a profession. Teachers are not, and should not be, unthinking conformists. Rather, they are decision makers and problem solvers who work in an extraordinarily complex environment with multiple and simultaneous demands on their time and attention (Schon, 1987). They are the custodians of our children and our cultural heritage. Teaching is so complex that teachers need to have the skills and dispositions to skillfully handle unpredictable situations. They must know how to help all their students overcome obstacles to learning.

Overall, this study is meaningful since it concerns the nature of reflection in and on action, developing an initial theoretical framework to describe the scope, role, and potential of reflection for the teacher. A case study of experienced physical education teachers who are recognized as exceptional teachers by students, peers, administration and community provides a potential vehicle for other teachers to question, discover, integrate and apply ideas to their teaching practice. This case study will help to inform educators about teaching in the context of an actual classroom because it is designed to provide a more holistic view of the classroom,
describing a teacher in an actual classroom. Therefore, the understanding from this study might lead us to identify the nature of reflection from a real world perspective.

**Purpose of the Study**

It is commonly accepted that nurturing thoughtful, insightful teachers should be next on the teacher education agenda. Truly professional teachers are thoughtful and reflective (Cruickshank, 1987). However, little attention has been given to developing teachers’ reflective capacity. Moreover, although reflective teaching has been defined and examined in several ways, the scope, role, and potential of reflection have not yet been fully explored (Calderhead, 1989; Hatton & Smith, 1995). In particular, not enough research has been conducted to examine the nature of reflection of experienced physical education teachers (Graber, 2001; Macdonald & Tinning, 2003; Tsangaridou, 2005). Although the concepts, reflection-in-action and reflection-on-action, are prevalent in teacher education, how these concepts are applied to teaching is seldom understood. With this in mind, this study aimed to explore the nature of reflection as it was revealed in the activities and thinking processes of three exceptional elementary school PE teachers in terms of both reflection-in-action and reflection-on-action. Particularly, this study placed the focus on classroom incidents that the participant perceived as critical. A further purpose of this study was to provide research based implications for physical education teacher education to help teachers become reflective practitioners.

**Research Question**

The research question that guided this study was:

What is the nature of reflection-in and on-action of experienced physical education teachers as expressed through critical incidents that occur in classes?
CHAPTER 2
LITERATURE REVIEW

The purpose of this study was to explore the nature of reflection of exceptional PE teachers from the teacher’s perspective. To address the research purpose, it was necessary to provide theoretical background into areas such as reflective teaching, the context of schooling, and professional development. I also presented a concept map as a summary from my literature review.

Reflective Teaching

The Meaning of Reflection and Reflective Teacher

What is reflection? Its derivation is the Latin reflectere, meaning “to bend back.” It has applications in grammar, physics, and psychology. Grammatically, a pronoun is reflexive if it is used as an object to refer to the subject of a verb, as in “I planed myself for the project.” In physics, reflection is the return of light, heat, or sound after striking a surface. In psychological terms, reflection refers to a mental image or representation. The original Latin meaning of “bending back” is apparent in each of these cases.

After reviewing literatures, I found several definitions regarding reflection. Dewey (1933) defined reflection by distinguishing two types of teaching action as “routine action is guided by impulse, tradition, and authority, whereas reflective action aims at “active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds that support it and the further conclusions to which it tends”(p. 9). Van Manen (1977) suggested that reflection can take three different forms. The first level of reflectivity focuses on technical
means to reach a given end/goal. The second level of reflectivity is the process of analyzing meanings, assumptions, and perceptions underlying practical actions. The third and highest level of reflection incorporates critical questions related to moral, ethical, and political aspects of teaching and schooling.

Schon (1983) introduced the concepts of reflection-in-action and reflection-on-action. Reflection-in-action refers to the process of interpreting, analyzing, and providing solutions to complex and situational problems during an action, “the period of time in which we remain in the same situation” (p. 278). Reflection-on-action takes place when the practitioner has left the arena of endeavor and mentally reconstructs that arena to analyze actions and events.

With accordance this, in physical education, Hellison and Templin (1991) considered reflective teaching as thinking about your teaching and especially to ask yourself two questions: “What’s worth doing? Is what I’m doing working?” (p. 3). In their study, reflection referred to the act of thinking about analyzing, assessing, or altering educational meanings, intentions, beliefs, decisions, actions, or products by focusing on the process of achieving them (O’Sullivan, M., & Tsangaridou, N. 1997)

Similarly, a reflective person is someone who thinks back on what is seen and heard, who contemplates, who is a deliberative thinker. In this regard, reflection should not be confused with reflex, which connotes an involuntary action or instinctive response. Although reflection can have spontaneous and intuitive aspects, it is also a conscious and systematic mode of thought. A reflective person gives careful consideration to important matters and is open to the voices, opinions, and advice of others. By implication, reflective teaching is teaching with careful thought and judgment.
Some of the things a reflective teacher would think about or look back on, for instance, are obstacles to student motivation and learning, ways to make the curriculum interesting and engaging, and how to help students live harmoniously and help each other learn. But because Americans are very goal oriented, reflection for us also means deciding how to achieve educational goals, evaluating our progress, and determining what factors help or hinder goal attainment. So the vocabulary we use is not always directly about student learning and motivation. It is also about educational goals, purposes, processes, subject matter, curriculum, school organizations, and institutional culture. Reflective teacher education programs seek to impart these kinds of reflective dispositions and ways of thinking about these important matters (Valli, 1997).

Origins of Reflective Teaching

Most educators who write and do research about reflective teaching and teacher education acknowledge their debt to John Dewey. In *How We Think*, Dewey (1933) defined reflective thought as the “active, persistent and careful consideration of belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends” (p. 9). Dewey is contrasting reflective thinking with habits of thought that are unsystematic, lack evidence, are based on false beliefs or assumptions, or mindlessly conform to tradition and authority. For him, two terms—sequence and consequence—are at the heart of reflective thinking. Thought is reflective only if it is logically sequenced and includes a consideration of the consequences of a decision.

Reflective thought looks back on assumptions and beliefs to be sure they are grounded in logic, evidence, or both, and it looks forward to the implications or consequences of a particular course of action. It refuses to accept things at face value, probing the “evidence of senses” and
the way things seem to be (1933, p. 76). Reflective thinkers are critical of the ideas that occur to them. They weigh competing claims in their search for evidence, which will help them resolve their doubts and perplexity.

Why is reflective thought in teaching necessary? Because, in Dewey’s (1933) words,

It emancipates us from merely impulsive and merely routine activity . . . enables us to direct our activities with foresight and to plan according to ends-in-view, or purposes of which we are aware . . . to act in deliberate and intentional fashion . . . to know what we are about when we act. *It converts action that is merely appetitive, blind, and impulsive into intelligent action.* (p. 17)

For Dewey, a fundamental purpose of education is to help people acquire habits of reflection so they can engage in intelligent action. Education, he said, “consists in the formation of wide-awake, careful, thorough habits of thinking” (1933, p. 78). It is not simply the transmission of information, which is actually a burden if not understood or used. For teachers to provide this type of education they themselves must be reflective inquirers and teacher education programs must help them develop and be conscious of those habits of thought.

The reader will no doubt detect the highly rational Western bias in Dewey’s work. Although Dewey discussed the importance of reflective dispositions—wholeheartedness, responsibility, and open-mindedness—he was mostly preoccupied with the cognitive, systematic aspects of reflection. He gave much less attention to intuition and moral urgency. Still, Dewey’s language is so powerful that one wonders how teacher education could be based on anything other than reflective thinking. And yet, this has been the situation in the United States until recently. Preparation for teaching has emphasized teachers’ behaviors and skill development apart from thinking about those behaviors. Prospective teachers were told about and practiced
classroom management and instructional strategies, but they were not asked to explain why they
would act in a certain way or why they would make a particular decision.

In this “competency-based” form of teacher education, prospective teachers were taught
to apply prescribed knowledge and to imitate acceptable patterns of teaching behavior. They
were taught to perform specific, observable teaching behaviors, to become proficient in basic
teaching tasks. This technical preparation included things like following scripted lessons and
practicing teaching routines but excluded thoughtful consideration of teaching beliefs and
assumptions, student thinking, and the consequences of and alternatives to action.

This competency-based teacher education embodied many of the characteristics Dewey
(1904/1964) argued against in “The Relation of Theory to Practice in Education.” Dewey’s
problem with teacher preparation as strictly technical training was that it restricted its goals to
the acquisition of the skills, techniques, and tools necessary to accomplish a particular type of
work. For Dewey, this technical or competency form of training fixed the teacher candidate’s
attention in the wrong direction-on outward forms of teaching method rather than on their
students’ thought processes. Teacher candidates would learn how to manage classrooms, but they
would not learn how students think or how to determine if they were helping students think.
They could model teaching practices but could not explain the principles or philosophy that
informed their practice. Because these teaching candidates would learn only the “how”s but not
the “why”s of teaching, they would be limited to blind experimentation, arbitrary decisions, or
rote habit.

In contrast, reflective teacher education focuses on how successful teachers think. It
promotes a thoughtful, contextualized view of teaching with which teachers learn how to make
choices about educational goals and practices (Kennedy, 1989). Reflective teachers have the
ability to think about their teaching behaviors and the context in which they occur. They can look back on events; make judgments about them; and alter their teaching behaviors in light of craft, research, and ethical knowledge. Teachers who are unreflective—what Dewey and others might call merely skilled technicians—would be limited in their ability to make good decisions, to consider the consequences of their actions, or to alter their actions (Borko, Eisenhart, Kello, & Vandett, 1984). They would have a narrow range of behaviors, which they would continue to use because of unreflective habit rather than careful thought.

So we can think of reflective teaching in contrast to teaching based on unthinking conformity (Zeichner & Liston, 1987). Reflective teachers link theory to practice by using varied sources of information, examine their own practice and school policies in order to become better teachers, analyze problems from multiple perspectives, and use new evidence to reassess decisions. Reflective teachers can alter their teaching behavior and context to accomplish desirable goals. Unreflective teachers, on the other hand, are limited in these capacities. They have not developed the intellectual and moral capacities to make wise decisions or to consider the consequences of their actions (Valli, 1997).

Criteria for Reflection

Nearly 100 years ago, John Dewey articulated his concept of how we think in a book by the same name (How We think, 1910/1933). He identified several modes of thought, including belief, imagination, and stream of consciousness, but the mode he was most interested in was reflection. Nearly a century later the details of his concept of reflection are still not familiar. Although his work frequently cited, with many teacher education programs claiming to turn out reflective practitioners, and although many curricula claim to be inquiry based, a thorough exploration of the process and purpose of reflection as he outlined it is scant or missing.
altogether. Scholars of Dewey, who tend to be philosophers rather than practitioner, have addressed these questions, but it is not clear that practitioner (i.e., teachers and teacher educators) refer to this literature in constructing their own approaches.

From Dewey’s writing, four criteria that characterize his concept of reflection include the following (Rodgers, 2002): first, reflection is a meaning-making process that moves a learner from one experience into the next with deeper understanding of its relationships with and connections to other experiences and ideas. It is the tread that makes continuity of learning possible, and ensures the process of the individual and, ultimately, society. It is a means to essentially moral ends. Second, reflection is a systematic, rigorous, disciplined way of thinking, with its roots in scientific inquiry. Third, reflection needs to happen in community, in interaction with others. Last, reflection requires attitudes that value the personal and intellectual growth of oneself and of others.

*Elements of Reflective Thinking*

Georgea Mohiman Sparks-Langer and Amy Berstein Colton (1991) describe three important elements in teachers’ reflective thinking: cognitive, critical, and narrative. The focus of the cognitive element of teacher reflection is how the teacher processes information and make decisions. This approach is technological in that it aids teachers in using their pedagogical and subject matter knowledge in planning and decision-making.

The second element, the critical element of reflection, emphasizes motivators for the teacher’s thinking. Teacher thinking is driven by experiences, beliefs, sociopolitical values, and goals. Critical reflection encompasses the moral and ethical aspects of social compassion and justice as well as the means and ends in solving classroom problems. An example of critical
reflection is the teacher who considers the child’s background environment before reporting and enlisting parental assistance in solving a discipline problem in the classroom.

Narrative, the voices of the teachers, is the third element of reflection. The narrative may include cognitive and/or critical aspects of reflection, but it emphasizes the teacher’s understanding of the context in which the decisions are made. Teacher narratives give insights into teacher motivation and actions and an appreciation of the complexity of teaching. They have potential to heighten teacher awareness for professional reasoning and growth.

In the past, teacher reflective thinking tended to focus on the cognitive element to the exclusion of other elements. This was an overly technical and simplistic orientation toward teaching. Educators now realize that teaching is “complex, situation-specific, and dilemma-ridden” (Sparks-Langer & Colton, 1991, p.37). Thus education experts recognize the importance of studying teacher values and philosophies in the context of everyday dilemmas. They recognize the power of teacher reflection, including and emphasizing the critical and narrative elements to promote professional development.

Multiple Views of Reflection

Reflection and reflective teaching has been conceptualized in numerous ways. The theoretical foundation of reflective thinking and teaching goes back to 1933 when Dewey described reflection as “active, persistent and careful consideration of belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends” (p6). A reflective teacher, according to Dewey, is one who constantly questions his or her own aims and actions, monitors practice and outcomes, and considers the short-term and long-term effects upon each child. Judy Eby (1977) elaborated on these three adjectives in her discussion of reflection. Active indicates a voluntary act by individuals who take responsibility
for their own personal actions and search for information and solutions. Persistence carries with it a stick-with-it-ness in dealing with issues in-depth even if those issues may be controversial or uncomfortable to the individual. Careful implies a level of concern both for self and others (Pugaless, 1999).

Schon (1987) presented a different view of reflection by proposing the concept of “reflection-in-action.” Arguing against a view of professional action as a series of steps in a decision making process, he suggested that such a view undervalues the artistry of the professional- the process of reflection-in-action. According to Schon, professionals can frame and reframe a problem as they work on it, testing out their interpretations and solutions, combining both reflection and action. Reflection-in-action is a kind of reflection through which practitioners sometimes make new sense of uncertain, unique, or conflicting situations of practice. Hence, Schon views reflection-in-action as the exercise of interactive, interpretive skills in the analysis and solution of complex and ambiguous problems.

Another view of reflective teaching has draw upon the theory of critical pedagogy. The advocates of this view think of teaching as a process of constructive self-criticism (Gore, 1987; McNamara, 1990; Wildman & Niles, 1987; Zeichner & Liston, 1990). In this view, teachers examine and reflect upon underlying assumptions, norms, and rules that constrain and shape their practices. For example, drawing on the critical theory of Habermas, Van Manan (1977) argues that, within self-reflection, there can be different levels of reflectivity. Those levels of reflectivity correspond to three forms of knowledge and associated cognitive interests: (a) the empirical-analytic (professional reflection or self-reflection that focuses on teachers’ experiences drawn from actual practice), (b) the hermeneutic-phenomenological (personal or group reflection that focuses on a teacher’s general life experiences as a teacher), and (c) the critical-
theoretical (reflection on underlying assumptions, focusing on developing emancipatory strategies in an attempt to obtain a greater degree of justice and wisdom in one’s educational practice).

Reflective thinking and teaching have also been defined as metacognition or self-monitoring based on cognitive-mediational theories of learning (Flavell, 1981; Ghatala, 1986; Hielbert & Weame, 1988; Peterson, Fennema, Carpenter, & Loef, 1989). Self-monitoring refers to the personal supervision of one’s own practice. According to the cognitive-mediational view, internal dialogue plays an important role in monitoring one’s own learning and is a key cognitive process that underlies experienced teaching. This perspective describes a conception of reflection as thoughtfulness about action. Several researchers use this foundation to infer that self-dialogue and self-monitoring during problem solving are key cognitive processes that underlie experienced teaching.

As indicated above, the various concepts of reflective teaching differ in their view of the process, the content, the preconditions, and the product of reflection (Calderhead, 1989). However, with regard to those writings, reflective teaching emphasizes the cognitive, metacognitive, and, to some extent, moral or affective aspects of learning to think and teach.

**Modes of Reflection**

After reviewing the literature and different teacher education programs that emphasize reflective teaching, I concluded that there are at least five different types of reflection (Valli, 1992). I believe all of these types can be included within a teacher education program and that it would be useful to prospective teachers if they were. It can help teachers consider different types of decisions that need to be made, different sources of information for good decision making, and different ways of relating those sources to teaching practice. I call these five orientations
technical reflection, reflection-in and on-action, deliberative reflection, personalistic reflection, and critical reflection. I explain what each of these mean, describe what the content and quality of reflection would be for each type, and give an example of each.

*Technical reflection.* The word *technical* in this context has two related meaning. The first relates to the content of reflection: focus on the narrow domain of teaching techniques of skills. The second relates to the quality of reflection: directing one’s actions through a straightforward application of research on teaching. Technical reflection is very much rule-governed.

Using this type of reflection, teachers judge their own teaching performance on the basis of externally imposed criteria. The content that prospective teachers think about is the general teaching behaviors that have been derived from research on teaching. These include things like time-on-task, wait-time, active learning, student engagement, homework review, and prior knowledge. Prospective teachers would think about findings from this research and try to match their performance to those guidelines. For example, they would determine if they were “waiting” the recommended 3 sec after asking a higher order question before calling on a student to respond. Or they would calculate the use of time in the classroom to determine whether time spent on learning activities was increasing.

Technical reflection occurs within these types of narrow, preestablished boundaries. It is a prescriptive way to learn how to teach: An outside authority sets the standards, guidelines, and evaluation criteria. Experts (researchers or state evaluators) determine what good teaching is and then teachers think about whether their teaching meets those expectations. Reflection is limited to the retrospective comparison of the effectiveness of prespecified teaching strategies. It leaves
broader goals and purpose of schooling; the social context and environment of teaching; issues of equity, fairness, and justice; and even the curriculum unquestioned.

An example of technical reflection would be new teachers who learned how to use a state’s assessment instrument to judge whether the lessons they taught were good. These new teachers would have strong technical skills, be able to maintain order, pace instruction appropriately, and give their students useful feedback. They would be able to implement new programs that they had received solid training in, such as a mastery learning program. The quality of their reflection would be judged by their knowledge of research findings and their ability to match their teaching performance to these findings. In this type of reflection, the outside expert researcher’s voice is dominant.

Reflection-in and on-action. These terms come from Schon (1983). Reflection-on-action is the retrospective thinking teachers do after a lesson has been taught. Reflection-in-action refers to the spontaneous, intuitive decisions made during the act of teaching. Schon claimed that important decisions are made during the act of teaching itself and that these decisions are based primarily on practical knowledge—knowledge derived from experience. The content for reflection comes primarily from one’s own unique situation. Each teacher’s values, beliefs, classroom context, and students provide the source of knowledge of reflective action. Quality of reflection is judged by the teacher’s ability to make and justify good decisions based on his or her own situation and experience. In this type of reflection, the teacher’s voice is regarded as expert rather than the researcher’s. Reflection-in-and on-action values practical, craft knowledge.

Teacher preparation programs that emphasize reflection-in and on-action would not give prospective teachers explicit rules to follow. Rather, they would have these prospective teachers keep journals of their experiences to help them look back on all the important events that occur
in their classrooms and help them think carefully about these events. They might also have them read case studies of other teachers’ experiences. Those who promote this type of reflection believe that the more unique situations prospective teachers reflection, the more prepared they will be to make good decisions in action. The unique case, rather than the generalized rule, is the important teaching tool.

*Deliberative reflection.* In technical reflection, research is the most important source of knowledge. Reflection-in-action emphasizes craft knowledge and personal experience. In contrast, the deliberate approach to reflection emphasizes decision making based on a variety of sources: research, experience, the advice of other teachers, personal beliefs and values, and so forth. No one voice dominants. Multiple voices and perspectives are heard. Teachers must then make the best decision possible even though conflicting advice might be offered. Quality of reflection, therefore, would be judged by teachers’ abilities to weigh these competing claims and to give a good reason for the decisions they make.

The content for deliberate reflection would also be more inclusive than the narrow range of instructional and management behaviors considered in technical reflection. Deliberative teachers would give serious consideration to their own teaching behaviors; their relationships with students; the subject matter they were teaching; and the school’s organization, culture, and climate. Because the sources for their reflection are varied, teachers will often face competing points of view. There will not always be agreement about the best course of action. For example, school district guidelines might encourage teachers to push through the entire curriculum quickly so that students are exposed to a broad range of information before they move on to the next grade level. In contrast, educators who promote teaching for deep understanding would caution teachers against this approach. They claim that one of the greatest enemies of learning is the
obsession with “content coverage.” Teacher educators would help prospective teachers deliberate on such conflicting viewpoints, determine the credibility of the sources, and consider the best alternative for their particular students. Teacher educators would help students develop their capacities to become good decision makers.

**Personalistic reflection.** Personal growth and relational issues are most central to this mode of reflection. They provide the content of reflective thinking. Teachers reflecting in a personal way would consciously link their personal and professional lives. They would think about what type of person they want to be and how being a teacher helps them accomplish their life goals. Just as they think about their own lives, they would also think about their students. Their concerns would not be limited to their students’ academic achievement. Rather, they would be interested in all aspects of their students’ lives: their personal desires, their concerns, their hopes for the future. Teachers who reflect in a personalistic way would be caretakers, not just information dispenser. Their job would be to understand the reality of their students in order to give them the best care possible. The quality of their reflection would be determined by the ability to empathize. This kind of reflective teacher would be less concerned about success on achievement tests than about students’ ability to live compassionately, to be trusted, and to support worthy institutions (Noddings, 1984).

Teacher education programs that have a personalistic orientation would help prospective teachers examine those events in their lives that influenced them to be teachers. The programs would help them be attentive to their inner voices as well as the voices of their students. Students in these programs would learn to question the sources of their beliefs, attitudes, and biases. They would try to figure out what experiences might have helped prepare them to be good teachers and what experiences might be hindering their professional development.
For example, most prospective teachers in the United States have a European ancestry. Many of them attended schools in which most previous students also had a European heritage. In these schools, the curriculum is very Eurocentric. Yet, the school-age population in the United States is becoming increasingly diverse. A much higher percentage of students have an Asian, African, or Hispanic heritage. Many prospective teachers do not know how to teach these students and are reluctant to try. Teacher education programs with a personalistic orientation would help prospective teachers understand the limiting nature of their own educational experience and help them overcome their reluctance.

**Critical reflection.** This mode of reflection is derived from political philosophers such as Habermas (1974). It is the only form of reflection that explicitly views the school and school knowledge as political constructions. Habermas regarded the critical as the highest form of reflection because of its potential to eliminate misery and create social conditions necessary for human freedom and happiness. The aim of critical reflection is not just understanding, but improving the quality of life of disadvantaged groups. Those who promote critical reflection are committed to unlimited inquiry, fundamental self-criticism, and social action (Van Manen, 1977).

Programs that have a critical orientation emphasize that educational decisions are inevitably based on beliefs about what is good or desirable. An assumption of these programs is that schools often reproduce unjust social class, race, and sex relations. Therefore, the content for student reflection would be ways in which schools and teachers contribute to social injustices, and inequality and ways in which they can help overcome these inequities. Graduates of these programs would be encouraged to be reformers and social activists. They would help change
teaching practices and school structures that foster injustice and inequality. They would attend to the voices of those who are among a society’s least powerful and privileged.

The quality of teacher reflection would be determined by the teachers’ ability to apply ethical criteria to the goals and processes of schooling. Students would be encouraged to examine even the simplest teaching action in relation to broad social goals. Take teacher questioning, for example. In the United States, this topic is often taught simply as a technical skill without considering its moral aspects. Prospective teachers are taught how to ask different types of questions, probe for further knowledge, use questions to get students’ attention, and select appropriate students for easier or harder questions. But teacher questioning has social and ethical implications. Programs that promote critical reflection would teach students not only questioning skills, but also the potential consequences of the use of questions. Prospective teachers in this type of program would be asked to reflect on matters such as, Is it important to consider the way questions and wait time are distributed? Are certain kinds of students systematically ignored? Do some students too often receive negative feedback? What messages are communicated to students who go through the school day without an opportunity to contribute to classroom dialogue or without a positive instructional interaction?

Process of Reflection

Reflection in teaching entails the use of two major processes, problem solving and theory building. Problem solving is used here in the same sense as it is in cognitive psychology to mean mental operations and steps directed toward a particular goal. A variety of skills are part of the problem solving process, including observing, listening and questioning, decision making, analyzing, evaluating, inferencing, and synthesizing.
Theory building is used in the sense of cognitive ordering of knowledge and events, and not in the sense of scientific or formal theory building. Theories are generated in two ways: inductively, organizing observed data into a cognitive structure from which generalizations and additional theoretical claims evolve; or deductively, from hypothesis testing of existing theories, through subjecting the propositions to the data and followed by reformulating, modifying, or confirming the existing theory.

Problem solving and theory building are intertwined within and between the preactive and interactive phases of teaching. Problem solving may begin in the preactive phases and involve decision making with regard to planning for an interactive phase of teaching. Existing theories are generalized into the lesson. Once into the interactive phase of teaching, the theories that were part of the planning of the lesson are tested and reformulated, modified, or confirmed. At the same time, new information is being observed and collected that will be cognitively structured into theories that will be useful in the preactive phase activities of evaluating or planning. All of this is reflection-on-action.

In addition to the above interactive problem solving and theory building, problem solving and theory building are carried on at a very rapid rate within the interactive phase as the teacher seeks information about the learner’s learning in a problem solving process aimed toward making learning happen. This information is rapidly categorized and theories are generated. Simultaneously, existing theories are tested from the teacher’s repertoire of knowledge and experience with regard to what will work or will achieve the goals of getting the learner to learn. This is reflection-in-action. Information gathered and theories generated during reflection-in-action may then become part of reflection-on-action when the teacher thinks about the teaching episode.
Knowing in Action

In *The Reflective Practitioner: How Professionals Think in Action*, Donald Schon (1983) has presented a conception of “knowledge-in-action,” which challenges the traditional school of thought regarding the nature of professional knowledge—what he calls “Technical Rationality”:

According to the model of Technical Rationality— the view of professional knowledge which has most powerfully shaped both our thinking about the professions and the institutional relations of research, education and practice—professional activity consists in instrumental problem solving made rigorous by the application of scientific theory and technique. (p. 21)

Schon refutes the notion that a science-like corpus of knowledge can “drive” practice, and that it can lead to predictability and control in practical affairs:

Among philosophers of science no one wants any longer to be called a Positivist, and there is a rebirth of interest in the ancient topics of craft, artistry and myth-topics whose fate Positivism once claimed to have sealed. It seems clear, however, that the dilemma which afflicts the professions hinges not on science per se but on the Positivist view of science. From this perspective, we tend to see science, after the fact, as a body of established propositions derived from research. When we recognize their limited utility in practice, we experience the dilemma of rigor or relevance. But we may also consider science before the fact as a process in which scientists grapple with uncertainties and display arts of inquiry akin to the uncertainties and arts of practice. (pp. 48-49)

In reconsidering the nature of professional knowledge, Schon honors the practical competence of professionals in divergent situation, and searches for “an epistemology of practice implicit in the
artistic, intuitive processes which some practitioners do bring to situations of uncertainty, instability, uniqueness, and value conflict” (p. 49).

When we go about the spontaneous, intuitive performance of the actions of everyday life, we show ourselves to be knowledge in a special way. Often we cannot say what it is that we know. When we try to describe it, we find ourselves at a loss, or we produce descriptions that are obviously inappropriate. Our knowing is ordinarily tacit, implicit in our patterns of action and in our feel for the stuff with which we are dealing. It seems right to say that our knowing is in our action. (p. 49)

Schon is more interested in the process of professional decision making that in the decisions themselves. He conceives of “reflection-in-action” as a means by which professional knowledge is put into play, in terms of both “problem setting” and problem solving:

In real world practice, problems do not present themselves to the practitioner as givens. They must be constructed from materials or problematic situations that are puzzling, troubling and uncertain. When we set the problem, we select what we will treat as the “things” of the situation, we set the boundaries of our attention to it, and we impose upon it a coherence which allows us to say what is wrong and in what directions the situation needs to be changed. Problem setting is a process in which, interactively, we name the things to which we will attend and frame the context in which we will attend to them. (p. 40)

According to the model of reflection-in-action, when a practitioner sets a problem in a situation, “fundamental principles,” that are “closely connected both to his frames and to his repertoire of exemplars” (p. 317), are brought to bear on the situation. For Schon, fundamental principles represent theory, or conceptual apparatus, in use. The practitioner engages in a “reflective
conversation” with the practice situation. Past experiences are brought to bear on the situation; frames are imposed and bring to attention certain aspects of phenomena; problems are set and actions that entail certain solutions are formulated. What the practitioner “sees” in the situation depends fundamentally on his or her conceptual repertoire and the way in which the reflection proceeds.

Referring to the clinical supervision of methods students for a moment, it is plausible that problem setting is one of the activities in which the supervisor and the student engage as they discuss teaching performance. As the discussion proceeds and the student confronts new representations of his or her classroom practice, he or she is faced with a new task. The supervisor must, as Schon would say, reframe the problematic situation:

The teacher [supervisor], who attributes the student’s predicament to his way of framing the problems, tries to make sense of the problematic situation he is encountering at second hand. The situation is complex and uncertain, and there is a problem in finding the problem.

Because each practitioner treats his case as unique, he cannot deal with it by applying standard theories or techniques. He must construct an understanding of the situation as he finds it. And because he finds the situation problematic, he must reframe it. (p. 129)

The second element of reflection-in-action consists of experiment, play out to discover what consequences and implications can be made to follow from the reframed problem:

In order to see what can be made to follow from this reframing of the situation, each practitioner tries to adapt the situation to the frame. This he does through a web of moves. Within the larger web, individual moves yield phenomenon to be understood, problems to be solved, or opportunities to be exploited. (p. 131)
Finally, reflection-in-action involves a reflexive interchange between the practitioner and the situation:

   But the practitioner’s moves also produce unintended changes which give the situation new meanings. The situation talks back, the practitioner listens, and as he appreciates what he hears, he reframes the situation once again. (pp. 131-2)

Schon’s conceptions of problem setting and reframing are particularly useful when taken to the context of preservice teacher education. It is reasonable to suspect that through reflection methods students will come to new understanding of the effects of their teaching practice, and that the moves made in doing so match the elements of Schon’s conception.

   The process of supervision could be said to involve a three-way “reflective conversation” among teacher, the record of his or her teaching, and the supervisor. Schon speaks of the reflective process as being cyclic in character; it uncovers new understanding of events, which in turn, fuel further reflection:

   In this reflective conversation, the practitioner’s effort to solve the reframed problem yields new discoveries which call for new reflection-in-action. The process spirals through stages of appreciation, action, and reappreciation. The unique and uncertain situation comes to be understood through the attempt to change it, and changed through the attempt to understand it. (p. 132)

Beyond the matter of coming to appreciate and understand events in a “new light,” the reflective practitioner engages in moves that have to do with the choice of action that will be taken. These moves comprise the rigor of the practitioner’s “on-the-spot experimenting”:

   When the practitioner sees a new situation as some element of his repertoire, he gets a new way of seeing it and a new possibility for action in it, but the adequacy and utility of
this new view must still be discovered in action. Reflection-in-action necessarily involves experiment. (p. 141)

While the experimental aspect of reflection-in-action is recognized as being integral to the day-to-day work of practitioners, the present paper focuses on problem setting and reframing. These are the categories that address the epistemological features of “seeing” possibilities for action in practical situations. By definition, problem setting and reframing are the beginning points of reflection-in-action.

To summarize Schon’s conception of reflection-in-action, it is worth noting the characteristics that markedly distinguish it from the traditional view of professional knowledge. Schon draws our attention to the dichotomies on which Technical Rationality rests: the separation of means from ends, of research from practice, and of knowledge from doing. According to the model of reflection-in-action, practice is a kind of research. In their problem setting, practitioners frame the means and ends of their action independently; what they do in certain situations depends on what they “see” in those situation, namely the practical problems that they set and frame (Mackinnon, 1987).

Contexts of Schooling

To understand where we are going, we must know where we have been. Our history shapes and guides us. Individuals are shaped and guided by their heredity and environment, but individuals also actively shape and guide their experiences and environment. Sylwester (1995) described the human brain as “the only mass of matter in the known universe that can contemplate itself” (p.vii). According to Schacter and Scarry (2001), “the human brain is perhaps the most complex object in the entire universe” (p. 23). Recent research and theory indicate that biological forces and predispositions play a larger role than previously thought, but that the
The interplay between genetic heredity and the environment shapes and guides the development of the individual (Shaffer, 1993).

**Personal History**

The importance and impact of personal experiential factors upon teacher professional development have been acknowledged elsewhere (e.g. Adler, 1991; LaBoskey, 1994). Although we cannot alter our biological heredity after we arrive in this world, our environment is constantly being altered by numerous influences. The family is one influence that is often overlooked or disregarded as a major force that shapes our educational beliefs and values. Even people who are alienated from their families are significantly influenced by them. Individuals form their values, beliefs, identification, and life styles in relation to their families. The values, beliefs, and philosophical outlooks that an individual holds can be traced back through generations to ethnic groups to which the individual is not consciously aware of being related genetically or environmentally (McGoldrick, 1982).

**Socioeconomic Forces**

National and global socioeconomic forces have a tremendous influence over masses of people, even though relatively few people have influenced these forces. For example, during the first half of the 20th century, the United States and much of the world experienced an industrial revolution. The factory system of efficiency and high productivity led to pressure to conform and produce. In turn, the larger society adopted middle class values that were directly related to the values and beliefs of the white, European ethnic groups that dominated the industrial revolution. During this time, the educational system in the United States was developed to support the utilitarian goals of the Industrial Era (Whitmore, 1980).
In both work and educational settings, efficiency and productivity were rewarded. Society was moving toward equality and conformity. People who did not reflect the status quo—nonconformists, divergent thinkers, and reflective thinkers—often were unappreciated or rejected. Students and teachers, regardless of inherent qualities and individual heritage, were pressured to reflect middle class state of being and thinking. Thus, a minority of people significantly influenced the majority of people in society.

_Philosophy and Theory_

Educational theory and philosophy were also influenced and influential. In the early 20th century, the ideal of modernity developed. Modernity incorporated the ideas of rationalism, humanism, democracy, individualism and romanticism. It fostered ideas about the supremacy of the individual, individual freedom and reasoning rather than adherence to established authority (Elkind, 1995). In harmonious with modernity, many educators emphasized a child-centered curriculum and linked democracy and education (e.g., Dewey, 1904; Counts, 1924). Not all educational leaders, however, agreed on the goals for education. Some teachers generally ignored Dewey’s and Count’s call for changing social direction through education; however, they did embrace Ralph Tyler’s influence on the “scientific study” of education and his development of behavioral objectives (Pinar, Reynolds, Slattery, & Taubman, 1995).

In the mid 20th century, society shifted from the Industrial Era to the Information Society (Naisbitt, 1982). In Western societies, this shift was accompanied by a philosophical shift to postmodernism. Post Modern philosophy venerates language rather than thought, and honors human diversity as much as individuality (Elkind, 1995). While the hope of modernity was to end suffering and enhance the good life for all people, this did not happen. Thus, post modernism evolved with the expectation that it would adapt the ideas and correct the errors of modernism.
Mass communication influenced masses of people to expect respect for diversity, freedom for all individuals, the removal of barriers to human progress, and the right to good life for everyone. In addition, people have questioned technology and its effect on individuals and the environment.

The educational philosophy of the last half of the 20th century has ebbed and flowed with the social and philosophical ideas of the times. Current educational theorists fall into the categories of traditionalists, who examine the larger scene and simplify it into more easily observed parts; the conceptional empiricists, who use a process product paradigm; and the reconceptionalists, who believe that curriculum theory must make sense to the self/or to critical social analysis (Henderson & Kesson, 1999). The ideas of the reconceptualists are related to the concepts of constructivist teaching practice, which “help learners to internalize and reshape, or transfer new information” (Brooks & Brooks, 1993). The philosophy of post modernism, the theory of the reconceptualists, and the constructivist teaching practice support educational reform that celebrates the individual, honors diversity, removes barriers to human progress, respects the environment, and provides an ethic of caring.

Professional Development

In this post modern world, significant change in professional development requires a change in the images teachers hold of their work (Eisner, 1994). Teachers must know, respect, and understand each individual student. Teachers must also understand themselves since the self and other are personally connected. But each person as a discrete self forms her or his own meaning (Jersild, 1955).
Caring as a Support to Professional Development

Education alone cannot bring about significant changes in professional development. In a society in which each individual is able to fulfill his or her potential, support must come from all institutions (Pinar, Reynolds, Slattery, & Taubman, 1995). An ethic of caring is interwoven, providing direction for teachers to know, understand, and respect the individual. The industrial society placed great value on an ethic of justice that promoted equality and the idea that all should be treated the same (Gilligan, 1982). While information societies are retaining ideals of justice, they are also incorporating an ethic of caring. An ethic of caring goes beyond justice to an alleviation of human suffering (Noddings, 1984). Human beings want to care and be cared for. Frequently in education we hear the phrase, “nobody cares” as a yearning for caring and to care. When caring, one is directed toward another and toward oneself. Caring may be viewed as either natural caring or ethical caring. Natural caring loves, not as a requirement, but as a natural part of relationship. (example: caring between parent and child). Ethical caring is thinking carefully about the establishment of rules and prescription of penalties. It promotes physical and emotional nonviolence and the idea that no one should be hurt. In ethical caring one thinks in terms of “we-ness” rather than rules and one relies on internal values rather than external rules. Each individual is received as an individual (Noddings, 1984; Gilligan, 1982).

For many years educational psychologists and classroom teachers have proposed that students grow best academically and socially in a physically and emotionally safe environment. This has been substantiated by recent research such as using brain imaging (Sylwester, 1995). Emotion and the effects of stress play an important part in one’s ability to learn (Tomlinson, 1998; Caine, 1997). An ethic of caring becomes a thread woven into the tapestry of education that transforms the educational direction into a celebration of the individual. An ethic of caring
promotes honoring diversity, removing barriers to human progress, respecting the environment, and assisting every child in finding meaning within self.


The move from conceptualizing intelligence as a single, general ability to realizing there are a number of specific abilities has produced a parallel move that expects teachers to develop caring teaching practices that attend to the individual and collective learning needs of students. Teachers do not automatically arrive in the classroom developmentally ready to make the transition from a singular concept of intelligence to a complex concept of intelligence and all the related implications. Teachers are also in the flux of development (Kegan, 1994). When considering the professional development of teachers, we must remind ourselves that teachers too need a socially, physically and emotionally safe environment in which to grow an ethic of caring for themselves. How can teachers provide for their students in a most appropriate manner if they themselves are not recipients of the environmental provisions we demand they relay to the students (Noddings, 1984; Eisner, 1991).
Scholarship

Sarason (1996) points out that teaching is a complex, multidimensional and changing activity, and teachers cannot create and sustain a productive learning environment when they themselves do not have a productive learning environment that is socially, physically, and emotionally safe. Teachers must frequently reassess the learning context and change their accustomed ways of thinking to seek answers that enable them to create and sustain a productive classroom learning environment within an ever changing broader environment. Teachers must be aware that there are many approaches to solving problems and they must be able to flexibly examine and implement solutions from various perspectives. To achieve multidimensional and multiperspective problem solving, teachers need support for scholarship. Intellectual and professional collegiality with reflection support scholarship.

Definition of scholarship. Earnest Boyer’s (1990) definition of scholarship is particularly useful in understanding teacher-practitioner scholarship. He believes that the concept of scholarship must be defined from a broad perspective and should include the full scope of academic work. In addition to describing scholarship as original research, Boyer describes scholarship as a process of “stepping back from one’s investigation, looking for connections, building bridges between theory and practice, and communicating one’s knowledge effectively to students” (p. 16). Boyer defines scholarship as having four distinct, yet interrelated elements: discovery, integration, application, and teaching.

Discovery, the first element in Boyer’s model of scholarship, is both similar to and different from the traditional concept of research. The scholarship of discovery is similar to the traditional concept of research through its contribution to the supply of human knowledge. It is different because it gives meaning to the endeavor by moving beyond contributing knowledge
and into the process and passion of discovery. It is the process and passion of discovery that is the impetuous for further discovery.

Whereas the scholarship of discovery seeks to find out new knowledge, the second element of scholarship, the scholarship of integration, seeks to find meaning to interpret what has been discovered to construct a larger, more inclusive understanding of the knowledge. The scholarship of integration gives meaning by integrating facts into larger contexts and making connections across disciplines. Interpretation, connection and new insights are marks of the scholarship of integration. The scholarship of integration is dependent on the existing body of knowledge and the discovery of new knowledge.

Boyer’s third element of scholarship, the scholarship of application, puts knowledge to use. Through this use, new intellectual understandings can evolve. For example, the teacher who combines knowledge of subject matter with knowledge and understanding of students and then applies the combined knowledge while implementing practice in the classroom setting may gain new intellectual understanding of the subject matter and the students. In other words, the interaction between theory and practice can be a basis for new knowledge and insights. The scholarship of application is a dynamic, rather than linear, process that involves interaction between theory and practice. Through this interaction, theory and practice replenish one another.

The scholarship of teaching is the fourth element of scholarship. Seen from this perspective teaching is itself a form of inquiry. Scholarly teachers are well informed in the knowledge of their fields and understand students and their many pathways to learning. The scholarship of teaching is “a dynamic endeavor involving all the analogies, metaphors, and images that build bridges between the teacher’s understanding and the student’s learning. Pedagogical procedures must be carefully planned, continuously examined, and relate directly to
the subject taught” (Boyer, 1990, p. 23). The scholarly teacher creates and sustains a productive learning environment that provides common ground for intellectual commitment, stimulates active learning, encourages critical and creative thinking, and instills a desire for life-long learning.

Boyer’s four elements of scholarship broadly define scholarship to include the concepts of discovering, integrating, applying, and teaching. His definition acknowledges the interdependence among the four elements and composes a single broad concept of scholarship that recognizes great diversity of elements and functions involved in today’s scholarship.

*Teacher scholarship.* Implicit in the demand that teachers base their practice on a deep understanding of the content, a deep understanding of students, and a deep understanding of how students learn is a demand for teacher practitioners to attain scholarship. To improve teaching, teachers must take part in developing knowledge about teaching, learning, and school organization (Heinecke & Drier, 1998). They must consistently reassess their own understanding of the content, their students, and the school organization. Describing research, John Dewey (1916) wrote:

> We sometimes talk as if “original research” were a peculiar prerogative of scientists or at least of advanced students. But all thinking is research, all research is native, original, with him who carries it on, even if everybody else in the world already is sure of what he is still looking for. It also follows that all thinking involves a risk. Certainty cannot be guaranteed in advance. (p.7)

Combining Dewey’s wisdom with Boyer’s definition, we can conclude that teachers who seek answers that enable them to create and sustain productive learning in dynamic, changing environments engage in scholarly activity.
Reflection in Teaching. Scholarship evolves through reflection (Boyer, 1990). It is through reflection that the teacher practitioner examines a situation or idea from multiple perspectives, looks for connections, builds bridges between theory and practice, and communicates the resulting knowledge effectively. The worth of reflective thought has been recognized and taught since Socrates and Plato. More recently, interest in “reflection” and “reflective practice” has grown as a tool for teacher professional development. John Dewey (1916) established the foundation for reflective thought in teacher development and Donald Schon (1983) enlarged Dewey’s description of teacher reflection.

Teachers who use “reflection in action” (Schon, 1983) construct knowledge through interaction between the context surroundings, the problem, and the mind. Thus, they make case-by-case responses to the specifics of problems rather than generalized responses. Reflective teachers monitor the effect of an action taken as well as the cognitive process used to make the decision. In other words, they make inferences and mentally test them by looking at similarities and differences in the situation. Then they compare the inferences to previous events and ideas in their memory. This process enables teachers to construct their own meaning and to draw on their own contextually developed knowledge and prior case knowledge to develop teaching wisdom (Sparks-Langer & Colton, 1991; Tauer & Tate, 1998). Teacher professional knowledge originates both from sources outside of the teacher and from concept construction within the teacher. Reflective thinking is a process by which the teacher constructs meaning from within.

Components of Good Teaching

Students need competent, caring teachers who know content deeply and understand students and their needs deeply. Wise, Darling-Hammond and Berry (1987) conducted a study of teachers during the early 1980s. They found three good teaching practice components. The
components are flexibility to teach adaptively, relationships with students (e.g., knowing them and motivating them), and a focus on learning rather than on procedures. Successful teaching practice requires thoughtful adaptation rather than technical compliance. Teachers who develop a personal sense of purpose are empowered to develop flexibility and adaptation in their practice (Duffy, 1998). The teacher who forms successful pedagogical relationships with students does so by caring for the students as they are and by caring for the students for what they may become (Van Manen, 1994). A focus on learning involves teacher planning with regard to students’ abilities and needs. It means flexibility while teaching. It means stimulating higher-order thinking. It means teaching for understanding and application. It does not mean teaching to lockstep behavioral objectives for the coverage of facts (Darling-Hammond, 1997).

Good teaching ultimately relies heavily on the art of teaching. The teacher striving for excellence goes beyond strategies and moves into tacit knowledge, creativity, and reflective thinking. The practitioner as artist employs flexibility, adaptability, and creativity. Research suggests that these three are among the most important elements in practitioner excellence. The practitioner who is able to combine flexibility, adaptability and creativity with an understanding of students and knowledge of content will be able form relationship with students to create an environment for optimal learning (Palmer, 1998; Duffy, 1998; Darling-Hammond, 1997).

A Concept Map: A Summary from Literature Review

Reflective teaching is complex social phenomenon that is interrelated with components such as personal history and beliefs, school policy, socioeconomic status, professional development, etc. Therefore, in order to explore exceptional teachers’ reflective teaching, it was important to develop a conceptual framework which depicted these components and their relationships. Figure 1 shows how these components are interrelated and how they influence
teachers’ reflective teaching. Although the components in the framework are not mutually exclusive, I believe that it is conceptually useful to regard them as distinct components.

**Reflective Teaching: Complex Social Phenomenon**

![Diagram of Reflective Teaching: Complex Social Phenomenon](image)

**Figure 1.** A conceptual map from literature review.
The arrows in Figure 1 represent reciprocal interactions. Contextual conditions and professional development influence reflective teaching, but simultaneously the resulting reflective teaching encourages the development of both of them. Through reflective teaching, teachers can develop knowledge-in-action, which ultimately leads them to become experts.

However, I did not imply that this model was exhaustive. Rather, I envisioned that I would have to either reconsider or redefine the components or relationships of reflective teaching, or add new component in the model as I learned teachers’ reflections through this study.

Research of Reflection

*General Education*

Recently, teacher educators have developed and applied different models and instructional strategies in their program to prepare teachers to reflect on teaching. Despite the emphasis on reflection in teacher education, empirical work on reflective teaching is in its infancy (Wubbels & Korthagen, 1990; Zeichner, 1987). As Richert (1990) stated, “the literature includes little evidence on what facilitates reflection in teaching, and affords scant attention to programmatic features designed to enhance reflectivity” (p.509).

Some studies indicated that pre-service teachers can be helped to develop their reflective capabilities (Teitelbaum & Britzman, 1991; Wubbels & Korthagen, 1990). Surbeck, Han, and Moyer (1991), for example, found that keeping a journal had positive effects on pre-service teachers’ reflectivity. The investigators concluded that journals assist “prospective teachers in becoming better thinkers who probe deeper into both professional literature and their own teaching/learning ideas and actions” (Surbeck et al., 1991, p.27). Other studies suggest that some prospective teachers do not value reflection and are resistant to reflective practice (Calderhead,
Finding also indicated that the process of fostering pre-service teachers’ critical reflection is difficult (Zeichner & Liston, 1987). Summarizing their findings from four studies, Sparks-Langer, Colton, Pasch, and Starko (1991) reported the following:

Guided field experiences with writing, thought, discussion, and a coherent view of reflective thinking can help future teachers analyze and interpret their classroom experiences . . . . We feel fairly successful in promoting the cognitive/micro/technical aspects of teacher thinking. It is harder, however, to develop the critical reflection crucial for responsible professional practice. (pp. 13-14)

Research indicates that reflective actions help to elucidate beliefs and convictions. Stark (1991) found that writing journals and other personal reflections by student teachers served as a means of clarifying thoughts and values. She also identified personal biographies as an important influence upon individuals’ perceptions of the experiences they encounter. These frames of reference may be guided by interpretations of pedagogical knowledge, built from past and present experiences (Judallah, 1996).

Reflection also assists in developing understanding of complex issues related to learning. Kroll and LaBoskey (1996) found that journals helped students engage in constant reflection of both teaching experiences and their coursework. Such a level of reflectiveness was viewed as essential in promoting understanding through the repeated considerations of important concepts in different contexts.

One of the most important benefits of reflection is the facilitation of change in a student’s ideas about teaching and learning. Kettle and Sellars (1996) posit that there is evidence that change is facilitated as individuals reflect critically on their theory and try to adapt it in light of new knowledge and experience. Stark (1991) analyzed two cases of student teachers and
concluded that reflection positively assisted the student teachers in their professional development. Students who are ‘armed’ with critical reflection skills are better able to evaluate their practical and intellectual experiences and accommodate these into their growing schema of teaching and learning.

Physical Education

Scholars in the physical education field have also called for attention to reflective teaching. Theoretical propositions and suggestions about the aspects of teaching that physical education teachers should think and reflect on can be found in the literature. However, empirical evidence to support these propositions about reflection in physical education is not sufficient (Gore, 1990; Rovegno, 1992; Sebren, 1992).

Gore (1990) conducted a case study of prospective teachers’ reflection during a pedagogy course and suggested that pre-service physical education teachers differed in terms of what and how they reflect. In a study describing prospective physical education teachers’ reflection during an elementary methods course, Sebren (1992) suggested that the focus of 3 of the 7 participants’ reflection related to classroom control as they began the semester and evolved toward greater concern for teaching and learning by the end of the semester. The other 4 participants’ began the semester already concerned with teaching for learning and maintained that orientation for the entire semester.

Rovegno (1992) described one physical education pre-service teacher’s perspective of knowing during an elementary methods course in which opportunities for reflection were provided. She indicated that the pre-service teacher preferred received knowledge during the course’s reflective experiences. Despite continuous attempts to be more reflective, by both the pre-service teacher and teacher educator, only slight changes occurred in the pre-service
teacher’s reflective capabilities. Based on the study’s findings, Rovegno (1992) concluded that “the desire to foster reflection does not carry with it any easy answer” (p. 509) on how to achieve this goal.

In a study (Tsangaridou & O’Sullivan, 1994), they aimed to describe how specific reflective pedagogical strategies influence preservice physical education teachers to reflect on their practice. The findings supported the positive influence of new pedagogical reflective strategies in promoting the reflective abilities of preservice teachers’ (a) the nature of preservice teachers’ reflection, (b) focus of reflection (technical, situational, or sensitizing), (c) levels of reflection (description, justification, critique), (d) the value of systematic reflection on teaching, and (e) the influence of supervisors on preservice teachers. In conclusion, they argued that the act of reflection can be a learned enterprise that can lead to professional growth and development and the prospective teachers placed asymmetrical emphasis on the focus of reflection, since the focus of reflection was mostly dominated by technical issues of teaching. Particularly, they emphasized that the supervisory process is critical in promoting preservice teachers’ reflective capabilities.

There was a study that tried to link between the reflection process and the preservide teachers’ development. Sebren (1995) employed a case study to analyze and describe preservice teachers’ reflections and knowledge development during a field-based elementary physical education methods course. She summarized that the preservice teachers (a) made managerial decisions in relation to their effect on the learning environment, (b) planned lesson content in relation to past and future lessons, (c) considered the children’s prior learning and skillfulness in relation to subject matter decisions, and (d) connected their choice of words and actions to the
children’s perspectives. She added that the preservice teachers did not, however, develop the ability to respond pedagogically to students during an actual lesson.

In a more recent study (O’Sullivan & Tsangaridou, 1997) that was to understand the role and function of teachers’ reflection as it “is” rather than as it “ought” to be describing teachers’ reflection within the teaching and learning environment, as well as the role of reflection in their professional development. They found that microreflection, the type of reflection that informs teachers’ practices over time, influenced changes in the teachers’ classroom practice and professional development.

They (O’Sullivan & Tsangaridou, 1997) criticized that inservice teacher training programs often pertain to their short duration and their abstract nature, mentioning that these teachers need to reflect on concrete and context specific events. They also point out that teachers need to be provided with opportunities to reflect on actual issues, dilemmas, or problems that they ordinarily deal with in their own contexts, and teaching experiences socialize prospective teachers into accepted institutional roles and do not provide them with opportunities to investigate how schools operate or to understand social and political issues of teaching and schooling. All too often, field experiences stimulate preservice teachers to adopt more rigid attitudes toward teaching and become more custodial, authoritarian, and utilitarian. In conclusion, they suggested that preservice teachers work with cooperating teachers who exhibit reflective capabilities in addition to desirable teaching behaviors.

Recently, Napper-Owen and McCallister (2005) examined how student teachers linked their observation and reflection skills to assist them in bridging the theory to practice gap during their elementary student teaching experience. Although the student teachers focused more on teacher behaviors, a close look at the reflection of the student teachers indicate that they
evaluated whether what they did was effective in meeting the needs of students. Such responses would seem to indicate a concern for students and the opportunities that students had to learn under the student teachers’ guidance. In addition, Tsangaridou (2005) explored preservice classroom teacher reflection in a physical education teaching and learning environment and to describe how the teachers’ reflections related to their practices. Findings suggested that the two participants considered reflection a necessity in teaching. Student progress and learning was the most powerful agency for changes to the participants’ practices. Results also indicated that the participants’ reflections related to pedagogical, content, and social issues of teaching, as well as pedagogical content knowledge, and that the nature of their reflection was mostly positive across the lessons.
CHAPTER 3

METHODOLOGY

Theoretical Framework

My Philosophical Stance

All research is guided by basic belief systems based on ontological, epistemological, and methodological assumptions (Guba & Lincoln, 1994). These assumptions, in turn, inform the methodology of a research study and shape the interpretation of findings. Accordingly, without unpacking these assumptions and clarifying them, no one can really discern what our research has said or what it is now saying (Crotty, 1998). As this study concerned knowledge-in-action through reflection, my assumptions about the nature of reflection, how knowledge-in-action was formulated, and how we came to achieve knowledge-in-action would inevitably influence this study in various ways. With this in mind, I attempted to clarify my epistemological stance, i.e., “a way of understanding and explaining how we know what we know” (Crotty, 1998, p. 3) as well as my ontological stance, “a way of understanding of what is” (Crotty, 1998, p. 10).

Knowledge, I believe, is not passively received in an unmodified form from the environment, but is actively constructed by the knower. However, we are situated within a social context, and thus share our everyday lives with others. Therefore, social interaction helps us to construct knowledge of the world around us. In this sense, knowledge construction is processed inwardly within individuals’ minds through social interaction. That knowledge is constructed “socially” means that knowledge is negotiated with other members of the social context to the point that meaning is taken to be shared by interacting individuals. In other words, knowledge
construction is becoming socialized to the practices of the community we are embedded in, its particular purposes, ways of seeing, and ways of supporting its knowledge claims. Thus, knowledge is socially constructed, communicated, and validated.

While individuals construct meaning of knowledge through social interactions, simultaneously that knowledge is individually internalized. Social processes are made significant when an individual personalizes them, because social practice only makes sense in light of the individual knowledge one brings to the social arena. Conversely, the individual meaning making involves more than personal construction of knowledge. This is because individuals are social beings and interact with others to construct mutually shared knowledge and meaning. Knowing is drawn from the context in which it takes place. Thus, knowledge construction involves both individual interpretation and social practices (Cobb, 1994; Fosnot, 1996).

I did not deny the existence of an ontological world. Rather, I acknowledged realities exist regardless of whether we were conscious of them or not. The world is already there. I believe, however, we can never objectively know what that reality is actually like (Von Glasersfeld, 1984). We only know about reality in a personal and socially mediated way through our experiences within the social context. In other words, even if realities exist outside the mind of the knower, they become meaningful only when the knower makes sense of them. This view of mine can be supported by Crotty’s (1998) assertion that constructivism and realism are compatible.

In contrast to Crotty (1998), Guba and Lincoln (1994) envisioned that the ontology of constructivism is relativism. In the perspective of relativism, all realities exist in the form of multiple, intangible mental constructions, which depend on the individual persons or groups holding the constructions (Guba, & Lincoln, 1994). This is the notion that there are multiple
realities, and that each of us lives in our own reality. Along this line, this view assumes that the human life world is completely artificial and socially constructed. I believe, however, what they call multiple realities should be regarded as multiple interpretations of reality. The existence of reality independent of our consciousness of it does not imply that meanings exist independently of consciousness. Therefore, the existence of a world without a mind is conceivable, while meaning without a mind is not. Taken together, I held to realism in ontology and constructivism in epistemology.

Under those philosophical assumptions, I believe that all research is a human construction. They are all inventions of human minds and hence no construction can be indisputably right. The value of any particular research, thus, must rely on its persuasiveness and utility rather than its proof in arguing a position (Crotty, 1998). In this respect, I hoped that my research would help people enlarge their constructions of meaning and lead to a better understanding of the constructions of others. Furthermore, I wished that my research would provide benefits to people who really need them. In particular, I wanted my research to inform or improve educational practice because I believed that was a major criterion in determining whether or not the research was valid.

Social Constructivism

For this study, I employed social constructivism as a theoretical framework that shaped “the meaning of research questions, the purposiveness of research methodologies, and the interpretability of research findings” (Crotty, 1998, p. 17). The most significant base of social constructivism originated from Vygotsky’s (1962, 1978) social development theory and zone of proximal development (ZPD) theory. The major theme of Vygotsky's theoretical framework is
that social interaction plays a fundamental role in the development of cognition. Vygotsky (1978) declared:

Every function in the child’s cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals. (p. 57)

The most influential concept of Vygotsky’s (1978) theory has been the zone of proximal development (ZPD). The ZPD can be defined as the difference between the difficulty level of a problem a child can cope with independently and the level that can be accomplished with adult help. Social interactions of children and adults in the ZPD are the source of children’s cognitive growth (Vygotsky, 1978). Vygotsky’s social development theory has been expanded upon by Bandura (1986) in his social cognitive learning theory.

From the social constructivist view, knowledge is not discovered, but constructed within individual minds through social interactions. We are situated within a social context and we share our everyday lives with others. Thus, our knowledge construction is either encouraged or constrained by social interactions, even though the knowledge construction is processed within our minds.

While radical constructivism focuses on the matter of individual minds and cognitive processes in knowledge construction, social constructivism turns attention “outward to the world of intersubjectively, shared social constructions of meaning and knowledge” (Schwandt, 1994, p. 127). In other words, the focus is not on the meaning making activity of the individual mind but
on the collective generation of meaning as shaped by conventions of language and other social processes (Schwandt, 1994). Knowledge claims are intelligible and debatable only within a particular context or community (Fish, 1989).

In this respect, the process of knowing involves agreement and interaction with other individuals. Knowledge is negotiated with other members of the social context to the point that meaning is taken to be shared by interacting individuals (Gredler, 1997; Prawat & Floden, 1994). Stated differently, knowledge construction is the act of becoming socialized into the practices of the community in which we are embedded with its particular purposes, ways of seeing, and ways of supporting its knowledge claims. Knowledge, in brief, is socially constructed, communicated, and validated. Thus, it appears to be obvious that “key aspects of mental functioning can be understood only by considering the social contexts in which they are embedded” (Wertsch & Toma, 1995, p.159).

Along this line, teaching as a professional practice is also a social practice in that teachers’ work is embedded not only in a specific problem context but also in a specific social setting. Teachers build up a repertoire of context-specific knowledge through social interaction, negotiation, and co-construction of meaning, with different social contexts providing different inputs into the individual’s construction of a personal framework of understanding. Thus, the knowledge of teaching that teachers develop is intimately related to the specific social situations, interactions, and communities which have generated, validated, maintained, and used it. In this sense, social interaction with others, e.g., students, colleagues, administrators, parents, etc., is a part of personal and social construction and reconstruction of knowledge of teaching (Vygotsky, 1978).
To sum up, those perspectives of social constructivism on knowledge construction provided significant guidance to this research study. First, I needed to fully take into consideration the real teaching settings in which the teachers who participated in my study were working when investigating their reflection in and on action. Second, as teaching could not exist without students, teachers’ reflection was greatly rooted in teaching contexts where the interactions between teachers and students occurred. Thus, interactions with students should be one of critical sources contributing to teachers’ reflection on their teaching practice.

Last, the dialectic relation between the social context and knowledge construction made it difficult to see individual knowing as separated from where the knower was. Due to this, as a researcher, I was not considered by the teachers as a separate being during the research process. Rather, I was the one constructing understanding about those being researched. In this vein, I should be aware that the teacher might change through their interaction with me and, at the same time, these changes might change my research. As a result, the knowledge from this study was a result of co-construction between researcher, myself, and the researched including the teacher and social context in which this study was embedded.

A Pilot Study

I conducted a pilot study of this dissertation with two teaching assistants in the Department of Physical Education and Sport Studies at The University of Georgia (UGA) on November, 2003. The primary goal of the pilot study was to learn techniques in relation with data collection and analysis methods, and to evaluate the techniques I used. The pilot study employed a case study design using in-depth interviews. In order to describe the reflective thinking of the teaching assistants, I conducted interviews using open-ended questions twice with each participant. Each interview lasted approximately 60 minutes. I carried out all interviews in a
semi-structured way that allowed the participants to tell their own stories and to introduce issues the interviewer had not thought of (Smith, 1995). Accordingly, during the interview, questions were adapted to the specific context, and interesting issues that arose were probed further. All interviews were audio taped and transcribed verbatim.

One of the participants, Cobby, had taken a physical education course with me before I conducted that pilot study. Therefore, rapport was quickly built and remained during the research process, especially the interviews. I maintained eye contact with him throughout the interview. I found that, for the first part of the interview, I was tense and sitting at the edge of my chair. As I got more comfortable, however, I became aware of myself leaning back, and of Cobby relaxing as well. He acknowledged my limited English and made an effort to pronounce clearly and to help me clarify some vague questions. Thus, I could interview him very comfortably as if I conversed with him on my research interests.

On the other hand, Steve, the other participant, was wordy in his answers, talked too much, and talked fast. He was what Glesne (1999) terms “a non stop talker” and I had a hard time understanding his answers. Even though I listened attentively, I often lost where we were and I managed to understand just the main points of his answers. I could not rephrase his answers and ask relevant questions for confirming his previous answer. Instead, I waited for him to finish his answer and then moved to the next question.

The data from the interviews were analyzed through the constant comparative method (Glaser & Strauss, 1967) to identify recurring themes and categories. I sent tentative interpretations and interview transcripts to each participant for member checks to ensure accuracy and plausibility.
Reflecting on my experiences with that pilot study, I learned much about conducting a good case study. Through the interviews, I learned that a good interview requires more than language ability to simply communicate because I encountered several difficulties in the process of interviewing in spite of practicing many times for these interviews. It taught me that a good interview is not a result of improvisation but the result of careful preparation and thoughtful questioning. Even more important than being prepared and having good questions is the ability to listen without interrupting the interviewee’s talking.

In addition, I found that I needed to elaborate various types of interview questions. My interview questions mainly involved descriptive questions among three interview question categories of Spradly (1979): descriptive questions, structural questions, and contrast questions. Moreover, most interview questions asked interviewees’ perceptions and conceptions of research topics rather than their feelings and experiences. Consequently, I think that each question was related to the topic of my research study, but it did not contribute to keep the flow of the conversation going and to motivate the interviewees to talk about their experiences and feelings. According to Kvale (1996), a good interview question should contribute thematically to knowledge production and dynamically to promoting a good interview interaction.

Meanwhile, from my transcribing experience, I recognized that I needed to provide more waiting time to the interviewees. Glesne (1999) said that it is important to find the “magical right amount of silence.” I learned that enough time should be provided for an interviewee to formulate a response and to finish a thought. The quality of responses that I would get might depend on it. This will minimize the verbal “space savers” like “um” that I use so liberally in the transcript. I have discovered that a smile and a head nod are good strategies to elicit appropriate responses from participants without interrupting their thinking.
I also recognized the need of utilizing more probes. I believe the ability to probe will enable me to minimize the number of abrupt transitions in my transcripts. As Glesne (1999) said, “probes are requests for more.” Furthermore, I needed to aware of my subjectivity more. In my subjectivity statement, I cautioned myself not to interpret interviews with stereotypes and prejudices, since I already knew much about my participants and their backgrounds. I, however, closed my eyes to that warning in the data analysis process.

Overall, the pilot study allowed me to get more prepared to conduct this dissertation study, especially in terms of using qualitative research methods. At the same time, it made me think and rethink exactly what I wanted to know through the dissertation study, what the significance of the study was, how I knew what I wanted to know, etc.

Research Design

The research question which guided this study was as the following: what is the nature of “reflection-on” and “in-action” of experienced physical education teachers as expressed through critical incidents that occur in classes? In order to answer these questions, I employed a qualitative case study. This approach has evolved from the notion that detailed case studies of teaching using a variety of observational and interview procedures have frequently resulted in well documented and insightful accounts of teachers’ thoughts and practices (Calderhead, 1996).

Case Study

Case study can be a key research strategy for developing educational theory, which enlightens educational policy and enriches educational practice (Bassey, 1999). In many ways, case study is an ideal design for school–based research (Hitchcock & Hughes, 1995; Merriam, 1988). The case study design is generally used in education to gain an in-depth understanding of the situation and its meaning for those involved where the context is the focus rather than a
specific variable within. The interest is in the discovery, not the confirmation. The insights gained through a case study have the potential to directly influence policy, practice, and future research (Merriam, 1988).

Carter (1990) also suggested that case methodology be used to tap the sources of teacher knowledge and ways of thinking about learning to teach. It has been suggested that “most individuals find specific cases more powerful on their decisions than impersonally presented empirical findings, even though the latter constitute better evidence” (Shulman, 1986b, p. 32). In other words, although principles are authoritative, cases are memorable and stay in memory as the basis for later decision-making. In this respect, a case study may influence teachers’ practices and thus student learning, which must ultimately be one of the purposes of educational research.

Given that this study aimed to explore in-depth the nature of reflection of exceptional physical education teachers, a case study appeared to be most appropriate for its purpose. The teaching and reflection on teaching processes were a function of personal interaction and perception that took place in multifaceted situations existing in the gym. By means of focusing on how something happened rather than on the outcome, a case study provided the researcher a basis from which to derive insights into teacher practice. Since the data in a case study was interpreted rather than measured, variables were not manipulated, nor were treatments administered. Its orientation is naturalistic and authentic (Merriam, 1988; Patton, 2002). These qualities of the case study made it ideal to investigate the multiple facets of climate and implementation of teaching practice in the natural setting of the gym.

In addition, through employing a case study design, I sought to accomplish something beyond understanding the specific teacher. This was because case study research helps us to make what is often non-visible or commonplace more visible. Through concrete details of
teaching practice, the case study provides an opportunity for teachers and others to compare the case of the participant’s experience with their own experiences (Erickson, 1986; Page, Samson, & Crocket, 1998). In other words, most readers of case studies find commonality of process and situations that they are able to relate to the perplexities of their own lives (Stake, 1995).

The Case

It is commonly accepted that selecting the case is the first step for the case study. In this regard, the question, how shall the case be selected, follows when One decides to employ case study methods. In general, the case is “a specific, complex, and functioning thing” (Stake, 1995) and “a bounded system” (Smith, 1995). The first criterion for selecting the case “should be to maximize what we can learn. Given our purposes, which cases are likely to lead us to understandings, to assertions, perhaps even to modifying of generalizations?” (Stake, 1995, p. 4)

With this in mind, the case can be one particular example of a phenomenon which involves in-depth analysis of a particular person, event or society within a specific time and place. For this study, the phenomenon of reflection in teaching was defined as thinking about teaching or reflection-on-action, and as thinking while teaching or reflection-in-action. Therefore, the case of this study was three exceptional physical education teachers who were able to demonstrate the phenomenon of reflection about their teaching and student learning. Criterion sampling (Patton, 2002) was used in order to gain a representative voice of the cases.

In setting forth the criteria for selecting the case for this study, the following statement of Stake (1995) provided significant insights:

It may be useful to try to select cases which are typical or representative of other cases, but a sample of one or a sample of just a few is unlikely to be a strong representation of others. Case study research is not sampling research. We do not
study a case primarily to understand other cases. Our first obligation is to understand this one case. In intrinsic case study, the case is pre-selected. In instrumental case study, some cases would do a better job than others. Sometimes a “typical” case works well but often an unusual case helps illustrate matters we overlook in typical cases (p. 4).

The National Commission on Teaching and America’s future (1996) and Ambach (1996) reported that being a reflective practitioner is one of the important standards of expert teachers. Taking Stake’s suggestion and the standard into consideration, I developed the following criteria for my case of experienced physical education teachers. The criteria included (a) she/he is recognized as an exceptional teacher by students, peers, and administrators in physical education (i.e., a teacher who has received National Board Certification or The Teacher of the Year), and (b) she/he has at least 10 years’ teaching experiences as a teacher.

Initial preparation to select participants began by attending a session, “Becoming Nationally Board Certified… Are you bored?” at the GAHPERD Conference in Athens, Georgia in September of 2004. Throughout the conference, I met several experienced teachers. In particular, I had the chance to converse with two physical education teachers, Mrs. Thomas (pseudonym) and Mrs. Jackson (pseudonym), both of whom had just earned National Board Certification. One of them was elected as Secondary Physical Education Chair for GAHPERD in the conference. I briefly talked about my research with them because I hoped that they would be my participants. They informally agreed to participate in my research. In order to recruit other participants than these two teachers, I consulted with university professors, Dr. Johnson (pseudonym) and Dr. Scott (pseudonym) who have taught elementary or secondary physical education method courses, about teachers who would participate in my study.
In compliance with the regulations for conducting research on human subjects at the University of Georgia, an Institutional Review Board (IRB) application was submitted to the Human Subjects Office to get permission prior to data collection. It usually took 4-6 weeks. Therefore, I envisioned that I would get ready to begin data collection by December, 2004, but I still needed to send a letter to get research approval from the County Research and Accountability Board where the participants work. They usually required a research proposal that provides information about my study in detail. Having previously taught as a teacher, I understood the need to protect students, teachers, and schools. I sent the package about my research to the County Research and Accountability Board where my participants worked immediately after recruiting all three participating teachers at December, 2004. I received permission letters from each school board at February, 2005.

*The Role of Researcher*

My main role in this study was a non-participant observer in the participant teacher’s physical education classes. During the classes I attempted to remain as unobtrusive as possible and to frame my relationship with the participant as an observer, rather than as a provider of my opinions and guidance as a teacher educator. And my roles also included observation, interviewing, and examining/analyzing/synthesizing and interpreting documents. Field notes of observations were taken for later review. I, as an interviewer, explored the perspective of the participant to make explicit those things that were not easily observed. I asked open-ended questions to elicit ways of thinking about her/his teaching practice. Examining and analyzing documents provided me with basic information regarding teaching and the process, acting as a catalyst for forming ideas for important questions to pursue through observation and interviewing (Patton, 2002).
I also acted as a learner in that I could develop a curiosity to learn from and with the participant. The role as a learner involved listening and building a relationship with the participant. Building a relationship included reciprocity, trust, mutual respect, and willingness to learn from the other. Although I inevitably had bias because I am a human being, the researcher’s role played in this study should be one of non-advocacy and nonprescription (Glesne & Peskin, 1992). My role as a researcher-observer provided a way in which to interpret what the teacher perceived within the context of the actual educational setting. As a researcher-observer, I had a context for interpreting what the teacher says. This was because observing in the educational setting enabled me to be an educated perceiver to reflect on the teacher’s perceptions and my interpretations of his/her perceptions.

Data Collection

Capturing of the nature of reflection, especially reflection-in-action, is not easy, as it requires a combination of approaches that can collect information about what teachers know, what teachers do, and the reasons for their actions. Due to this complexity, I employed a multiple method approach by using multiple sources of data to study a teacher’s reflection. Data were triangulated using multiple sources (Patton, 2002). The sources of data for this study included interviews, observation, and archives such as lesson plans, written reflections, and field notes.

Semi-Structured Interviews

Interviewing is one of the most common and powerful ways in which we try to understand the world from the subjects’ points of view, to unfold the meaning of peoples’ experiences, and to uncover their lived world (Kvale, 1996). Through interviews, hence, I could obtain information concerning what teachers knew about their students, subject matter taught, teaching context, etc. Furthermore, as interviews elicit actual thoughts of research participants
(Shore, 1986), I could come to understand why they did what they did from their perspectives by interviewing them. In particular, through semi-structured interviews, interviewees were able to tell “their own stories” in their own words, so issues I had not thought of may arise (Smith, 1995). As a result, during the interviews, I could probe interesting emerging issues further, and adapt the interview questions to the specific context. Ultimately, this allowed me to move beyond my own experiences and ideas and to really understand the teachers’ points of view. In this regard, semi-structured interviews were a major research method for this research study to understand teachers’ reflection.

I conducted at least seven interviews with each participant. The first interview was about his/her backgrounds and beliefs about teaching physical education. The second interview concerned planning for lessons they were teaching; it was conducted at the beginning of teaching the lessons I observed. After observing the teachers teaching each lesson, I interviewed them about teaching that lesson to elicit their reflection in and on critical incidents. Since I could not observe everything I might want to know, I believe that interviews provided access to the context of teachers’ action (Seidman, 1998), and thereby provided a way for me to understand the meaning of that action. Therefore, I used interviews in combination with the observations.

In order to develop interview questions, I created a table to encapsulate how I could come to know what I wanted to know (see Table 1). The table has three parts: (a) the research question, (b) what do I need to know to answer the research question? and (c) how can I know what I need to know? Under the “how can I know” column, I listed both possible data sources and major interview questions. By using the given research questions as a backbone, I developed the interview questions for the interviews (see Appendix A). Once the interviews were scheduled, I sent possible interview questions to the participants a few days prior to the interviews to help
them become familiar with the questions and to encourage them to begin contemplating possible responses. All interviews were audiotaped and transcribed verbatim for later analysis.

Non-Participant Observation

Reflection-in-action refers to thinking while the teacher is teaching so we can not capture teacher’s all reflections through the interviews. Moreover, we cannot assume that what a teacher reflects on his/her teaching is automatically put into his/her teaching practice. Teachers’ actions are a more accurate representation of what they know and believe than the usual array of self-report measures (Kagan, 1990). Through observations of actual teaching practices, I expected to find ideas and beliefs about practice embedded in the actions of practice, because teachers’ performance might reveal what they knew more than what they said and because teachers might be unable to verbalize all of their practice. Therefore, I believe that I should observe actual teaching segments in order to examine the nature of reflection of the teacher.

I conducted at least seven classroom observations with each participant using the non-participant observation method (see Table 2). Each observation consisted of two lessons previously planned by the school curriculum. All observations were conducted between January and April, 2005. All observations were audiotaped using a wireless microphone, and related excerpts were transcribed verbatim for later analysis.

Prior to the classroom observation, I visited each participant twice to get field entry and to get information about the school context. The first visit focused on building rapport and discussing my research procedures with the participants. During the second visit, I met the principal, school staff, and students to inform them about my research and to get documents pertinent to my research. I also observed classroom physical environment such as facilities and equipment rooms during the second visit.
Table 1

How Can I Come to Understand the Research Question?

<table>
<thead>
<tr>
<th>Research Question</th>
<th>What do I need to know?</th>
<th>How can I know?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Possible data sources</td>
<td>Major interview questions</td>
</tr>
<tr>
<td>What are a teacher’s personal background of and beliefs about PE?</td>
<td>Interview #1</td>
<td>- Could you tell me about your background in teaching PE?</td>
</tr>
<tr>
<td></td>
<td>Observations</td>
<td>- What do you see as your teaching strengths?</td>
</tr>
<tr>
<td></td>
<td>Written reflections</td>
<td>- What areas do you feel are relatively weak in your teaching?</td>
</tr>
<tr>
<td></td>
<td>Archives</td>
<td>- What do you think teaching PE is?</td>
</tr>
<tr>
<td></td>
<td>Field notes</td>
<td></td>
</tr>
<tr>
<td>What is the general description of the unit the teacher is teaching?</td>
<td>Interview #2</td>
<td>- Have you taught this unit before?</td>
</tr>
<tr>
<td></td>
<td>Lesson plans</td>
<td>- How comfortable are you with the subject matter knowledge within this unit</td>
</tr>
<tr>
<td></td>
<td>Students work sheets</td>
<td>that you are teaching?</td>
</tr>
<tr>
<td></td>
<td>Field notes</td>
<td>- What are your goals for this unit?</td>
</tr>
<tr>
<td></td>
<td>Archiues</td>
<td>- What tasks do you expect students would have difficulties with? Why do you</td>
</tr>
<tr>
<td></td>
<td>Field notes</td>
<td>think so? How would you help students with those difficulties?</td>
</tr>
<tr>
<td>As expressed through critical incidents that occur in classes, what is the nature of reflection-in and on-action of experienced physical education teachers?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How does the teacher reflect in and on critical incidents?</td>
<td>Interview #3</td>
<td>- Could you tell me about your teaching the unit?</td>
</tr>
<tr>
<td></td>
<td>Observations</td>
<td>- How would you change the unit if you were to teach it again? Why?</td>
</tr>
<tr>
<td></td>
<td>Written reflections</td>
<td>- What are the strengths and weakness of the lesson?</td>
</tr>
<tr>
<td></td>
<td>Field notes</td>
<td>- What do you consider the most effective teaching moment was in teaching</td>
</tr>
<tr>
<td></td>
<td>Archives</td>
<td>this unit?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Try to remember one of the past incidents that you experienced in your</td>
</tr>
<tr>
<td></td>
<td></td>
<td>classes and you felt it was critical. Could you tell me about the situation,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>how you felt and acted, and what you said?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Why do you think that incident is critical?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
As Blumer (1969) pointed out, data from observation contains inevitable inferences, because a human observation involves a judgment of evaluation based on what is observed in the situation. Thus, clear and great detailed pictures of the scene are necessary in order to make observation data reliable. To this end, I made short notes at the time of observation and made expanded field notes as soon as possible after each observation as Silverman (1993) recommended. Also, I recorded problems and ideas that arose during each period of observation in a field note. The purpose of the observations was to provide detail information that might not be available by other means and to provide comparison and a complement to the other sources of collected data. The observations also provided a context for me, as a researcher, to more accurately interpret the collected data.

Other Data Sources

I obtained documents from the office staff of each school to determine the school demographics. In addition, I asked the teachers to submit lesson plans for the classes I observe, students’ work samples including assessments, behavior notes, letters to parents, task sheets and all documents related to their teaching. Moreover, as I selected participants who regularly keep a journal on their teaching, I asked them to turn in their written reflections on their teaching. I wrote field notes by hand during and right after each observation. I also wrote a reflexive journal throughout the research process. All these documents were analyzed to get pertinent information for this study.

Data Collection Procedure

I met each participant at least nine times. Given that process of data collection took place in the real world situation, I expected that the timeline scheduled now might change. Table 2 indicates the entire process for data collection.
Table 2

**Process of Data Collection**

<table>
<thead>
<tr>
<th>Visit</th>
<th>What (I will do)</th>
<th>How</th>
<th>When</th>
</tr>
</thead>
</table>
| 1     | • Build relationship with the teacher  
• Discuss research schedule  
• Meet administrators and students | Informal Interview | 3rd-4th week of January              |
| 2     | • Sign a consent form  
• Interview for biographical information  
• Obtain information about context  
• Observe learning environment (e.g. facilities, equipment) | Interview 1 (Appendix A)  
• Documents  
• Informal observation | 4th week of January-1st week of February |
| 3     | • Formal observation of 2 lessons  
• Obtaining planned lessons and teaching information | Observation 1  
• Interview 2 (Appendix A) | 2nd-3rd week of February |
| 4     | • Formal observation of 2 lessons  
• Reflect on his/her own teaching | Observation 2  
• Informal interview | 4th week of February- 1st week of March |
| 5     | • Formal observation for 2 lessons  
• Catch critical events  
• Collect students’ work samples | Observation 3  
• Interview 3 (Appendix A)  
• Documents | 2nd -3rd week of March |
| 6     | • Formal observation of 2 lessons  
• Reflect on his/her own teaching  
• Catch critical events | Observation 4 | 4th -5th week of March |
| 7, 8  | • Formal observation of 2 lessons  
• Reflect on his/her own teaching  
• Catch critical events  
• Collect students’ work samples | Observation 5,  
• Interview 4 (Appendix A)  
• Documents | 1st-4th week of April |
| 9     | • Provide all transcripts  
• Get additional information | Follow-up interview | End of May |
Data Analysis

Interview and observation data were analyzed through the constant comparative method (Glaser & Strauss, 1967) using computer software for qualitative data analysis (i.e., Atlas.ti) as an aid. Grove (1988) stated the purpose of this method is to generate explicit categories which can help to provide an understanding of the data. In this sense, the analysis of all data focused on the identification of regularities or patterns in the statements made by the participants, without using a pre-established system of categories or codes. Instead, I developed categories on the basis of the data, through an interactive process during which the data are constantly compared (Charmaz, 2000; Glaser & Strauss, 1967). Charmaz (2000) suggested some points of comparison that might be considered by the analysis. These included comparisons of: (a) different people, (b) data from the same individuals with themselves at different points in time, (c) incident with incident, (d) data with category, and (e) a category with other categories (Charmaz, 2000).

Along with the constant comparative method, the data analysis procedure was inductive process that occurred in several steps. The first phase of the process involved “coding” the data set and comparing these “codes.” I coded the transcripts of observations and interviews, and written reflection through a process of “open coding” (Strauss & Corbin, 1998). This process was to reduce data to “units of analysis” (LeCompe, 2000), “the smallest piece of information about something that can stand by itself” (Lincoln & Guba, 1985, p. 345). The units of analysis were identified through the process of looking for frequency, omission, and declaration (LeCompe, 2000). Next, as the units of analysis emerged, common elements, patterns, and relationships within these units were formed for each participant and across all participants. Third, these elements, patterns, and relationships were organized in categories and subcategories by comparing and contrasting them (Glaser & Strauss, 1967).
To continue, networks were created. A network is “a map of the selected [categories and subcategories] which shows how they relate to one another” (Bliss, Monk, & Ogborn, 1983, p. 8). In other words, the categories were integrated by grouping and rescanning similar categories and detecting the relationships among those categories. In this sense, the networks delimited the emerging theory by comparing properties across categories and domains in order to test the integrity of their group membership. LeCompe and Preissle (1993) called this process as theorizing.

Afterwards, negative cases that seemed not to follow the patterns and categories identified were sought in order to disconfirm or support the original theory. Finally, as new units, patterns, categories, and subcategories became scarce, the data were considered “saturated” (Lincoln & Guba, 1985), and the data analysis was end. The whole process from identifying units to forming networks was an ongoing cyclical process, one in which researchers must use their tacit knowledge and intuition in searching for look-alike, feel-alike patterns (Lincoln & Guba, 1985). The data from documents such as lesson plans, students work samples, and field notes were analyzed through the same procedure. Then, they were compared or contrasted across data sets in order to elaborate, enhance, illustrate, or clarify the results from others. All data from multiple sources were triangulated for the trustworthiness of this study (Patton, 2002).

Trustworthiness

From a constructivist perspective, in order to judge the quality of qualitative research, Lincoln and Guba (1985) suggested four alternative sets of criteria as the following:

Credibility as an analog to internal validity, transferability as an analog to external validity, dependability as an analog to reliability, and confirmability as an analog to objectivity. (p. 76)
In combination, they viewed these criteria as addressing “trustworthiness.” With respect to these
criteria, I used several strategies in order to enhance the trustworthiness of the study. In terms of
credibility, I conducted member checks in which interview transcripts, observation notes, and
tentative interpretations were taken back to the participants to ask for accuracy and plausibility
(Patton, 2002). Negative case analysis (Denzin, 1989) was used to establish the credibility of this
study. Searching for negative cases as the pattern made me conscious of pattern limitations and
incorporated these limitations into explanations and interpretations (LeCompe & Priessle, 1993).

In addition, triangulation of multiple data sources and multiple analysis methods
increased dependability, confirmability, as well as credibility of this study. Triangulation of data
sources involved comparing and cross-checking the consistency of information derived at
different times and by different qualitative methods (e.g., interviews, observations, written
reflections, lesson plans, student work samples, and field notes). The confirmability was further
enhanced by reflexive journal writing. Detailed field notes contributed to building dependability.
In terms of transferability, I described research context as rich and thick as I can, so that readers
might be able to determine whether the findings are transferable (Merriam, 1998; Yin, 2003).
CHAPTER 4
UNDERSTANDING OF THE CASE

The case of this study was defined as exceptional physical education teachers who were able to demonstrate the phenomenon of reflection about their teaching and students’ learning. In this chapter, I explicate the case, three exceptional physical education teachers, in term of personal background, teaching philosophy, and school context in which they worked. For confidentiality, all the teachers, schools, and districts were given by pseudonyms.

Jimmy

Personal Background

Jimmy was born and raised in a rural small farming community near the Indiana state line. As the older of two boys born to working class parents, Jimmy excelled in track and field in high school and was awarded an athletic scholarship to Northern University (pseudonym) in 1970. He earned his Master’s degree in Health and Physical Education at Northern University in 1978. After the completion of his Master’s degree, he started his teaching career in a metropolitan region in Georgia. In 1982, he began his doctoral study in elementary physical education at a state university in Georgia. He has six children, five girls and one boy. Jimmy and his wife are devout Christians and they not only attend church regularly but also hold family bible study hours whenever possible.

Jimmy has taught physical education (PE) for 3 years at a middle school and for 20 years at two different elementary schools. He also ran a preschool gymnasium private enterprise for three years after his first six years of teaching in an elementary school in Georgia. At the time of
this study, he was working at Blue Mountain Elementary School (pseudonym). He regarded his PE teachers and coaches during his middle and high school years as the most influential motivator for him to become a PE teacher. Jimmy’s area of expertise is track and field. In addition, he also coached shot and distance throwers at a high school after school, which was less than 100 yards from Blue Mountain Elementary School. Appearing to pose no conflict with his teaching responsibilities, Jimmy’s role as a high school coach was one he enjoyed greatly as shown his remark below:

I’ve been really enjoying it [coaching high school shot and distance throwers] because at the elementary level you don’t get to see anybody really perfect anything or get good at anything. But, at the high school I could help people get good at it. I have a few athletes that are out on scholarships now to colleges, so it’s been very rewarding. (Interview #1)

Jimmy was active professionally at the district, state, and national level and took leadership roles in his school district. His effort and expertise have been widely recognized and resulted in his being awarded GAHPERD, AAHPERD Southern District and NASPE Elementary Physical Education Teacher of the Year honors, as well as a distinguished Disney National Teacher of Year Award in 1995-1996.

Teaching Philosophy

Jimmy’s teaching philosophy was mainly influenced by the movement education model of Dr. George Graham, with whom he has shared a close personal and professional relationship. He has been a proponent of the skill theme approach to teaching motor and sports skills. In this regard, much of his curriculum was developed in concert with this approach and included educational dance, educational gymnastics, and games. His primary goal for teaching PE is to
help students develop generic motor skills that are useful for the students’ future lives as movers. He described this goal as follows:

My philosophy and my goal is to have them [the students] fit movers for life and have all the skills that they need to go into whatever they decide to do when they get into high school or as older adults…. We don’t know what is going to be the next big wave of fitness or the next thing that is going to be invented that everybody is playing that game. So, I want them to see something that they might have fun with and feel comfortable taking that challenge. So, it is more than just basketball and football and things like that. I want them to have the kind of generic skills that if they want to play tennis until they get to be thirty, then they can remember back and say, “Oh, yeah, Mr. Brown worked on that. I remember some of the stuff” and kind of have a feeling so that they are not afraid to try new things. (Interview #1)

This perspective on teaching PE was frequently realized in his teaching. For example, when he taught the hockey unit, he attempted to have students learn a basic striking skill, which could transfer into golf, baseball, softball, or tennis in the future. This viewpoint is nicely captured in his statement below:

I think the goal of the hockey unit is to have children begin striking objects outside their body. I want them to start striking with a long handle hockey stick…Eye and hand coordination outside the body, especially when you link them to a hockey stick or to a tennis racket, is much more difficult than hitting it with the hand. So, I’d like to use it as a preliminary to tennis, baseball, softball, or
to golf. I do think that the skill of striking and the same terms we use will help
them transfer that hopefully into golf or tennis. (Interview #4)

One of the salient features in Jimmy’s teaching was the seamlessness and fluidity with
which it was conducted. Jimmy often had his students work at centers where the students
practiced whole or particular parts of a motor skill related to a specific theme (e.g., striking,
throwing, volleying, etc.) independently and autonomously. This feature was consonant with his
emphasis on students’ ownership in learning PE. He explained it in the following way:

There is such a fine line of when to step in and when to step back and let things
develop and see where they are going. When it is an open ended question, like to
develop a line dance or something, it’s much more important for the children, the
students, to take ownership of that so that it becomes theirs and they learn it and if they do it themselves then they are probably going to have a much deeper
understanding of what they are doing and it will stay with them longer. (Interview
#6)

In this regard, Jimmy frequently used questions, which he believed helped students learn more
effectively than direct command style teaching. His feedback provided students encountering
difficulty with questions designed to elicit rather than direct their performance.

Blue Mountain Elementary School (Pseudonym)

The Blue Mountain Elementary School was one of the Lanier County public schools. Located in the northeast portion of metropolitan Atlanta, the Lanier County school system is comprised of 94 schools: 60 elementary schools (grades pre-K to 5), 17 middle schools (grades 6-8), and 17 high schools (grades 9-12). Among the students in Lanier County, more than 100 languages are spoken. Lanier County developed its own curriculum for grades K-12 called
Academic Knowledge and Skills (AKS). The AKS for each grade level (or subject area at the high school level) spelled out the essential things students are expected to know and be able to do in that particular grade or subject.

The Blue Mountain Elementary School had 55 classroom teachers, and the teacher to student ratio was 1:15. The student enrollment of the Blue Mountain Elementary School of March, 2003 was 855, of which 48.0 % were African-American, 42.0 % White, 5.0 % Asian/Pacific Islander, and 5.0 % Hispanic. Most of the students came from middle- to upper middle-class socioeconomic backgrounds. Approximately 25.0 % of the students enrolled in the 2005 academic year were eligible for free or reduced cost meals, which was lower than the state average, 51.0 %.

The Blue Mountain Elementary School, which opened in 1990, is a long single level structure covered with smooth finely grained peach hued stucco. Flanked on one side by a sprawling playground, basketball courts, and a well kept ball field, this school was surrounded by long needled pine trees and mature hardwoods that insulated it from the neighboring homes that stood behind it. Green grass and trimmed hedges lined its entrance. The hallways of this school were each dedicated to classes of a single grade. The main hallway led in one direction to the cafeteria, and in the other, to the media center library. The library was spacious and filled with computers, reading tables, chairs, and books. It also housed the school’s closed-circuit television studio, from which student-produced programs were broadcast daily. Computers were in each classroom and also in special dedicated labs.

Jimmy’s gym was constructed of prefabricated metal and stood separately from the rest of the school on a concrete slab. The gym featured adequate lighting, a large equipment room office, and Jimmy’s customized teaching console. On this rolling wooden cabinet, which Jimmy
built, there were installed a full-sized stereo system, VCR and television screen, and compartments for various lesson plans and attendance books. It was in front of this console that students sat when Jimmy took roll, provided introductory instructions, or when viewing videotapes pertinent to the day’s lesson.

The median family income in Atlanta where the Blue Mountain Elementary School was located was $89,905. This median income was much higher than the state average as a whole, which is $46,703. The population of the city has grown by 485.0 % since 1990. In particular, the influx of Asian and Hispanic immigrants was rapidly growing.

Michelle

Personal Background

Michelle received her Bachelor’s degree in Physical Education K-12 from State University (pseudonym) in Ohio. Although she attributed her becoming a teacher to her aunt and grandfathers, who were an elementary teacher and professors respectively, she felt that she “was born to teach” (Interview #1). At the time of this study, it was Michelle’s 19th year of teaching. She started teaching at an urban elementary school, which was located in “a pretty hard section of the city, kind of ghettoish section of the city” (Interview #1). The teaching experience in that school led her to realize the importance of discipline as a fundamental component of effective teaching. Reflecting on her past experience in that school, she said,

I think it [discipline] came mainly out of necessity because I taught at an all black school that was at very low social and economic status. The school was in a very hard core city. A lot of gangs, a lot of drug use from adults, and mainly housing project students, and the main time some of the kids ate was when they were at school. It taught me a lot about how to discipline. So, I learned I needed to get
more activity time and less waiting time, so kids kept active and moving as much as possible. But I had to have more equipment for the kids to be moving.

(Interview #1)

After five years of teaching in that school, she taught at a middle school for one year and then moved to the Rocky Mountain Elementary School (pseudonym). Michelle started working on her Master’s degree in the Pedagogy of Physical Education and Health at a university in Virginia in 2003. She was “always willing to learn and do better” as a teacher and convinced that she “has changed and grown as a professional” (Interview #1) throughout her 19th teaching years.

She received National Board Certification in November of 2002. She was also named Georgia Elementary Physical Education Teacher of the Year for the school year 2000-2001. Her physical education program received Physical Education of Excellence for the year 2000-2001 in Georgia. Michelle’s specialty was swimming, and she also played softball, basketball, soccer, and field hockey.

Teaching Philosophy

“Building a stronger youth through heart healthy activities: fitness, cooperation and self-esteem.” This quote that Michelle put on her school homepage represents the core of her teaching philosophy. Michelle believed that physical education could be used as a tool to promote students’ fitness, cooperation, and self-esteem, and to ultimately develop the whole child. She summarized her teaching philosophy in this way:

My philosophy is building a stronger youth through healthy activities utilizing fitness, cooperation, and self esteem. So, I kind of think of PE as a tool to teach and to promote fitness as well as kids’ self esteem. Fitness first and then we work on skills and constantly working on working together and helping each other out.
My ultimate goal is developing the whole child, which means that they not only have to know a skill, they have to have a cognitive side to it, like what are some of the cues we use for how to do skills as well as knowledge about fitness.

(Interview #1)

Michelle’s teaching philosophy was clearly expressed in the letter that she wrote to her students’ parents in order to introduce her PE class at the beginning of the new academic year. She wrote,

I feel guiding students to believe in themselves is important to developing lifelong learners. I feel teaching appropriate skill development and allowing students time to develop some competency in those skills will foster both students self-esteem and willingness to participate in physical activity. I also feel that teaching students how and why to get physically active goes hand and hand with how students feel about themselves. But I can't do it alone. Parents you can help! Spending time with your children participating in physical activity together will develop life long physically active people better than I can.

Michelle’s PE rules also reflected her teaching philosophy, as shown below.

Freeze: Stop, Look, and Listen; GO: Start your activity; Respect Each Other: Move safely, participate with different people, encourage others; Respect Equipment: Treat PE equipment better than your own, use equipment properly; Participate: Wear tennis shoes, try new things, work hard (Rocky Mountain Elementary School homepage)

In order to achieve her teaching goals (i.e., students’ fitness, cooperation, and self-esteem), Michelle believed that PE teachers should have compassion for students’ learning. She
also stressed the importance of pedagogical content knowledge (Shulman, 1986, 1987), which is necessary to communicate subject matter knowledge to students. She pointed it out as follows:

The first thing I’d think teachers need to have is compassion for children’s learning, and after that, they would need to have knowledge of how to teach. I’ve seen some teachers that know a subject but can’t communicate it…They need to know how a skill works and then how to break the skill down to a lower level at least for elementary kids. I really think they need to know how to bring the skill down to a lower, kids’ level and then be able to do the skill or have knowledge of the sports. (Interview #2)

This statement implies that teachers should transform subject matter knowledge into forms that are more comprehensible to students. To this end, teachers need to understand individual students’ understanding levels, learning styles, and needs; as Michelle said, “A teacher needs to adapt to a student’s learning styles, ability, and needs within forty kids or twenty kids, so that they can learn at their level and keep progressing as opposed to they have to change to the teacher’s needs.”

Michelle perceived that her strength was organizing her lesson and her students “in a safe manner and in an effective manner whereby they can be moving and working at the same time” (Interview #1). She also expressed strong confidence in her ability to “read individual kids such as where they are wrong and how she can help them to correct their skills” (Interview #1).

*Rocky Mountain Elementary School (Pseudonym)*

The Rocky Mountain Elementary School was one of the Atlanta city public schools. Atlanta is the largest city and the capital of Georgia, and hosted the 1996 Summer Olympic Games. It is considered the commercial, industrial and financial giant of the Southeast. Several
large corporations such as Coca-Cola, Delta Airlines, the Centers for Disease Control, and the United Parcel Services call Atlanta home for their headquarters. Located in the northwest area of metropolitan Atlanta, the Atlanta city public school system is comprised of 85 schools: 59 elementary schools (grades pre-K to 5), 10 middle schools (grades 6-8), 10 high schools (grades 9-12), and 6 charter schools. Among the students enrolled in Atlanta city public elementary schools, 88% were African-American, 7% White, 4% Hispanic, and 1% Asian in the academic year of 2000-2001. Approximately 80% of the students enrolled in the 2000 academic year were eligible for free or reduced cost meals, which was higher than the Georgia state average, 51.0%.

However, demographic statistics of the Rocky Mountain Elementary School were very different from those of other typical Atlanta city public schools. The student enrollment of the Rocky Mountain Elementary School in the 2003-2004 academic year was 564, of which 89.0% were White, 9% African-American, 1.0% Asian/Pacific Islander, and 1.0% Hispanic. Approximately 4.0% of the students were eligible for free or reduced cost meals. Most of the students came from middle- to upper middle-socioeconomic areas.

The Rocky Mountain Elementary School was founded in 1947 and has enjoyed tremendous support from its neighborhood district throughout its 50-year history. This school prides itself on having a strong PTA, which supported the school monetarily and through community resources. Some community resources like Harry Norman Realty have provided the school with funds for a school telephone directory and playground maintenance. Other community resources have provided tutors, educational field trips, speakers and gifts to the school all through the help of the PTA. The PTA also helped fund school projects when Atlanta city public school funds ran short, funding areas such as staff development, physical education, French, computers, orchestra, band and teacher supplies.
The parents of the Rocky Mountain Elementary School expected a lot from the teachers and staff. Most of the graduating fifth grade class went on to private school education, and many parents perceived that it was the teachers’ job to get their children there. The parents were very insistent that their child got good grades and, if not, they wanted to know why. However, students often did not meet their parents’ expectations. Michelle described it as follows:

One would think that the students are very motivated with parents having such high expectations, but many not. Our students are spoiled and not used to having to work very hard. This is especially true when it comes to self-responsibility. Often I have to remind students to clean up after themselves or to help a neighbor.

(Interview #2)

In this regard, teachers in this school were often caught between parents who expected a lot and students who could not perform to that level.

Most of the students in Rocky Mountain Elementary School were Christian although there were a few Jewish families. The school system outlined how they were to approach the religious aspect of the school and holidays. The only school holiday that was recognized was Martin Luther King Jr.’s birthday. All other religious days were not considered as holidays. Teachers were also encouraged to provide instruction about all winter holidays (e.g., Kwanzaa, Hanukah, and Christmas), if the teachers were going to honor any of them.

Emily

*Personal Background*

Emily was born to a middle class socioeconomic level family in Florida. When she was eight years old, her family moved to Georgia, where Emily subsequently grew up, attended college, and now teaches. She had a very close relationship with her parents and three siblings.
In addition to her family, she shared her personal life with various friends from both inside and outside of school. With those friends, she played competitive softball and volleyball games, traveled to the mountains on ski outings, ran in road races, and participated in a wide range of social activities. As implied by these activities, Emily was a life-long athlete and adherent to a rigorous daily exercise regimen of aerobic and strength training.

Having been raised in the community in which she still resides and works, Emily felt and ongoing need “to return what I have,” and “to make a contribution” (Interview #1). In this regard, she volunteered to coordinate and participate in community safety, health, and wellness programs on a regular basis. A significant example of her community involvement was Emily’s effort to organize a program for “Latch Key Kids.”

Influenced by the two positive role models who were her high school PE teacher and coach, Emily early decided to become a teacher and coach. She recounted this as follows:

I was always athletic growing up, played a lot of sports and always had great experiences with sports and I’ve always been a big people person. I guess I got into ninth and tenth grade in high school I had two PE teachers that were great role models and they made a big difference in me. They gave us some opportunities to go to the local elementary school and work. We could organize games and activities and take equipment over there. And I just remember getting such a great feeling from working with these kids. (Interview #1)

Her decision was made by the beginning of her sophomore year in high school because she believed “it was something she could really make a difference in” (Interview #1). Thus, she majored in Physical Education at a state university in Georgia. During the summers of her college years, she had positive experiences when she worked as a day camp counselor in the
recreation department of her metro area suburban home town. Those successful experiences led her to volunteer to teach at several public schools. She described those experiences in this way:

I started working at day camp when I was in college in the summer. I got to do all that stuff, work with kids, work with sports, organizing things…. And I just felt like that was my niche, I really fell in love with teaching right away. I volunteered at a couple of different schools when I was still in college just to get some experience and to get my foot in the door, you know, meet some principals, stuff like that. And it has just all worked in my favor. If I had any recommendation for a future PE teacher, I’d say, “Get out there and get as much experience as you can.” (Interview #2)

Responding to her drive to learn more about physical fitness, Emily began full-time work on a Master’s degree in Exercise Physiology in another state university in Georgia, less than a month after completing her undergraduate program. Working as a corporate fitness instructor during the years of her Master’s program, she explored her interest in and developed her expertise in cardiovascular fitness. Emily also earned her Educational Specialist’s degree in Educational Leadership in 2005.

In 1989, she began teaching at an elementary school located in the northeast portion of metropolitan Atlanta and stayed at that school for eight and half years. She, then, moved to another neighboring school, the Pine Mountain Elementary School, and has taught there for eight and half years. She also coached a high school softball team for twelve years. Featuring a unique combination of the skill theme approach and an emphasis on physical fitness, Emily’s PE program earned immediate recognition as a GAHPERD Education Excellence Award winner in 1990. In the years thereafter, she established herself as one of the most dedicated young PE
teachers in the state by serving as the coordinator of the Great Georgia Workout, a GAHPERD Network leader, presenting at numerous state and district conferences, and coaching softball at a nearby high school. In 1996, she was also recognized by GAHPERD as the state elementary Teacher of the Year.

Teaching Philosophy

Emily’s primary goal for teaching PE was to develop students’ fitness as implied in her remark: “If I had a pie and had to draw it, I would designate a little bit bigger portion of that pie for fitness because I think fitness encompasses all that other stuff. If you’re not a healthy body, then your mind won’t be healthy” (Interview #1). In order to develop students’ fitness, she tried to make fitness fun enough for all students to actively participate. She expressed her emphasis on fitness as follows:

I do my best to try to make fitness fun with a good foundation of fitness. When I teach throwing, do I really care how far a kid can throw a ball? No, absolutely not. Do I even really care whether they step and throw with opposition? No, I really don’t even though it’s part of our curriculum, but I care more about their fitness level. Are they being exposed to different things? Is this stuff that they can carry with them into the future? (Interview #1)

Consistent with the weight she placed on fitness, she believed that PE teachers need to know students’ developmental stages:

They [PE teachers] need to know the developmental stages of the student. If I’m teaching K-4 or K-5, I need to know pretty much what is expected from a psychomotor aspect. I need to know at grade or what age I should start teaching them to throw a certain way or kick a certain way. (Interview #2)
In addition to fitness, she emphasized character education in PE. Emily had students take responsibility for their own learning, encourage rather than criticize classmates, and get along with peers:

I teach them about character education. Can you get along with your buddy? Can y’all communicate? Can you learn to share equipment? Can you learn to work out a problem? Can you communicate? As a teacher, I care overall more about they [kids] can get along with others, solve problems, make good choices, and be responsible for yourself. (Interview #1)

Emily’s strong background in exercise physiology was frequently integrated into her teaching. Each lesson was highlighted by students’ active engagement and featured ongoing reviews of related health and fitness concepts, particularly those focusing on cardiovascular fitness. In addition to relying on her exercise physiology background for the knowledge she incorporated into her teaching, Emily drew from the work of Dr. George Smith, a nationally known physical educator who had once taught her at the state university. As a practitioner of the skill theme approach he advocated, Emily had attended numerous workshops taught by Dr. Smith over the years and referred regularly to his most recent text, Boys and Girls Movement (2004). She successfully utilized his methods while continuing to emphasize physical fitness. Emily’s lessons regularly featured the skill theme centers and activities intended to develop cardiovascular fitness. These activities provided many opportunities for students to be purposefully and continuously engaged in running, jumping, skipping, and hoping.

As a life-long learner, Emily attended many state and national teacher workshops and conferences. She also subscribed to the GAHPERD and AAHPERD journals and updates, and was an avid reader of health related articles in national and local newspapers and magazines.
Emily also reflected on teaching and critiqued herself in order to “do better” on a regular basis because she believed that “I’m my biggest enemy” (Interview #3). The following passage illustrates an example of her reflection:

Everyday I drive home and at some point during that night, I think about my lessons during that day. I literally can break it down and say, “Oh, my second graders, that was so horrible. Was I so unorganized? Didn’t I have the right equipment out there? Or didn’t I have a back up plan?” I assess my day of teaching a lot more than I did when I was a first or second year teacher.

(Interview #3)

Pine Mountain Elementary School (Pseudonym)

The Pine Mountain Elementary School was one of the Lanier County public schools located in the northeast area of metropolitan Atlanta. Although most of its farm land has vanished during decades of development, the area in which the school was located still managed to maintain some of its original rural essence. The Pine Mountain Elementary School had 77 classroom teachers and teacher to student ratio was 1:15. The student enrollment of the Pine Mountain Elementary School of March, 2003 was 1129, of which 58.0 % were White, 16 % African-American, 13.0 % Asian/Pacific Islander, and 12.0 % Hispanic. Approximately 19.0 % of the students enrolled in 2005 academic year were eligible for free or reduced cost meals, which was lower than the Georgia state average, 51.0 %. Most of the students came from upper middle- to upper-class socioeconomic backgrounds. A large majority of the students were children of Euro-American professional parents. Often driven to school in late model automobiles and vans, the students appeared well groomed, well dressed, and in good health.
The Pine Mountain Elementary School, which opened in 1986, is a cluster of ground level amber colored brick buildings. The population of the city in which this school is located has grown by 485.0 % since 1990. Accordingly, this school has been outgrown by its student body. In order to accommodate the overflow of those students, several long gray trailers had been brought in and were located in a large parking lot behind the school. Connected to the main building by a series of maze like pathways and low hanging utility cables, the mass of temporary portable classrooms looks much like a trailer park. Computers are housed in classrooms, computer labs, and the library-media center. Student-produced programs are broadcast over the closed-circuit television system in the library-media center on a daily basis.

Emily’s gym was a separate prefabricated metal structure connected to the school by an arched breezeway. The gym featured a well varnished concrete floor the size of a regulation basketball court, extensive bright lighting, bulletin boards, and an ample sound system. Her supply of sports and physical education equipment including balls, bats, racquets, ropes, mats, etc. are stored in her large office.
CHAPTER 5
THE CONTENT OF REFLECTION

This study explicated the nature of reflection of exceptional physical education teachers. Through the data analysis, three main themes emerged: Content of reflection, role of reflection, and factors promoting reflection. In this chapter, I discuss the content of reflection. In subsequent chapters the role of reflection in teaching, and the factors promoting teachers’ reflection are presented. Although the three themes are discussed separately, they are closely interrelated. Additionally, the three themes do not represent an exhaustive list of the teachers’ reflections. Rather, the themes encapsulate the nature of reflection depicted in the stories told and observed by the teachers.

The content of teachers’ reflection can be described in several ways based on focus topics (Schempp, 2003) or theoretical reflection frameworks that exist in the literature (Tsangaridou & O’Sullivan, 1994; Van Manen, 1977; Zeichner & Tabachnick, 1991). The content or topic of reflection can range from immediate pedagogical concerns of the classroom to social and ethical issues (Adler, 1991; Gore, 1990; McNamara, 1990; Schempp, 2003; Zeichner & Tabachnick, 1991). Schempp (2003) underscored the importance of various topics of teacher reflection:

All [topics] can lead to improvement. Just about any topic of importance to a teacher makes good subject matter for reflection. Reflection topics can range from the immediate concerns of the class to long-term implications for society.

Organizing and managing the instructional environment, student learning, and the
processes and practices of teaching are all common concerns scrutinized by reflective teachers (p. 166).

In order to analyze the content of reflection in teacher education, Tom (1985) specified four arenas of the teaching situation, arranged by degrees of comprehensiveness, which can be subjected to doubt, inquiry, and reflection. From the small to the large, these arenas are the teaching-learning process, subject matter knowledge, political and ethical principles underlying teaching, and educational institutions within their broad social context. These four arenas served as a guideline for analyzing the content of reflection of the teachers participating in this study.

This study employed a more descriptive than prescriptive approach to investigating teachers’ reflection. Since the purpose of this study was to describe exceptional physical education teachers’ reflection in terms of the nature of reflection in the real world, I focused on identifying regularities or patterns in the content of reflection from the statements made by the teachers, without using a predetermined framework. As a result, four main topics of reflection that influenced the teachers’ teaching perspectives and practices emerged: (a) the students, (b) instruction, (c) context, and (d) critical incidents. However, no one topic was overarching, nor was it possible to predict which topic would weigh most heavily in the teachers’ thoughts. In brief, it was not my intention to prioritize the content of teachers’ reflection.

The Students

One of the main topics of the teachers’ reflection was the students they taught. They repeatedly reflected on the differences among students in terms of psychomotor skill levels, learning styles, learning abilities, and personalities, interaction with students, and significant events associated with students such as student injury. In particular, three teachers’ reflection on
students was mainly related to students’ achievement. For example, Michelle reflected on how she could meet different students’ learning abilities to improve *all* students’ learning as follows:

> I don’t know if I’m really even improving my higher end kids especially for their knowledge side. They might already know what I teach. I sense that some of them are getting lost and having behavior problems. So, I step back and think, “What’s wrong in the lesson? Isn’t it challenging, or is it too challenging?” They [higher end kinds] are ready to move on, they are ready for more challenges, I need to think about giving them just simple little things to move them on and not move the lower kids on. I am always conscious of trying to make sure the kid with the lower skill is not feeling left out but I’m still having ways to challenge those higher level kids. And the hard part is keeping it at a happy medium. (Michelle, Interview #3)

The exceptional teachers focus on student achievement was nicely summarized in Jimmy’s statement below:

> I noticed with my student teachers, they don’t really look at what’s happening in the class very often. Very often they have a list of tasks that they want the children to do and they time themselves and they do this task and then they time themselves to do the next task and the children may not get any of the tasks but they’ve asked the children to do each one of these things. And some will get it and some won’t. So, I think the difference between my experience and their experience is that I’m actually not worried about the time any more and if we don’t finish today, we’ll finish next time, but I’m looking and seeing what the
students are doing in response to my task, and if they are getting it or if they are not getting it.

He further declared,

I think of students as individuals more focusing on their achievement in physical education like what kinds of difficulties a student has in learning this unit, why this student dislikes PE, how this student’s motor skill development is going, how I can help them to succeed in learning the skill. Those questions help me a lot to improve my teaching. (Jimmy, Interview #2)

As implied in Jimmy’s explanation, teachers’ reflection on students’ learning facilitated the teachers’ practices. The better a teacher understands his or her students, the better equipped he or she is to provide instruction that motivates students and contributes to their overall well-being (Schempp, 2003). In fact, the data revealed that the focus on students’ achievement influenced the teachers’ teaching in multiple ways: (a) accommodating teachers’ words to students’ understanding levels, (b) considering students’ characteristics in planning instruction, and (c) focusing on the students with low skills, disability, and misbehavior.

Accommodating Teachers’ Words to Students’ Understanding Levels

Through asking questions of “why did it work?” and “why didn’t it work?” the teachers came to realize that they needed to use words that were appropriate to their students’ understanding level. As an illustration, Emily depicted how she arrived at the importance of using words suitable to students’ cognitive developmental levels:

I learned that teachers should make an effort to be teaching at the level of the children….The teacher would be more successful if he avoids technical terms and tries to talk in a way that the children understand. I caught myself doing it a
couple of times. One day I said, “Get medium-body posture,” and I never thought that the children might not know what the medium-body posture is until I reflected on that class….So, it is really important to get down to the students’ level and needs and try to work with what you have right there and try to improve.

(Emily, Interview #4)

Michelle also provided an example of how she chose words to guide students to understand timing for getting in a jump rope:

There were a couple of kids having trouble in getting in and some of them got confused between front and back door when they had to get in it. So I said, “Twelve o’clock when the rope is up high is when you want to get in back door.” Just that one little change helped them think better and got them in. Or I gave a cue to them every time the rope was up saying, “Now, now.” Actually, I saw some kids who were having trouble in back door and then they were able actually to succeed using my cues. I am always careful in choosing words and closely observe students’ responses to my choice of words for directions and tasks.

(Michelle, Interview #5)

Rovegno (1989) mentioned that awareness of the relationship between teachers’ words and students’ understanding is one aspect of teachers’ knowledge development. Michelle’s intent was to discover words, phrases, or concepts that she assumed the students would understand. In her effort to make this discovery, she attempted to listen to the students through observing the students’ responses. Michelle might understand that the problem was not whether teachers were giving clear tasks and directions, but whether the children understood what the teachers were trying to communicate (Boud & Walker, 1998).
Considering Students’ Characteristics in Planning Instruction

The teachers’ reflection on their students led them to take into consideration individual students’ characteristics such as prior knowledge, learning difficulties, skillfulness, and personality in planning instruction. The teachers were able to connect their planning decisions to what they knew about the students’ prior experiences and skills. Many researchers viewed the consideration of students’ prior learning and skill as the starting point for subject matter decisions as one of the attributes that expert teachers possess (Berliner, 1987; Reynolds, 1992; Westerman, 1991). The teachers committed to making the subject matter safe and meaningful to the students by consciously considering the students’ prior background, learning difficulties, and skills when planning their lessons. Emily planned a group soccer game, for instance, because she learned that her students had mastered all the basic skills for the game. She said,

Thinking about their skill levels and what we’ve done so far during this semester,
I think they are ready to do a group game. We’ve done things throughout the year like stop, drop, and kick. I feel at this point in my classes that they are ready to do a group game. So, I will plan a game and add the whole cooperation thing. Some of my classes have a tough time for getting along, so I might develop a different activity for them where they have to learn to get along with each other. (Emily, Interview #5)

This statement indicates that Emily’s understanding of her students’ personalities as well as their skillfulness played a role in her instructional decision. Michelle also gave an example of how she considered individual students’ skill levels and personalities in grouping them:

I am trying to differentiate my instruction according to the different levels of the kids. I have them more grouped according to skill level so that I knew who I
needed to go work with and help them out. Or sometimes I have a high skilled kid with the lower skilled kid so they can help each other. One of my good jumpers, Jane, I had her with Susan and Laura because I knew Susan was low skilled and Jane is a caring child that would help Susan and make sure she would learn it. (Michelle, Interview #4)

Awareness of students’ learning difficulties also facilitated the teachers’ reflection on their students, and further influenced their instructional decisions. In a jump rope class, Michelle recognized that some of her students had difficulty understanding where they should get in the rope. After that class, she decided to use a visual aid for the students, reflecting on the students’ learning difficulty. She stated,

For the next lesson, I’ll have tape on the ground in a plus sign and lay the ropes in those plus signs….the objective is for the turners to all start at that spot. And then they get the rope going and then the jumper comes in and they know where the spot is to jump on to. Because a couple of them were having trouble getting in back door and I talked to them they needed to be in a straight line than triangle, but they still didn’t understand that concept. So, I’ll have put a piece a tape on the ground for them and make sure the turner start the rope on the ground on that piece of tape so that they have visual aid spot. (Michelle, Interview #4)

In summary, the teachers connected students’ prior experiences, skill levels, and personal characteristics to their instruction in order to maximize students’ learning. Shuell (1990) argued that this close interrelationship between students’ prior experiences and teachers’ decision making in the lesson was a step towards the terminal phase of learning to teach. Given that all of the teachers are experienced teachers, it is assumed that the teachers developed better
understanding of students through teaching experience in which reflection played a critical role (Sebren, 1995).

**Focusing on the Students with Low Skills, Disabilities, and Behavior Problems**

The teachers frequently reflected on students with disabilities, low-skills, and behavior problems. For example, Emily expressed her concern about students with disabilities, recalling her experience with a student who had a heart problem:

> I taught a student for five years one time, literally starting at kindergarten and I didn’t know until the child was in fourth grade that that child had a heart murmur and that’s upsetting to me because that is directly related to P.E. What if I’d had him running or doing something and he had a problem? Those are things that I need to know. (Emily, Interview #1)

With this concern in mind, at the time of this study, she sent out a note to parents to ask whether their children have any problems that limit their participation in PE. Michelle also reflected on her difficult-to-teach students in this way:

> We have a lot of mainstream kids with some behavior issues and I deal with them differently. Sometimes it is more of just moving myself closer to them and getting them to calm down. There are a couple of kids who know they are supposed to sit right next to me, that’s their spot regardless of where everybody is, when I say “grapes” they have to be right there. When they start getting silly, I just put a hand on them and they calm down. I try to move myself toward them. (Michelle, Interview #5)
Michelle’s statement implies that her reflection on the students with behavior problems led her to develop several instructional strategies in order to deal with the behavior issues. Michelle continued to express her difficulty with the students who attempted to hide in class. She said,

They try to hide up against the wall, what I call like a wallflower; they try to pretend they are not in class, so I don’t notice them. And that comes from experience, reflecting on that experience, learning your children and being with these kids as they grow, and the advantage of observing them all for six years. I know whom to pinpoint and I am very active in going to those kids and making sure they know that I know that they are working or not working. (Michelle, Interview #3)

From this statement, it is suggested that experience and accompanying reflection on that experience were critical for teachers to acquire knowledge of students and further perform effective teaching. Although knowledge is acquired through experience, experience alone is not enough for effective teaching. Only when teachers reframe their experience through reflection can they maximize the “wisdom of practice” (Shulman, 1987).

The fact that the teachers’ reflection was oriented toward the students with disability and behavior issues was related to their beliefs about teaching physical education. As Jimmy said, “physical education is for all, not just for athletes” (Interview #5). The teachers wanted to provide meaningful experiences to all students. This goal facilitated their reflection on the students who needed more attention from them and led them to develop instructional strategies in order to meet the students’ special educational needs.
Another topic on which the teachers often reflected was their instruction. In particular, they reflected on management strategies, assessment methods, and grouping strategies.

**Management Strategies**

In the analysis of interview and observation data, it appeared that the teachers were excellent managers. In this regard, their reflection was often associated with their management skills such as classroom organizational patterns, spatial concerns, equipment distribution, amount of time teachers spent on talking, rules for class conduct, listening skills, and so on. An example of reflection on those matters was illustrated by Emily in this way:

> My first whole two or three weeks of school in August, we work on expectations in the gym and protocols. The very first day we come in and sit down and we talk about rules and then we put them in an organizational spot, whatever it happens to be and then the next day they come into those organizational spots and then we move from there, what to do next and next and next, and usually within two to three weeks, they should know what to do the minute they come in. And then when they don’t do that, that’s when I start disciplining them and rethinking my management skills. (Emily, Interview #6)

This statement implies that she used proactive strategies to prevent management problems rather than waiting for the problem to arise and then using reactive techniques. Furthermore, the teachers’ reflection on management was mainly positive. Given that all the teachers were very experienced and skillful, this finding was not surprising. This characteristic was featured in Michelle’s description below:
If they are supposed to come and sit with me, I call it grapes because it used to be a circle with so many kids in the class. You’d come and make like a bunch of grapes, sitting in front of me. Now, they are supposed to walk. Well, if they run and slide which they all love to do, they go back and do it again. In the past, if they did something wrong, they had to do ten push ups. But, I realized I should not use fitness as a physical punishment, because then they don’t want to do fitness. So, if they are doing something silly, I create it into a game, and it works very well. (Michelle, Interview #5)

Teachers’ classroom management skills serve as the foundation for further attention on learning to teach subject matter (Eraut, 2002; Hollingsworth, 1989). In other words, teachers’ development of strategies for addressing students’ learning came after they had established approaches to classroom management (Eraut, 2002). Parallel to this, the teachers perceived classroom management as a prerequisite for successful teaching, as Michelle said,

I guess I wasn’t real happy, kind of last Thursday, because it’s hard…. Most of them [students] were actually trying to jump. But you know, there are so many other things, kids coming to me complaining about this, and complaining about that and it is like, “Man, I can’t even see anybody jumping because of all these other issues going on!” So, I think management is fundamental to teach subject content. (Michelle, Interview #7)

As this statement suggests, the teachers focused on management not as control for survival, but as antecedent to teaching and learning. This assertion is supported by Jimmy’s statement below:

I think managing a class is fundamental to become an exceptional teacher. But, I don’t think management is sufficient for students’ meaningful learning. Rules or
protocols are necessary, to keep the classroom running smoothly may be necessary, but teachers have to make efforts to provide opportunities for kids to experience successful learning. (Jimmy, Interview #2)

However, all the teachers indicated that their reflection about classroom management was connected to their confidence, as Jimmy said,

I feel like I have confidence of that [management]. I want my kids to take me seriously…. I wasn’t really worrying that I didn’t get to teach what I wanted….I have many more tricks in my bag. I can reach all students and motivate them to participate in class. (Jimmy, Interview #8)

Having that confidence, the teachers’ management was aligned with their caring attitude and deep concern for students, as Emily stated: “I am trying to be fair but firm, and rely on praise, trust, and encouragement in management” (Emily, Interview #5).

Assessment Methods

The teachers’ comments during the interviews and their thoughts captured during their teaching suggested that their reflection in and on action were oriented toward assessment. In particular, they reflected repeatedly on diagnostic assessment in order to tailor instruction to scaffold individual students’ learning. Jimmy pointed it out as follows:

You have to plan and you have to assess. And by assessing it’s not only just paper and pencil assessment but as you see things develop, you have to be able to assess what’s going on, as to when to step in and when to step back. I am always assessing where my kids have difficulties, and then I use this information to adjust my instruction to the kids. You have to be thinking on your feet and to teach on your feet to know what’s going on. (Jimmy, Interview #7)
Jimmy’s statement indicates that he perceived assessment as part of the teaching process which served to improve students’ learning rather than as strictly evaluation. Their perception of assessment as an aid to facilitate students’ learning led them to try out new assessment methods. Reflecting on assessment methods that could motivate students to engage in learning, Michelle attempted to use peer assessment. She reported,

I need work with peer assessment and examine whether or not it’s really effective. It’s effective in some respects of just helping each other out because sometimes kids can teach each other better, but they like to say, “Well, go like this. Do this.” and just showing off more than they are really helping other kids sometimes. But for me to give a letter grade where a kid assessed another kid is not easy. This is what I have to work on. (Michelle, Interview #8)

Meanwhile, the teachers sometimes expressed concern about the disparity between theory and practice with respect to assessment. Michelle put the issue in this way:

You know, ideally, we should give a pretest every time and a post test every time. But with two hundred and fifty kids a day, it isn’t happening. We’re still dealing with a lot of other issues. It’s unrealistic, but I’d love to do that. (Michelle, Interview #5)

In addition, the teachers raised another concern about the objective criteria for assessment. Emily explained this concern in the following way:

We have to have good reason for why a kid gets an A, B, or C and what is behind it. And most of the time if a parent questions and they know this is my reasoning, and this is what I’m looking at, and this is what’s happening, and this is what your
child is doing, then they back down because they just want to know…that it is just
not that I just don’t like their child. (Emily, Interview #7)

As indicated in this statement, concern about parents’ complaints underlies her attempt to
employ standard-based assessment. In order to prevent potential parents’ criticism, the teachers
implemented several strategies such as informing parents of assessment criteria, writing a letter
about individual students’ progress, giving students extra chances, etc. Those strategies are
nicely summarized in Michelle’s statement below:

I have a website to give information of what I am looking for in the gym to
parents. I have a letter I give parents at open house that they see my plan for class
and ask them for their kid to be ready by having tennis shoes on….We just
finished that huge jump rope unit and I had a lot of kids, for whatever reason,
didn’t complete the work and so I gave them extra chances by staying after
school. So, I’d write a letter to their parents telling them for whatever reason, the
work didn’t get completed and so they got an incomplete on their report card but
we will fix that and I want this work done instead of just giving a kid a C for not
being able to do it. (Michelle, Interview #9)

In summary, instruction was a major topic that the three teachers often reflected on. With
respect with assessment, major foci of reflection included significance of diagnostic assessment,
implementation of new assessment strategies, and developing clear assessment standards.

Grouping Strategies

The other issue relating to instruction was grouping strategies. An example of this topic is
shown in the following interview excerpt:
I had difficulties with letting the class go smoothly because of one group with two boys yesterday. Today, it’s an okay lesson; it went much better than yesterday. I used different grouping. That helped kids to get into activity more quickly and provided them with more opportunities to practice jump roping. (Michelle, Interview #6)

Given that Michelle had a large number of students, it is assumed that she had to develop effective grouping strategies to provide optimum learning experiences for all students. In this regard, the teachers were very careful when grouping students to consider individual students’ needs, ability levels, peer relationship, and personality. Emily said,

Because of different individual learning needs, I grouped students in the way that each was able to participate actively. My primary goal as a teacher is students’ learning, and grouping is a useful tool to achieve my goal. So, to me the most important thing is what my kids needed and how I could help them meet those needs. (Emily, Interview #3)

Emily’s description provides evidence that experienced teachers evaluated their instruction according to their students’ needs and growth in learning, not according to whether or not they cover the material and get through everything they plan to do.

The Context

Teaching is highly context specific because an individual teacher is faced with a certain curriculum and a particular group of students within a specific school. Indeed, teachers’ practices are located in and dependent upon specific social, cultural, and educational contexts. Thus, understanding of teaching practices can be fully understood only by considering the social contexts in which teachers are embedded. In this regard, some advocates of reflection encourage
teachers to focus on their own context and settings (e.g., Morrison, 1996; Smyth, 1996), which can either promote or inhibit working with students. The data from this study revealed that beyond instructional concerns, the teachers mainly reflected on the classroom and school context factors of the principal, parents, and class size. Given that all the teachers who participated in this study were exceptional teachers and that good teaching requires understanding of the environmental context of learning, the teachers’ reflective focus on context is not surprising.

The Principal

Among the various components of teaching context, principals were one component that influenced the teachers’ values, reflection, and practice. As an illustration, Emily had a principal who devalued physical education in her first workplace. The principal’s negative attitude toward physical education caused her to consider transferring to another school. Emily elucidated,

Why I wanted to transfer from the other school was not only because I wanted to move closer to home but also I had a principal who would look at me right in the eye point blank and just said that they didn’t think that PE was as important as everything else. And that was a crushing blow to me because first of all, it’s what I went to college to do, it’s what I love, it’s one of my passions in life. I don’t mean that everybody has got to love PE and believe in it and think it’s important, but when you have a person that is your boss, telling you that they don’t think what you’re doing is important….that would be like me telling you “Oh, the last four years of your life working on this project were just a waste of your time.” That would be hurtful and disrespectful to say that. That was like a knife in the chest. (Emily, Interview #2)
Finally, after working at that school for eight and a half years, she transferred to Pine Mountain Elementary School. There, she met a supportive and caring principal, who further served as a role model for her:

She [Emily’s current principal] has been a huge influence in my life. Not just personally, but professionally. She is a huge role model if I ever want to become a leader, like an administrator. She was my mentor for the whole last year when I worked on my Ed. S. And I respect the heck out of her for what she goes through everyday as a principal. And if I ever become an administrator, if I can even have an ounce of her confidence as an administrator, I would die for that. She’s another reason I like coming to work everyday and trying to do better. (Emily, Interview #2)

Emily’s case indicates that it is the principal who sets the environment which encourages or destroys desire to become a better teacher and facilitates or aggravates effective teaching practices. In fact, this point was also supported by Jimmy. He confessed that his past principal was a factor that fostered his decision to leave the teaching profession:

In 1984, it was my sixth year of teaching elementary school and I had felt like I had done about all I could do. I won the State of Georgia Teacher of the Year that year and initiated the Excellence in Physical Education Award and that was another application process, and so I submitted the application and won that award, and my principal drove me down to the state department to receive the award and then he took all the credit for it. He didn’t care about what I did. And I was really deciding at the time I needed a change and in fact, I left the teaching profession and started my own gymnasium. (Jimmy, Interview #3)
Like Emily’s case, Jimmy’s new principal appreciated his excellent teaching and expressed high expectations for his future performance, which convinced Jimmy that he was a good teacher. He explained,

The principal is so good, and I think that’s what kept me here. She often came out to the gym and just sat down once in awhile and watched. And when the class was over and I’d ask her if I could help her, she said, “No, I just came out to see some excellent teaching.” So, that really boosted my ego to think that the principal came out to see me because she was looking for someone who was a good teacher. (Jimmy, Interview #3)

From Emily’s and Jimmy’s accounts, it was suggested that principals played a critical role not only in teachers’ self-evaluation of their performance, but also in retaining them in teaching profession.

*Parents*

In addition to the principals, parents were another main topic the teachers often reflected on. Their reflection on parents occurred mainly in two ways. First, since they believed that parents should be involved in disciplining students, they reflected on the ways to collaborate with parents regarding discipline. Michelle considered parents as an important source of information about her students, whereas Jimmy regarded them as a partner for solving students’ behavior problems. The following two excerpts provide evidence for these perspectives:

I do have certain kids that are slackers or lazy and I just try to encourage them and I try to talk to them one-on-one about what I see and what I want to see. If I don’t see the improvement then I do have the advantage of calling home. If I have issues with certain students, I want to find out, “Is this a learning issue or is this a
personality problem or is he just lazy?” I want to learn about the kid from his parents. You’ve got to know your students to help them learn better, but you cannot know everything about students without parents’ help. (Michelle, Interview #5)

I feel like teachers are under fire all the time. If their [the parents] kid isn’t learning, it’s the teacher’s fault. Is it always the teacher’s fault? Well, sometimes there’s a lot more going on at home that’s prevented that kid from actually being able to learn. So, without parents’ cooperation, it is very hard to guide all students to the right direction. (Jimmy, Interview #3)

Second, as discussed before, the teachers’ placed great emphasis on students’ learning. In concert with this attitude, the teachers reflected on the way that they could cooperate with parents in order to facilitate students’ learning. Michelle offered an example of this kind of reflection as follows:

I have a little boy who is a big fourth grade boy who has some motor neuron issues. His mother and I have emailed almost everyday and talked about him. One day, she emailed that he’s all upset that he is going to fail because he can’t do this. And, I emailed to her and said, “We have after school time to work on stuff and I’ll work with him on Friday mornings.” She said, “Thank you” and “I’ll work with him too.” And he worked very hard with me and with his mother, and he achieved some things, some of the skills. Now he wants to continue on working on Friday mornings and I don’t want to stop his wanting to learn for life, you know? (Michelle, Interview #7)
In summary, the teachers’ reflection on parents was closely related to their desire to optimize individual students’ learning. The teachers perceived that parents were not outsiders but insiders in a context that greatly influenced student learning.

Class Size

Not surprisingly, a large class size was an impediment to effective teaching. Since all of the teachers worked with a large number of students (i.e., thirty to forty five), they often reflected on their class size. Most of time, their reflection was connected to how to effectively manage the challenge of big class size. Michelle described,

When our principal said we were going to have double classes everyday, I thought it would be almost impossible to do what I want to do. So, I said to her, “Well, you need to give me some help.” And, I also talked to the PTA and the PTA agreed that they would pay for one paraprofessional to come two days a week. (Michelle, Interview #4)

Whereas Michelle tried to get assistance from her principal and PTA, Jimmy reorganized his instruction in order to have his big group of students engage in activity as much as possible.

I wanted to work on gymnastics, but I had only six gymnastic mats for a whole class that was thirty five kids. So, I set up centers for gymnastics, jump rope, volleyball, and shooting, and when my main focus that day was gymnastics, I was there at the gymnastic center and worked with a small group of kids on gymnastics with rolling skills or something and then after a few minutes we switched so that I got to see every student focus on gymnastics that day. (Jimmy, Interview #5)
Jimmy’s statement implies that contextual factors such as a lack of equipment and large class size impacted teachers’ instructional decisions and practices.

Critical Incidents

During the process of interviews with the participants for this study, they frequently reflected on critical incidents that had happened during their careers as physical education teachers. Those incidents were summarized in the following categories: (a) burn-out, (b) devaluation of PE, (c) students’ injuries, and (d) positive experiences (e.g., awards, student improvement, etc.). The teachers’ reflection on those incidents appeared to provide meaning to inform their practice over the years.

Burn-Out

Since all of the teachers had more than 15 year teaching experience, they sometimes experienced burn-out throughout their teaching careers. However, they were not depressed by the burn-out. Rather, they made efforts to confront and overcome the symptoms of burn-out. For example, when Jimmy was feeling burned out, he invited his friends to his class and got feedback on his teaching from them. Through this effort, he felt refreshed. He recalled this incident as follows:

I’ve had a couple of times in my career when I was battling burn out. I thought “I just don’t want to do this anymore.” About four years ago, I was just feeling very burnt out and I called a couple of friends to come in and help me teach for a week or so at a time, to critique me, and for me to critique them. So, I have a good friend in Maine who teaches great dance, and she came down and spent three days with me teaching dance just as a favor to me and that really sparked my interest. And then another friend came down from Virginia at the time, we did a workshop
here and he spent a couple of days teaching with me. It was really good to have a jolt in the arm from somebody that I really respected come in and say, “Jimmy, that’s really good” or “Have you tried this?” So, I could think about what I have done and what I need to work on more. And I also went to some meaningful workshops. They refreshed me. (Jimmy, interview #5)

Jimmy’s remark suggests that experienced teachers used burn-out as an opportunity to reflect on what they have accomplished and how they can improve teaching.

*Devaluation of PE*

The teachers frequently expressed that others’ devaluation of PE made them think and rethink about PE teaching as a profession. Michelle explained it this way:

Especially in the elementary, we [PE teachers] are the teachers’ break, their planning time, and they don’t always look at PE as a valued class. I did have an issue with a teacher last year. He kept calling my class ‘play time’ like “Well, you’ve had enough play time, and you need to go back to your classroom.” I finally had to confront him and say, “This is not play time. We do organized activities,” then he said, “Oh, I am just talking on the kids’ level” and I said, “No, you’re not because you’re putting down my program. If you can’t call it physical education, then don’t call it anything.” (Michelle, Interview #7)

Michelle’s remark implied that many teachers perceived physical education as a marginal subject matter in schools, which has been a concern of several scholars in physical education (Locke, 1992; Siedentop & O’Sullivan, 1992; Sparkes, Templin & Schempp, 1990). With this issue in mind, the teachers underscored that colleagues and principals needed to realize that physical education is an important subject for student development. They also agreed that physical
education is the only subject that is able to teach all learning domains including cognitive, affective, and psychomotor domains. In addition, they felt that physical education needed more allocated time and should be a curriculum requirement.

**Student Injury**

In planning instruction, the teachers greatly considered safety issues including student injury. This feature was manifested when their students experienced serious injury in the past. For instance, Jimmy had a student who fell down during his class and had a concussion that evening. He portrayed this event as follows:

I’ve had a few problems with injuries on this concrete floor. I had a young boy who fell down and hit his head the other day. He didn’t have a lump or anything and he said he was fine, so I didn’t think much more about it. But that evening, he woke up vomiting and had a concussion and his mother was very upset with me because I didn’t make him to go to the clinic. But children come up to you all day long and say, “I hurt this or bumped that” and you just have to evaluate it. To me, his injury didn’t look that hard, he didn’t have a headache, didn’t have a visible bruise or anything, so I let him go. But I learned a lot from that happening. I should have taken more caution with that. So, I’ve been more cautious with students’ injury and considered safety issues a lot more in my teaching. Safety is my first consideration (Jimmy, Interview #6)

This account implies that student injury facilitated teachers’ reflection on their performance and influenced their instructional plans. However, the teachers’ concern about safety sometimes limited student learning experiences. In Emily’s class of striking, she allowed her students to
practice striking only with hockey sticks for a short time due to her concern about safety.

Reflecting on that class, she confessed,

   We’ve could have done some more striking like with bats, but my concern with
   bats, clubs, and hockey sticks was safety. I haven’t quite figured out how to do in
   a safe enough situation. So, once I feel like I have better control with this large
   group, then I’ll add it back in. (Emily, Interview #4)

It is clear that safety issues were one of the factors that promoted the teachers’ reflection and
shaped their practices.

Positive Experiences

   In reflecting on their practices, the teachers often recalled positive experiences such as
   earning awards and their students’ success. Whereas Michelle recounted how the National Board
   Certification process helped her be more reflective, Jimmy asserted that the National Teacher of
   the Year award validated what he had done. The two excerpts below illustrate their reflection on
the rewards:

   It [National Board Certification process] helped me to think more about what I
   need to do. I came to see a difference in the way I look at things and myself…It
   still makes me really stop and take a long look at myself and my students.
   (Michelle, Interview #6)

   When I won the National Teacher of the Year, I felt honored. I think it validated
   my practices. But I also feel kind of responsibility to do better. It definitely has
   inspired me to think about where I need improvement. (Jimmy, Interview #7)

   Students’ improvement was another recursive topic of the teachers’ reflection. An
   example was presented by Jimmy:
I love seeing improvements in my students and the smile on their face. I do remember a very heavy boy he had never been upside down before because of his weight, so we were working on gymnastics at the time and I just happened to have the camera going when I was able to talk him into going over a ladder and supporting his hands on the floor but most of his weight was still supported on his waist but he was upside down and he came back up and he had a big smile on his face and he threw his hands up like an Olympic Champion. It is those little kinds of things that motivate and keep me moving everyday. (Jimmy, Interview #2)

This statement indicates that students’ reactions and responses to the specific activities serve as a conduit for teachers to improve their reflection on their performance.

Summary

The purpose of this chapter was to describe the content of the teachers’ reflection based on the question: what they reflect on their teaching. Four main topics of reflection that influenced the teachers’ teaching perspectives and practices emerged: (a) the students, (b) instruction, (c) context, and (d) critical incidents. The teachers most frequently reflected on their students, in particular on individual students’ differences in terms of psychomotor skill levels, learning styles, learning abilities, and personalities. Their reflection on students often stimulated them to accommodate teachers’ words to students’ understanding levels, consider students’ characteristics in planning instruction, and focus on the students with low skills, disabilities, and behavior problems.

Another topic of their reflection was their own instruction. In particular, management strategies, assessment methods, and grouping strategies constituted their reflective foci. The other topics that the teachers frequently reflected on included components of educational context
in which they were embodied including the principal, parents, and class size; critical incidents such as burn-out, devaluation of PE, students’ injury, and positive experience (e.g., awards, student improvement, etc.).

Any content area or any topic did not weigh more over another and all content areas and topics were related with each other. Regardless of the topics of reflection, the teachers’ reflection was oriented toward students’ learning, since they perceived that their primary role as a teacher was to facilitate students’ learning. To sum up, the content of the teachers’ reflection that emerged from this study was presented in Table 3.

Table 3

The Content of Reflection

<table>
<thead>
<tr>
<th>Major Content of Reflection</th>
<th>Students</th>
<th>Instruction</th>
<th>Context</th>
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<tr>
<td>Sub Topics of Each Content Area</td>
<td>Skill levels, Prior knowledge, Learning abilities, Learning difficulties, Personalities,</td>
<td>Management strategies, Assessment methods, Grouping strategies</td>
<td>Principals, Parents, Class size</td>
<td>Burn-out, Devaluation of PE, Students’ injury, Positive experiences</td>
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CHAPTER 6

THE ROLE OF REFLECTION

Recently, a few scholars have noted the importance of reflection in the physical education teaching and learning environment (e.g., Napper-Owen & McCallister, 2005; Rovegno, 2003; Tsangaridou, 2005). Teaching is a practical and complex cognitive activity that occurs in an ever-changing environment, so teachers have to constantly make pedagogical decisions throughout the day (Calderhead, 1996). In this environment, reflection is likely to play multiple roles. The narratives of the teachers who participated in this study revealed four major roles played by reflection: (a) making sense of unforeseen events, (b) developing knowledge-in-action, (c) making on-the-spot decisions, and (d) reconstructing teachers’ belief systems.

Making Sense of Unforeseen Events

Freese (1999) indicated that teachers use reflective thinking to make sense of their teaching and their students’ learning, which informs and guides their future action. Reflecting on past experiences, prior knowledge, and expectations, teachers obtain significant insight into new information (Lowery, 2003). In this study, it appeared that reflection functioned as a vehicle for the teachers to make sense of an unforeseen event and then to react to that event in an appropriate way. This sense making procedure consisted of five steps: Perceiving a problem in a given unforeseen situation, connecting the problem to past experience, inventing a solution, testing the solution, and accepting or rejecting the solution.

After years of teaching experience, Jimmy noticed that his students did not engage in activities as enthusiastically as they had done. He analyzed that situation deeply and understood...
that the students got bored with his teaching because they had become accustomed to it over a long time period. They still followed his directions very well. Consequently, in his perceiving a problem in a given situation stage started; he began thinking: “I want to have a taste of the new method of teaching because I felt that old way is quite boring and inefficient. I felt there was nothing that got my children excited. It was a big change for me” (Jimmy, Interview #5).

With this problem in mind, he moved on to the connecting the problem to past experience stage. He recalled his past experience with several workshops and professional conventions. Attending those professional development programs, he had meaningful learning experiences whenever he needed to learn how to teach better. In addition, when he was burned out, he felt refreshed by learning something new to him and by talking with people who shared similar concerns with him. Hence, he read the GAHPERD journal and other articles related to the PE curriculum in depth and the “Games for Understanding” model caught his attention. He thought, “This is something my children would really enjoy” (Interview #5). Thus, he attended a few workshops on the model to get a deeper understanding, which indicated that he was on the inventing the solution stage. In finding a strategy to deal with the problematic event, Jimmy did not examine alternative solutions to select the best one. Instead, he remembered similar past events for immediate determination about the proper action.

Next, he changed his teaching approach from the multi-activity model to the Games for Understanding model and tested the solution in his actual classroom. Consequently, he found that the Games for Understanding model worked well for his upper grade students, but did not work for his lower grade students. As a result, he accepted that model for upper grades, but rejected it for lower grades.
Jimmy’s story demonstrates that reflection allowed him to analyze and rationalize an unforeseen event, to understand his own teaching, and to look for a different way of teaching in order to deal with that event. In this respect, reflection is critical for teachers to manage unforeseen events that potentially challenge their instruction. Jimmy saw it this way:

Reflection is important. When things are not working right and you don’t have enough experience to know what to change or why it is not working right, reflection enables you to step back, think, and change things. (Jimmy, Interview #6)

Developing Knowledge-in-Action

Another role of the teachers’ reflection was to develop their instructional strategies. Schempp (2003) argued that “reflecting on the limits of knowledge and seeking new information provide avenues for instructional improvement through reflective teaching” (p. 166). Consistent with this, in this study, the process of reflection informed the teachers of what needs to be changed, and when and how these changes need to be made to enhance students’ learning. Through reflection on their own practices, the teachers realized weaknesses in their instruction, which led them to make changes. As a result, their knowledge-in-action was expanded.

Reflection as a Means of Self-evaluation

Reflection assisted the teachers in assessing weaknesses of their performance as teachers. Such self-evaluation is essential for improving teaching, if teachers are to begin to address areas which might present challenges in their teaching (Pugalee, 1999). The collected data showed many examples in which the teachers reflected on their own difficulties and weaknesses in their teaching. Michelle reported that she continued to use the reflective thinking to evaluate her action. She said,
Reflection is very helpful to improve my teaching. I always ask myself, “What did I do?” or “How did I do it?” or “Why did this happen?” Answering those questions helped me improve for the next day. Sometimes I videotape my classes and watch them and ask, “Am I moving enough in the class?” “Am I opening the lesson right?” “Am I closing the lesson right?” “Are my comments positive to the students’ skill?” My reflection really focused on “Am I teaching well?” (Michelle, Interview #7)

As suggested in this account, Michelle purposefully evaluated her actions by questioning and thinking about her teaching.

Jimmy also constantly monitored his instruction and admitted that he had always had difficulty with assessment. He confessed that his assessment was intuitive to some degree and he needed to work on making assessment more concrete. Such comments were prevalent throughout the reflections:

My weakness is the grading and lack of time to develop rubrics. Although I have rubrics, grading individually forty people during a class period is hard…The really hardest part about it is justifying, like we said, “Why does this person get an N?” and “Why does this person get an E?” I always know why, but I need to put how I know into documents. (Jimmy, Interview #6)

Overall, reflection enabled the teachers in this study to engage in self-evaluation, through which they came to understand the limitations of their teaching and internalize the need for change. Rippey (1981) suggested that self-assessment through reflection is essential to improve one’s own teaching, because the improvement requires the recognition of personal deficiencies and the
internalization of the need for change. In this regard, these teachers’ self-evaluation promoted changes in their practices.

*Reflection as a Mean of Change*

Both exemplary and unsuccessful lessons made these teachers think about how to structure new teaching and learning experiences (Tsangridou & O’Sullivan, 1997). Once the teachers figured out what needed to change, they were able to make appropriate changes in their actual practices. They often modified instructional tasks or stayed longer in a specific task when needed. As an illustration, in Emily’s kicking lesson, she had a hard time with three students who struggled with kicking. After the class, she reflected on the experience and created a new strategy to help the students. She said,

I’m having a hard time just discovering why they are not getting it. I could figure out why one little girl didn’t get it. She was stepping with the same foot and trying to kick with that same side instead of stepping opposite. So, I can help her do better. And then I have two other little girls that are just totally missing every time like they drop the ball, they let it bounce to the ground and then they kick. I can’t figure out what other cues I can give them to help them. What I’m thinking of doing next with them is just getting them with another kid that can kick really well and see if they can figure out how to help each other because sometimes kids, for some reason, can figure it out better than adults can. I’ll try that to see if that works. (Emily, Interview #4)

While Emily modified her instruction through reflection, Michelle extended the time allotted to the “Eggbeater” activity. Michelle originally planned to assign one lesson to the eggbeater activity and then move on to the “Run through School” activity. However, she recognized that
many students had difficulty with the eggbeater activity. Thus, she decided to stay with that activity for one more lesson. She explained,

Well, I saw many kids having difficulty in doing back door. Back door they have to come in with a jump. Actually I planned to move on to the new activity which is “Run through School” next class. But I’m going to have them do eggbeater more. Also, I’ll review the difference that the jumper has to do [between] doing front door and back door before they do eggbeater right after they do fitness.

(Michelle, Interview #3)

The two excerpts above provide evidence that if something went wrong during lessons, the teachers analyzed their teaching behaviors and subsequent students’ responses, and then made appropriate changes. This entire process was facilitated by reflection on “what could I do differently to help that situation?” (Jimmy, Interview #7)

*Developing Personal Knowledge*

It has been discussed that through reflection on exemplary or unsuccessful lessons, the teachers examined the reasons why those lessons went that way and subsequently changed their instructional practices when needed. As a result, the teachers developed personal knowledge for teaching through reflection. For example, when Michelle recognized students’ difficulty in understanding the concepts of back door and front door, she developed a few strategies to help them such as using a visual aid (i.e., putting tape on the floor to represent the getting in site) and adding a review section. In consequence, she expanded her repertoire for teaching jump rope. This point is well captured in her remark below:

I learned a lot from that lesson [the Eggbeater activity]. I should have reviewed the cues for what back door was and just reiterated what they should have learned
from the last lesson, so they could have understood what they have to do in doing
back door and front door. And, I should have talked about the cooperation
between all three people because sometimes they like to mess each other up by
spinning it too fast and tripping somebody. Putting tape on the floor worked well.
It helped kids visually understand where they should be in this area to jump. So,
I’ll use it again next time. And, I need to deal more with what’s going on and the
dynamics of the group than the skill. (Michelle, Interview #5)

Making on-the-Spot Decisions

Reflection occurred not only after the teaching practice was completed but also in the act
of teaching. In other words, while the teachers were teaching, they constantly analyzed and
interpreted instructional events. Consequently, they changed or modified their practice through
real-time reflection on the spot.

Reflection-in-action

Schon’s (1983) book, *The Reflective Practitioner*, is based on the concepts of “reflection-
in-action” and “reflection-on-action.” Reflection-in-action refers to the process of interpreting,
analyzing, and providing solutions to complex and situational problems during an action
For example, in Jimmy’s class, he asked his students to throw hockey sticks when he said,
“freeze” because he expected that it would make them immediately quit practicing striking and
pay attention to him. However, after implementing that strategy once, he realized that throwing
the sticks made a big noise and might cause safety issues. Hence, he instantly changed it to
holding sticks.
Michelle commented that real-time reflection made her conscious of her decision making, as opposed to merely presenting a rigid plan. She noted,

I believe all teachers do the real-time reflection, you have to. Because if you don’t, I don’t think you are teaching. You are just delivering some static plan that won’t be working. You have to examine students’ reactions all the time and make decisions about your subsequent action to help them learn. (Michelle, Interview #8)

Also, she emphasized the importance of taking time “on the spot” to quickly review and assess the situation and adjust her lesson:

I often catch myself, just for a minute, and ask, “Was that the right thing to do?” or “Was that something that makes it a little better?” It helps me make more rational decisions. (Michelle, Interview #8)

Comments from the teachers indicate that they viewed their responsibility to be teaching for understanding as opposed to going through the predetermined motions of teaching. In this regard, they engaged in self-talking while they were teaching. They were also able to be flexible, try things out, and learn from their experiences. Consequently, their learning to teach was a dynamic process.

*Teaching on Your Feet*

The following example illustrates how Jimmy intentionally used real-time reflection to help him attempt to solve one of the unanticipated dilemmas of practice. Jimmy’s story expressed the notion that spontaneous reflection is more than simply the fleeting ideas or questions which might rush through a teacher’s mind while teaching. Rather, his reflection was thoughtful and deliberate:
I saw Jane winning every time in the four ways tug-of-war and I wanted them to be equal. So, if you have the four ways there, it sometimes helps to switch two people that are on the same side so that someone can win….It's very hard sometimes to catch that and that's exactly why I did that and that's what I call 'teaching on your feet' or just you are able to see something like that and pick it up and change it a little bit so everybody can have some success. Because I knew Jane has bad self-image, I thought letting her win might be good for her, but I thought she would learn more in a more challenging situation, and they need to learn how to share the pleasure of success. (Jimmy, Interview #7)

This example shows the depth of Jimmy’s reflection and how he thought about the consequences and implications of his decision. Jimmy took the time to reflect on the pros and cons of the situation, turning the various options over in his head. He framed and reframed the situation and was able to see the situation in a new light. He reflected on his teaching “in the midst of the performance” and responded to a puzzling question from a student by “turning thought back on itself;” (Schon, 1983) engaging in self-talk, and seeing the problem from a different angle to come to a decision which focused on the students’ learning.

Taken together, although they demonstrated that they went to the classroom with a good understanding of what was going to happen during the course of their interaction with students, they modified their plans due to their reflection-in-action in response to problematic events. For the most part, the modification of their plans began when they encountered some surprises in their routine actions.
Source for Reflection-in-action

Two major sources that promoted reflection-in-action appeared from the data: (a) student learning and (b) safety. As discussed earlier, the teachers’ primary teaching goal was to facilitate students’ learning. In this regard, at the moment that they noticed that students’ learning did not happen, their reflection-in-action occurred focusing on constructing meaningful learning experiences. This is in consistent with the result of Tsangaridou and O’Sullivan’s (1997) study. Emily put this issue in this way:

I have to make changes on the spot when they’re not learning, they’re not achieving the skill, and they’re frustrated with it. So that’s how I know right away that something has to change. I have to do something different when they don’t learn. (Emily, Interview #6)

This statement implies that the teachers changed their planning or the way they give directions through reflection-in-action for meaningful student learning. Jimmy eloquently advocated this point, saying: “If students had difficulties in an activity, I did not go the next one. My goal was not to finish the activities in the lesson plan” (Interview #2).

Safety was also one factor that motivated the teachers’ reflection-in-action. Jimmy’s typical class included several stations or centers in order to allow students to practice various skills as much as they could. One day, Jimmy noticed that the center for four ways tug-of-war caused a few safety problems. Thus, he immediately changed it into the center for basketball. He reflected on that event as follows:

When we were doing that four way tug-of-war, I had two children fall on the concrete and get hurt and so I made the decision, “This is unsafe to do on this surface. It’s probably okay to do it on grass but on this surface it’s not safe.” So I
took that center out. Instead, I just put a bag of basketballs…. (Jimmy, Interview #4)

Safety was a fundamental concern of these teachers, so they considered safety in both planning and teaching. Jimmy summarized his emphasis on safety in his teaching as follows:

Safety is my first consideration and if I see something that I think could potentially be unsafe or is already unsafe, then that’s when I take action immediately. When I am planning how to set up my gym and gymnastics equipment, I look for safety first. (Jimmy, Interview #4)

It is clear that safety was one of the factors that inspired teachers’ reflection-in-action.

Reconstructing Teachers’ Belief Systems

As Schiro (1992) mentioned that teachers change their beliefs with time and the teaching circumstances in which they find themselves, the teachers constructed and reconstructed their beliefs through reflection on themselves and their practices. In their study (1991), Raymond, Santos and Masingila found that the continuous reflection seemed to be most influential on shaping pre-service teachers’ values, beliefs, and practices. The data from the present study showed that in-service teachers also changed their beliefs through reflection.

For example, Emily declared that she largely emphasized fitness during her beginning teaching years. Through experiences and reflection on her actions, however, she came to understand that she needed to incorporate character education and cognitive aspects in teaching PE. She reported,

I believed that I, as a PE teacher, had to improve students’ fitness. But, as time went on, through reflection on my teaching, I came to realize I should focus on character and cognitive education as well as fitness. Well, education should aim at
developing the whole person. So, now I do other things like with the bones, the skeleton, the muscles, I have them look at a picture and ask, “Point to your bicep muscles,” so that’s cognitive...I didn’t know to do that the first couple of years that I taught. It has taken many years. (Emily, Interview #3)

Similar to Emily, Michelle reported that her instructional approach shifted from sports toward basic skill themes, and subsequently from students with high skill to students with low skill, disability or misbehavior. She stated,

> Nowadays I teach more basic skills than the sport so much….Well, what made me make that change? I think experience and rethinking my teaching. PE is not only for athletes or the gifted but for all students. I believe I need to make sure I’m focusing on the worries of everyone in my class. If more than half of the kids can achieve a skill, then can I think everything I am teaching is the right way? No, I should be aware that everyone is not on the same level and just adjust some things that I’m doing to better help everyone learn. (Michelle, Interview #7)

This remark clearly outlined how important reflection could be in helping the teachers shape what they believed to be important in the teaching and learning of physical education.

Another example that shows how reflection is related to teachers’ belief changes was given by Jimmy. He described his changes of beliefs about his goals in teaching PE as follows:

> I noticed that I didn’t really look at what’s happening in the class very often when I was a beginning teacher. Very often I had a list of tasks that I wanted the children to do and then asked them to do each one of these things according to my timeline…What I was missing was I didn’t think much about “What part are they not doing correctly and how can I fix that?” it’s hard to do at the beginning
because you’re so concerned about covering the material and getting through everything. And it’s a lot easier when you have more experience to believe if we don’t finish today, we’ll finish next time, and more important thing is I’m looking and seeing what the students are doing in response to my task. (Jimmy, Interview #4)

The three teachers’ cases discussed so far demonstrated that the reflection process facilitated change in their philosophies related to teaching and learning physical education and teaching practices. In this regard, it seemed that reflective teaching is an effective technique for stimulating change in teachers’ attitude and beliefs systems in education. A study (Gonzalez, 1993) suggested that gains in academic knowledge occur as the result of an increase in awareness levels of attitudinal belief systems gained through self-reflection, and also from observing others reflecting on educational philosophies. He argued that no longer can educational professionals succeed with just applied knowledge. They need to become reflective thinkers and researchers in their multiple roles as teachers (Gonzalez, 1993). Through becoming reflective practitioners, teachers can become empowered, and they believe that they can make a difference.

Summary

The purpose of this chapter was to describe the role of reflection in exceptional physical education teachers’ teaching performance. The narratives of the teachers who participated in this study revealed four major roles played by reflection: (a) making sense of unforeseen events, (b) developing knowledge-in-action, (c) making on-the-spot decisions, and (d) reconstructing teachers’ belief systems. First of all, reflection played an important role in making sense of unpredicted events. This sense making process occurred in four steps in which reflection was
significantly involved: (a) perceiving a problem in a given situation, (b) relating the problem to past experience, (c) creating solution, testing solution, and then (d) accepting or rejecting it. Reflection also promoted the teachers’ awareness of weaknesses in their teaching and subsequent changes in practices, which in turn fostered the development of knowledge-in-action.

In particular, reflection-in-action (Schon, 1983) enabled the teachers to make on-the-spot decisions in the act of teaching. The exceptional teachers’ immediacy, flexibility, and problem solving skills were grounded in their reflection-in-action. Concerns associated with students’ learning and safety greatly motivated the teachers’ reflection-in-action. In addition, reflection served as a conduit for the teachers to construct and reconstruct their belief systems. The findings in this chapter were summarized in Table 4.

Table 4

*The Role of Reflection*

<table>
<thead>
<tr>
<th>Major Role of Reflection</th>
<th>Making sense of unforeseen events</th>
<th>Developing knowledge-in-action</th>
<th>Making on-the-spot decisions</th>
<th>Reconstructing teachers’ belief systems</th>
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<tr>
<td>Sub Topics of Each Role Area</td>
<td>-Perceiving a problem in a given situation, -Relating the problem to past experience, -Creating solution, testing solution, -Accepting or rejecting the solution</td>
<td>-Self-evaluation, -Awareness of the need of change, -Change in practice, -Development of personal knowledge</td>
<td>-Reflection-in-action -Students’ learning -Safety</td>
<td>-Beliefs about physical education, -Beliefs about the goals of physical education</td>
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CHAPTER 7

FACTORS PROMOTING REFLECTION

Through the data analysis, five major factors that promoted reflection were identified: (a) students’ learning, (b) performance as a teacher, (c) subject matter, (d) professional development work, and (e) educational context. Again, no one topic was overarching. Rather I am presenting the factors, which are closely interrelated, without weighing them in the teachers’ reflection.

Students’ Learning

The first factor that stimulated the teachers to reflect on their teaching and subsequently to take action upon was students’ learning. Since the teachers’ primary focus in their instruction was students’ learning, students’ verbal or nonverbal responses, motivation, learning needs, and learning outcomes played an important role in shaping the teachers’ reflection. Emily put it in this way:

If I notice students do not understand some aspects of the lesson, that is when I take time to think about what is going on, and make a decision as to what I could do to help them. I often stayed in a skill or drill longer than I estimated in the lesson plan because students didn’t get it. (Emily, Interview #5)

This statement implies that students’ level of learning was one of the factors that provoked the teachers’ reflection and changed elements of their teaching to provide appropriate learning experiences for students. The primary source of the teachers’ information in this respect was the students’ responses during classroom interaction. These responses took different forms: Answers to the teachers’ questions, students’ questions or comments during lessons, students’ posture and
facial expressions, students’ level of skills, students’ level of attention, and involvement in the task. Such responses provided a basis for them to make judgments about students’ motivation and learning needs. Reflecting on the kicking lesson, Michelle noted,

I sensed that they didn’t totally understand how to do it correctly, because a lot of kids were not using their instep and they were just dribbling it. But I noticed that they were really into challenging themselves because they wanted to do well. It was a hard challenge. So, I let them keep doing what they were practicing until they could do it right, but I had to watch their foot to make sure they were using the instep to help them get it. (Michelle, Interview #5)

Michelle’s account suggests that teachers’ capacity to assess students is essential to their reflection and to adjusting instruction to students, because students’ responses can influence teaching practices only when a teacher is aware of their significance. Stated differently, only when teachers grasp their students’ cognitive, affective, and psychomotor status with respect to the learning of the subject matter content can they apply pedagogically adjusted procedures to the students in order to facilitate learning. Reflection is involved in this entire process. In a similar vein, Jimmy emphasized analytic and reflective thinking in knowing where his students are:

In order to know whether my students get it or not, I often use several strategies. For example, if we’re hitting the hockey puck between two cones, I usually have them [students] do it for a time instead of hit it ten times, I have them do it for a timed amount of time. Like how many times can you hit it between the cones in one minute? And then I can watch and see if they are successful…If needed, I redirect them or let them repeat it. And if the scores improve then I know they are
getting some skill…A lot of it [knowing that students get the skill] is by teacher observation, analysis, and my knowing what a second grader might look like when they are dribbling as opposed to what a fifth grader might look like when they are dribbling, which was constructed through reflection on past experience.

(Jimmy, Interview #5)

Jimmy’s remark underscores the importance of teachers’ close observation in reading students’ understanding levels. This careful observation of students’ actions during the activity stimulated the teachers’ reflective thinking. By redefining students’ learning needs, the teachers decided what questions to ask and when, what comments to make and when, and how to coach the students in their learning processes. Those actions seemed to be mainly based on the teachers’ judgment and reflective thinking during classroom action.

Overall, results of the study indicated that a successful and positive learning experience for students was the most important factor for inspiring teachers to reflect both in action and on action.

Performance as a Teacher

The second category of factors that facilitated the teachers’ reflective thinking was related to their performance as a teacher. The teachers’ implicit view of themselves as a teacher and their beliefs about teaching PE shaped many of their decisions during interactive teaching. Their comments during interviews suggested that they reflected on some of the events because they were in conflict either with (a) the role that they considered appropriate for themselves as a teacher and the role they were expected to play by principal, parents, and others as a faculty member or with (b) their beliefs and philosophy of teaching and learning physical education.
Role Conflicts

Reflection was promoted when the teachers met the demands or conflicts of their multiple roles. Role demands were embodied in the expectations teachers faced in school (Schempp, Sparkes, and Templin, 1993). Sometimes, teachers needed to play several explicit or implicit roles. Jimmy shared his conflict roles as a teacher and as a faculty member:

If the school decided to use the gym for picture-taking or for assemblies, when I was a younger teacher, I was really upset, because it was like taking my right to teach away and taking learning opportunities away from students. But, I had to understand the situation as faculty in the entire school…And, in the beginning, I fought so hard for getting the kids five days a week, because I’ve put much importance on myself and my curriculum. Those kinds of conflict made me think about myself as a teacher. I have really changed philosophy about myself and PE through thinking about them. Now, I realize that there are other things going on around the school that I need to fit into. And, I developed enough knowledge of what to do in a classroom or how to take them some place else and do something meaningful…I still fight real hard and diligently for the things we have here but I will step back and see what the classroom teachers are going through. (Jimmy, Interview #4)

This reflection implies that conflicting role demands stimulated him to reflect on himself whereby he developed the knowledge to reconcile those multiple demands.

Beliefs as a Filter

The teachers’ beliefs about teaching and learning PE functioned as a filter through which a number of decisions about curriculum and instructional tasks were made (Nespor, 1987;
Richardson, 1996). In particular, when they were introduced to new instructional approaches which were not compatible with their beliefs, they did not employ them. Jimmy shared an example of this:

I attended a New Orleans convention, and so much [presented] there doesn’t fit into my curriculum, because there’s just one activity after another and that’s one of the things that concerns me about physical education today, and the teachers today. I think we should look at yearly planning or long term planning. Some teachers are just going to a workshop and saying, “Oh, this will be fun for my kids to do,” so they are more concerned about the kids having fun and being active. I understand in some situations that’s very important because their classes are so large and they have a hard time really teaching. But PE should not be a recreation program. We have specific teaching goals. That’s why here I’ve convinced my principal that we need to keep the class size as small as possible for actual teaching to go on. (Jimmy, Interview #5)

As shown in this statement, the teachers’ beliefs about teaching PE, though often implicit, motivated their reflective thinking about new teaching approaches and instructional judgments.

Subject Matter

The third category of the factors that captured the teachers’ attention for reflection-in/on-action was oriented to the subject matter. This reflection occurred when the teachers did not feel a sense of accomplishment with respect to the content of the lesson. These events, which appeared to be focused on the content of physical education, were in fact more closely related to technical aspects of the teachers’ thinking. In particular, when the teachers’ teaching objectives
were not achieved and they had to teach content that they were unfamiliar with, the teachers
started reflecting on their teaching. Emily put it in this way:

It [the lesson] went pretty good today. But, I don’t really like this lesson because I
don’t feel like we’re accomplishing much. I’m not real happy that we haven’t
done everything we were supposed to do today. Some students had difficulty with
kicking. So we have to do it another day, but I can’t figure out when. I need to
think about it more. I may be able to use centers, but we really don’t have time to
review them anymore this year. (Emily, interview # 5)

We can assume that Emily reflected that way based on three sources of information: her implicit
and explicit goals and objectives for the lesson and the unit, her continuous assessment of
students’ learning outcomes, and the time and pace of the activities with respect to the coverage
of the content. Also, she processed these three sources of information simultaneously and
combined them with their contextual information to decide whether they had accomplished their
goals or not.

In addition, teaching unfamiliar content provoked their reflective thinking as shown in
the following excerpt.

When I try to teach new things I am not familiar, I have to work on them in
various ways. I coached boys’ football in eighth grade when I taught middle
school and I read a lot of books and I went to the video store and shows on how to
teach the different football skills and what to do. And I looked at it, watched it,
wrote notes, and thought about it very seriously to make it mine. Then, I went in
and taught it to the boys which gave me great credibility because you know, being
a female, coaching football, they thought, “What are you going to do?” So, I just read, look, ask, think, whatever. (Michelle, Interview #4)

This finding suggests that it was the issues associated with mastering subject matter that often inspired the teachers’ reflective thinking.

Professional Development Work

The fourth category of factors that promoted the teachers’ reflective thinking was professional development work. The teachers emphasized that professional development opportunities such as teacher workshops, the National Board certification process, graduate school programs, and discussion with colleagues had an impact on their reflection and on the way they think about their teaching practice.

Teacher Workshops

It appeared that teacher workshops provided the teachers with opportunities to reflect on what they have done and to why they could do differently. When Emily was asked what made her reflect on her teaching and try to change old things, she said without hesitation, Conventions! They’re a huge motivator to make you think about your teaching and make you want to try new things. Just being with all other educators and PE educators and conversation with them make you to think about what I am doing in my classroom and inspire you to do something new. (Emily, Interview #7)

Jimmy also considered workshops as one of the major factors that impacted his reflective attitude:

I went to a workshop at Green State University in 1977 and that was a very powerful workshop…I probably learned more in those five weeks than I did in all my masters and undergraduate degree. They [presenters] were very masterful
teachers. We were in class from eight in the morning until five in the afternoon and then we’d have dinner and then we’d usually gather around together and share ideas and methods. And we did a lot of reflective conversation like what we are doing in our classroom, why something didn’t work, and why something worked. That reflection was powerful. That was a very significant educational experience for me. (Jimmy, Interview #3)

The fact that the workshops served as an opportunity for the teachers to improve their reflective capacity was related to their willingness to learn to teach throughout their careers. All of the teachers expressed their enthusiasm for continuous learning, saying, “Teaching is always a work in progress” (Michelle); “The more I see it and the more I understand it, the more I really enjoy using it” (Jimmy); “There is no perfect teacher, there are teachers who try to be close to perfect” (Emily).

**National Board Certification Process**

Michelle went through the National Board certification (NBC) process, so the NBC process repeatedly emerged during interviews with her. She considered reflection as a major positive outcome of NBC process. For instance, Michelle said,

The NBC process was the best staff development that I’ve ever had. It made me sit back and look and reflect on my teaching and look at different parts of my teaching and that has been huge. Especially, one thing National Board asked me to do was reflecting a lot more about why this went on in my classroom or why this lesson worked or why I taught this lesson. I was doing more why, and it changed my teaching. I developed a habit of reflection through the process.  

(Michelle, Interview #6)
From this statement, it is clear that the NBC process impacts teachers’ reflection. However, we do not know how the NBC process influenced teachers’ reflection because it is beyond the scope of this study.

*Graduate School Programs*

The teachers mentioned that the graduate school courses they took influenced their reflective thinking. Particularly, the graduate courses that required them to analyze their teaching and to write reflection on it significantly stimulated their reflective thinking. Emily provides an example of those courses as follows:

> Some of the graduate course work really helped me to reflect and to look at my teaching. We had to actually do a video tape of kids, transcribe a twenty-minute lesson, and actually reflect on that. Also, we had to code the transcript according to different feedback such as skilled specific, behavior related, positive, negative or middle that we gave the students and how many students did I talk to in that class and how many different feedbacks did I give them. And that actually showed me a lot. It was hard, but I learned a lot of things about myself and my teaching style from doing it. (Michelle, Interview #7)

*Conversation with Colleagues*

Through conversation with colleagues about each other’s teaching, the teachers were engaged in reflection. They often asked their colleagues to observe their teaching and critique it, because they believed that “having two sets of eyes was a good thing” (Jimmy, Interview #4). In this regard, reflection was not only a solitary activity but also occurred as a social process within the context of a learning community (Freese, 1999). How conversation with colleagues facilitated the teachers’ reflection was featured in the following excerpts:
I’m critical of myself and I think that’s my strength. I don’t just reflect but I also think about what I need to improve. I don’t just ignore that if other teachers give me feedback. I think about what is the area that I’m weak or that needs to improve. I always try to correct my weakness from observing others and talking with others. (Emily, Interview #6)

I like talking about why this went on in my classroom or why this lesson worked or why I taught this lesson with my colleagues. Instead of saying “this was a good activity, you might want to try it,” I talk about why the activity worked. That helps me to think about my teaching in a much deeper level. (Jimmy, Interview #7)

Those two statements imply that the teachers valued multiple perspectives on their teaching and co-reflection of teaching incidents with colleagues. In particular, Jimmy’ remark suggests that through talking about “why it worked” and seeing beyond the surface of teaching strategies with their colleagues, the teachers could gain a deeper understanding of their practice in order to improve it.

In summary, various professional development opportunities affected the teachers’ reflection and subsequently improvement of their teaching. This finding was closely related to the teachers’ open-mindedness, which is one of the three reflective dispositions (Dewey, 1933). Open-mindedness refers to the attitude of freedom from prejudice, partisanship, and other such habits that close the mind and make it unwilling to consider new problems and entertain new ideas (Dewey, 1933). Michelle provided a clear picture of what open-mindedness is as follows:

I view myself as a life-long learner. So I keep my mind open to new opportunities for improving my teaching. I believe that everybody has something I can learn. I
learn even from my students. A few days ago, when we were doing “Eggbeater,” I always talked about it more like a mushroom looking and one kid said “jellyfish” and I thought, “Well, that describes it even better than a mushroom.” And quite often I just pick up on what the kids have said because it makes more sense to them. I am always ready to learn to improve my teaching. (Michelle, Interview #8)

This statement indicates that she welcomed suggestions and relevant information from all sides in order to improve her teaching. This disposition catalyzed the development of her reflective attitude and learning to teach when the opportunities for them were given.

Educational Context

Another factor pertinent to the findings of the study was how the context including the principals, parents, and school settings affected the nature of the teachers’ reflection because “reflection on issues of teaching and learning does not occur in a vacuum but within broader context” (Valli, 1993, p. 15). Each of the teachers was embodied in a complex social system of a school. In this study, contextual factors such as the principal, administrators, colleagues, parents, and socio-economic school environment had significant influence on the way of the teachers’ thinking, values, and practice. In this respect, context was one of the major topics that the teachers frequently reflected on as discussed in chapter 5.

Since I have already discussed the impact of contextual components such as principal, parents, and class size on the teachers’ reflection in Chapter 5, here I argue the importance of context based on that discussion. As shown in Jimmy’s and Emily’s stories about their principals in chapter 5, the principal was one of the major components of teaching context that influenced the teachers’ reflection on the way that they taught and on their instructional decisions. Rapid
changes in our society in many aspects caused changes in student population, which in turn forced the teachers to adjust their instruction to those changes. In order to make the changes, reflection was inevitable. Jimmy expressed his struggle with the changes in our society as follows:

My student population is changing very fast now. Whereas before I had children that came from homes with both parents, now I have a lot of students who come from single family homes and lower middle class, and it is a different culture. So, the instructional challenges I’ve encountered also changed. I have to spend a lot more time going over my protocols now than I used to and I have to think about how to get them engaged in learning activities and how to balance between discipline and real teaching. (Jimmy, Interview #5)

Different school settings, including urban and suburban school settings, directed the teachers’ reflective focus toward different directions. On the one hand, the teachers who worked in urban setting schools often reflected on their poor facilities and large class sizes. On the other hand, the teachers in suburban setting schools where facilities, equipment, or class size were not a problem frequently reflected on parents’ high expectations and working with administrators who have a different philosophy.

In conclusion, it is clear that the context was perceived by the three teachers as a critical factor in their experiences and professional practices, therefore making them reflect on the experiences. Consistent with this, Jimmy stressed the importance of contextual issues in his reflection and instructional decisions, reflecting on the time when his school cut PE class hours from five down to one per week:
When I first started teaching, I was able to see the children five days a week, but when I came to this school, I knew that I could only see them once a week, because this school wanted to use more time for teaching reading and writing. I thought I might fight to have them five days a week, but I had to consider so many things going on in this school. That changed my philosophy. We are situated in this school so we have to consider many things and I cannot put too much importance on my curriculum...Anyway, I had to reevaluate what I thought was very important that the children need to know and what I was going to leave out. And that was the hardest decisions I have ever made. (Jimmy, Interview #5)

This remark shows how complex contextual issues affected Jimmy’s value, reflection, and practice.

Summary

The purpose of this chapter was to describe the factors promoting the teachers’ reflection. Through the data analysis, five major factors that facilitated reflection were identified: (a) students’ learning, (b) performance as a teacher, (c) subject matter, (d) professional development work, and (e) educational context. One of the major factors that facilitated the teachers’ reflection was students’ meaningful learning experiences. This finding was linked with the fact that all the teachers believed that their primary goal as PE teachers was to improve students’ learning. Demand of multiple roles or conflict with their philosophy of teaching and learning physical education was another significant factor that motivated their reflection. When the teachers failed to accomplish teaching objectives and had to teach unfamiliar subject matter content, their reflection was promoted. Moreover, professional development opportunities such as workshops, graduate school programs, National Board certification, and conversation with
colleagues stimulated reflection. Last and foremost, the issues associated with the teachers’ own educational contexts inspired the teachers to engage in meaningful reflection. The factors that stimulated the teachers’ reflection were summarized in Table 5.

Table 5

*The Factors Promoting Reflection*

<table>
<thead>
<tr>
<th>Major Factors</th>
<th>Students’ learning</th>
<th>Performance as a teacher</th>
<th>Subject matter</th>
<th>Professional development work</th>
<th>Educational context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub Topics of Each Factor</td>
<td>-Students’ verbal or nonverbal responses, -Motivation, -Learning needs, -Learning outcomes</td>
<td>-Conflict with multiple role demands, -Conflict with their own belief system</td>
<td>-Failing to accomplish teaching objectives, -Teaching unfamiliar subject matter</td>
<td>-Teacher workshops, -National Board certification process, -Graduate school programs, -Discussion with colleagues</td>
<td>-Principals, -Parents, -School settings, -Contextual issues associated with subject</td>
</tr>
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CHAPTER 8
SUMMARY, DISCUSSION, AND IMPLICATION

Summary

This study attempted to examine the nature of reflection of three exceptional physical education teachers. Data collected from multiple sources revealed three main themes associated with the nature of these teachers’ reflection. The first theme was the content of reflection. The teachers’ reflections mainly focused on four different areas: the student, instruction, context, and critical incidents. Given that teaching is always conducted in a context in which a teacher interacts with students, it was not surprising that the teachers most frequently reflected on their students. In particular, individual student differences in terms of psychomotor skill levels, learning styles, learning abilities, and personalities emerged as a major focus of the teachers’ reflection. Regardless of what aspect of students the teachers reflected on, their reflection on students converged into students’ learning. Because the teachers’ primary goal of teaching was to improve students’ achievement, their reflection centered on students’ learning, which in turn stimulated them to change their practice. As a result of reflecting on students’ learning, they accommodated teachers’ words to students’ understanding levels, considered students’ characteristics in planning instruction, and focused on the students with low skills, disabilities, and behavior problems.

Another topic of their reflection was their own instruction. In particular, management strategies, assessment methods, and grouping strategies constituted their reflective foci. The teachers’ reflection on those topics was also closely related to how they scaffolded students’
learning. The other topics that the teachers frequently reflected on included components of educational context in which they were embodied including the principal, parents, and class size; critical incidents such as burn-out, devaluation of PE, students’ injury, and positive experience (e.g., awards, student improvement, etc.).

The second theme of this study was the role of reflection. Reflection helped the teachers to make sense of unforeseen events. When the teachers encountered an unforeseen event, they first perceived a problem in a given unforeseen situation. They then connected the problem to past experience and developed a solution. Next they examined the solution and then decided whether to accept or reject it. Every step and transition between these steps required reflection.

Reflection also facilitated the development of instructional strategies and knowledge-in-action. Through reflection, the teachers assessed themselves as teachers and came to recognize the need for change in their practices. As a result, they made changes in their teaching and developed their knowledge-in-action. In particular, reflection-in-action (Schon, 1983) enabled the teachers to make on-the-spot decisions in the act of teaching. The exceptional teachers’ immediacy, flexibility, and problem solving skills were grounded in their reflection-in-action. Their reflection-in-action was often inspired by issues associated with students’ learning and safety. In addition, reflection served as revenue to construct and reconstruct the teachers’ belief systems.

The last theme of this study was the factors that promoted reflection. Students’ meaningful learning was the most important factor for inspiring teachers to reflect both in action and on action. Reflection was also promoted when the teachers met the demands of their multiple roles and confronted conflict with their beliefs and philosophy of teaching and learning physical education. With respect to subject matter, failure to accomplish teaching objectives and
unfamiliar subject matter functioned as factors that motivated the teachers to reflect on their teaching. Professional development opportunities such as workshops, graduate school programs, National Board certification, and conversation with colleagues also stimulated reflection. Furthermore, the teachers’ open-mindedness synergistically enhanced their reflection in combination with professional development work. Given that teaching is very context specific, elements of school context served as a major factor catalyzing teachers’ reflection.

Discussion and Implication

The purpose of this study was to explore the nature of reflection through in-depth investigation of three exceptional physical education teachers. The findings of this study cannot be generalized to all other teachers or settings due to the nature of a multiple case study (Schempp, 1993). Rather, this study aims to provide insights into issues related to the nature of teachers’ reflection by comparing this case with others. In the course of this study, several subjects were selected from the findings for discussion based on their potential for improving teachers’ reflective capacity.

Awareness of Importance of Reflection-in-Action

According to Schon (1983), reflection-on-action is the retrospective thinking teachers do after a lesson has been completed whereas reflection-in-action is the spontaneous, intuitive decisions made during the act of teaching. This study showed the significance of both reflection-in-action and reflection-on-action in effective teaching practices. In particular, reflection-in-action played a critical role when the teachers encountered unforeseen events. Those unpredicted incidents often required the teachers’ immediate judgment to react to them in an appropriate way. To this end, the teachers reflected on the spot and elicited a solution from their rich repertoire of exemplars, knowledge bases, and past experiences. Consequently, the teachers demonstrated an
uninterrupted flow of teaching by easily adapting to the unexpected, which proved that the teachers were exceptional.

Schon (1983) stressed the importance of reflection-in-action, stating that important decisions are made during the act of teaching itself. In order to make those instructional decisions while teaching, teachers have to attend to the available information about what is happening in the classroom, frame and reframe the situation, identify a number of alternative strategies, and make a reasonable and moral choice from among the alternatives (Schon, 1983) within a short period of time. Obviously, the reflection cycle within a limited period of time is more demanding than one where deliberation happens over a relatively extended period (i.e., reflection-on-action).

In order to make those reasonable and moral decisions, the teachers in this study used extensive practical knowledge of teaching including knowledge of the content, students, curriculum, context, and most importantly, sensitivity to the current classroom social environment. Once the teachers made decisions through reflection-in-action, they put them into practice. In this regard, reflection-in-action was closely associated with teaching practice, thereby determining the success or effectiveness of the practice. Also, the teachers’ reflection-in-action capacity was primarily developed by experiences rooted in classroom context.

This importance of context in teachers’ reflection also provides significant insight into pre-service teacher education. Pre-service teachers need to have enough school-based field experience including student teaching, practicum, and classroom observation in combination with reflection. Through those experiences may enable pre-service teachers to learn to attend to situational information that allows them to make connections between the phenomena at hand and between those phenomena and previous experiences in similar situations (Stoiber, 1991), as
the exceptional teacher in this study did. Also, they may learn to question and to analyze
problems of practice very quickly and effectively. Consequently, their ability to reflect on the
spot in the classroom may improve. Awareness of the complexity of the problems faced in the
classroom and of the importance of connecting past experiences with the situation at hand
improves over time (Stoiber, 1991). In this regard, it is early experience in actual classrooms that
enables pre-service teachers to develop reflection-in-action and connect their reflection with their
teaching performance.

However, there is neither a single way to promote teachers’ reflection nor a single set of
criteria to judge the quality of reflection. Although the content of the teachers’ reflection was
categorized into four major areas in this study, the specific topics of reflection under each
categorized area came primarily from the teachers’ unique situations. Each teacher’s values,
beliefs, classroom context, and students provided the source of knowledge of reflective action. In
this regard, quality of reflection should be judged by the teacher’s ability to make and justify
good decisions based on his or her own situation and experience. One cannot establish a set of
criteria to evaluate teachers’ reflection that can apply to any teaching context.

Hence, teacher preparation programs that emphasize reflection-in and on-action would
not give pre-service teachers explicit rules to follow. Rather, they would have these teachers
keep journals of their experiences to help them look back on all the important events that occur
in their classrooms and help them think carefully about these events. In addition, approaches
such as case studies of other teachers’ experiences, peer evaluation and collaboration, computer
simulation, and apprenticeship could foster reflective thinking among both in-service and pre-
service teachers.
Importance of Self-Monitoring

Self-monitoring has been considered as one of the characteristics of experts (Schempp et al., 2005). Substantive empirical evidence indicates that experts are more aware of errors made and better at predicting accurately which problems were difficult when they confront a problematic situation (Tan, 1997), better able to accurately analyze the cause of their failure and change their action (Berliner, 1986), and more self-regulated (Leinhardt, 1988). If that is the case, the teachers who participated in this study must be expert teachers in that they exhibited self-monitoring behaviors on their own practice. The teachers often monitored or evaluated themselves as teachers and thus came to realize weaknesses and areas that needed to be changed in their practices. Consequently, their internalized need for changes was realized in their actual teaching.

As Freese (1999) argued, unless the teachers personally acknowledged problems or concerns, they were not likely to make changes. Accordingly, just having a mentor or faculty member tell pre-service teachers what to change is far less effective to improve their teaching because often times they see only what they want to see, or are blind to their own shortcomings. This study indicated that reflection served to change or modify action and that reflection began with self-evaluation or self-analysis (Zeichner & Liston, 1990). In this vein, teachers should engage in self-monitoring in order to develop their reflection capacity and further instructional skills, and examine their underlying beliefs and taken-for-granted assumptions and theories. The process of self-monitoring can allow teachers to make their implicit theories explicit and begin to resolve any inconsistencies or conflicting ideas that may exist in their belief systems. Self-monitoring also facilitates reflective reconstruction of experiences that would otherwise be avoided by the act of rationalization (Hullfish and Smith 1961). In order to enhance teachers’
self-monitoring, reflective journals, autobiographical assignments, narrative essays focused on personal experiences as a teacher, self-analysis of videotaping, peer debriefing, and discussions are suggested as effective tools.

**Significance of Time and Opportunity for Reflection**

The importance of time and opportunity during the day for teachers to reflect (Rovegno, 1992) has also been confirmed in this study. One of the salient characteristics of the three teachers was that they took the time to evaluate their practical experiences and develop habits of mind or dispositions which influenced them to consciously and deliberately think about their teaching. As discussed in the previous chapters, for example, Emily developed the habit of reflecting on her teaching everyday when she “drove home and at some point during that night” (Interview #3). Even while the teachers were teaching, they took time for reflection, as Michelle said: “I often catch myself, just for a minute, and ask, “Was that the right thing to do?” or “Was that something that makes it a little better?”” (Michelle, Interview #8). This attitude of the teachers enabled them to use the interviews for this study as an opportunity to reflect on their teaching. Michelle said, “Taking time with you [me as a researcher] for interviews is a good opportunity to think about my teaching again.” This remark implies that the interviews conducted by me before and after each classroom observation created the time and opportunity for the teachers to reflect.

However, the complex and busy school work seldom allowed the teacher to reflect on their teaching and values. Schempp, Sparkes, and Templin (1993) explained,

The fluid, immediate, and dynamic pressures of school life did not permit teachers time to reflect deeply on a problem before attempting a solution. The reflexive responses required to maintain class momentum, satisfy the needs of a diverse
student body, and adapt to scheduling and procedural changes left no time for our teachers to recall university lectures, consult their colleagues, or review pertinent professional literature. (p. 461)

This argument suggests that teachers are not able to have time for reflection unless they intentionally create it. It is usually the case that most teachers do not spend time on developing reflective thinking (Artzt & Armour-Thomas, 1999) because of time constraints. In this regard, the teachers’ habit of reflection shown in this study provided a reason why they were exceptional teachers.

Along this line, in order to help our teachers to become reflective practitioners, the issues of time and opportunity for reflection need to be considered in teacher education programs. In other words, teachers should have the opportunity to view themselves in the role of teacher often throughout teacher education program. For example, when they have the opportunity to watch their interactions with students and how students respond to their instructions on videotape, they can gain a broader perspective of the impact they have on students. Through these processes, the teacher may acquire the observation and reflection skills needed to succeed in providing effective learning opportunities for their students (Napper-Owen & McCallister, 2005). These skills will be valuable throughout their teaching career.

In addition, reflection sessions in the pre- or in-service teacher education programs are essential. Artzt (1999) emphasized that the promotion of reflection should begin early in pre-service experiences and with novice teachers. For the teachers who participated in this study, reflection was not a characteristic developed overnight. The findings of this study showed that developing reflective practitioners required time, commitment, and programmatic efforts. Hence, efforts to support and enable teachers to reflect about teaching and schooling should start during
early field experiences and continue throughout professional preparation. Teacher educators should teach their students how to reflect and provide assignments that stimulate multiple dimensions of teaching for reflection (Tsangariou & O’Sullivan, 1997). In this regard, reflection sessions should be integrated into methods courses. The encouragement in the reflection sessions to focus on detail and to probe events and decisions in depth can give teachers an opportunity to bring new thoughts and realizations about their teaching into their awareness (Sebren, 1995).

Debriefing after teaching with colleagues can be another strategy to offer opportunities for teachers to reflect. This strategy may be achieved in collaborative efforts within graduate classes or with colleagues in schools. Post-teaching reflection with colleagues will allow the cycle of reflection to continue and helps teachers develop a greater repertoire of learning experiences.

*Reflection and Knowledge Development*

This study revealed that reflection functioned as a major means for the teachers to develop knowledge-in-action. Reflection played a critical role in the stages in which the teachers looked back on their own teaching and made sense of their actions, therefore leading to learning from their experiences. Lowery (2003) suggested that reflective teaching is an important distinguishing strategy between experienced and novice teachers and is a critical tool for developing knowledge for teaching. Experienced and novice teachers differ in their ability to learn from reflection on experience (Lowery, 2003). Experienced teachers have a highly developed knowledge base concerning students; notice different classroom aspects; are more selective in their use of information during planning and teaching; and make greater use of instructional and management routines (Borko & Livingston, 1989; Borko & Shavelson, 1990;
Carter, Cushing, Sabers, Stein, & Berliner, 1988). The knowledge base and characteristics of experienced teachers are usually built through reflective experience (Elbaz, 1983).

Given that teaching is a highly complex cognitive activity in which the teacher must apply knowledge from a wide range of sources (Calderhead, 1996), it is clear that reflection is a significant component of effective teaching in that reflection is related to teachers’ knowledge development. In this regard, reflection should be an important part of physical education teacher education programs. Stated differently, a goal of the teacher education programs, especially for pre-service teachers, is to inspire them to transform the theory that they learn from universities into useful knowledge-in-action through reflection. Furthermore, in order to help teachers develop the habit of reflective thinking, it is necessary to provide a caring environment where teachers feel safe enough to articulate their thoughts about teaching and learning.

*Effect of Educational Contexts on Reflection*

As Valli (1993) asserted, teachers’ reflection does not occur in a vacuum. Rather, it is situationally driven and contextually bound (Tsangaridou & O’Sullivan, 1997). Research indicated that context influences teachers and learners in a variety ways in their everyday interactions as well as in learning outcomes and processes (Boud & Walker, 1998). On the one hand, context affects teachers, in terms of what goals they pursue and for what ends, their own competence in handling teaching-learning situations, and the resources they deploy. On the other hand, context has impact on learners in terms of what they aspire to and how their expectations are framed, and on learning outcomes in terms of what teachers and learners accept as legitimate goals, what outcomes are valued over others, and what processes are acceptable in any given situation (Boud & Walker, 1998). Thus, it is not possible for teachers to step aside from the contextual issues in reflecting on their practices (Hatton & Smith, 1995). Moreover, teachers
need to acknowledge the influences of the context in order to utilize or challenge contextual issues that they encounter for performing reflective teaching.

The findings from this study also showed that the educational context including the principal, parents, and school setting affected the teachers’ reflection topics and the extent to which the teacher connected their thoughts with actions. For example, Jimmy’s reflective actions against large class size and reduction of PE class hours exemplified how a teacher’s understanding of the context in which he was situated influenced his reflective actions. This case also underscored that the power of context should not be used as an excuse for teachers to do nothing, and aspects of context can be changed by teachers’ insightful thinking and subsequent actions. In this regard, it is vital for teachers to take account of context and plan teaching and learning activities on the basis of how context frames and influences possibilities.

However, it is not easy for pre-service or beginner teachers to identify what the context might be in any given situation. Understanding context is not an easy task, because there are always multiple-readings of what it might be. Each teacher sees it differently as each brings their own personal foundation of knowledge and set of life experiences with them (Boud & Walker, 1998). Therefore, teacher education programs aiming to develop reflective practitioners need to provide pre- and in-service teachers with opportunities to reflect on actual issues, dilemmas, or problems that they ordinarily deal with in their own contexts. With those experiences, teachers can become more aware of previously unrecognized forces and the ways they are limited by them, and thus engage in meaningful reflection.

Suggestions for Future Research

Based on the findings of this study, three major implications for future study are made. First, this study revealed that reflection influenced the teachers’ belief systems. Fairbanks and
Meritt (1998), however, doubted that the teachers’ reflection actually altered teachers’ beliefs about teaching physical education. It is still questionable whether or not changes in teachers’ belief came from their’ reflection. Rather they may have changed their beliefs system through other factors like experiences, books, etc. Nonetheless, I do believe that continuous reflection has the potential to challenge the teachers’ beliefs by bringing awareness of them to the surface. By finding their own ways of making sense of new information of teaching physical education, and by being encouraged to reflect on the critical events that happen during the classroom, the teachers might carry this process of questioning and rethinking beliefs with them throughout their teaching practice. In this respect, a more longitudinal approach to studying the impact of reflection on teachers’ beliefs and attitudes toward physical education teaching is necessary.

Second, this study showed the importance of context in shaping teachers’ reflection. However, consideration of the context in which reflective action is engaged is a seriously underdeveloped aspect of discussion of reflection (Boud & Walker, 1998). Particularly, in the physical education field, little research has been conducted to explore this topic. In this regard, research on the relationship between contextual issues and teachers’ reflection and action should be conducted.

Last, with the consensus that teachers’ reflective capacity plays an important role in performing effective teaching, research had suggested several strategies to improve teachers’ reflective thinking (e.g., Tsangaridou & O’Sullivan, 1994; Sebren, 1995). Few studies, however, have investigated how those strategies influence teachers’ reflection and in what conditions they are implemented most effectively. Understanding of those topics will provide substantial insights into the research-based design of teacher education programs that aim to foster reflective
thinking. In this regard, future research should focus on investigating the effect of these strategies on teachers’ reflection-in and on-action.
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APPENDIX A

Interview Questions

Interview #1: Backgrounds & Beliefs about Physical Education Teaching

1. Could you tell me about your background in teaching PE?
2. What do you see as your teaching strengths?
3. What areas do you feel are relatively weak in your teaching?
4. What do you think teaching PE is?
5. What do you think it means for students to learn PE?
6. If a teacher is recognized as an expert teacher in PE, what would you expect that teacher is able to do?
7. What do you think makes PE difficult for students? How would you help the difficulties students have in learning PE?
8. Could you tell me about the classes you are teaching this semester? How are the classes organized?
9. Could you tell me about the students in your classes?
Interview #2: Teaching: Units, Lesson Plans, Assessment

1. Have you taught this unit before?

2. How comfortable are you with the subject matter knowledge within this unit that you are teaching?

3. What are your goals for this unit?

4. What tasks do you expect students would have difficulties with? Why do you think so? How would you help students with those difficulties?

5. What kinds of things do you take into consideration in planning this unit?

6. How do you plan to assess student learning on this unit? What evidence are you looking for that students have been successful in addressing the goals for the lessons?

(Alternative: How did you know that students were learning?)
Interview #3-7: Reflection in and on Critical Incidents

1. Could you tell me about your teaching the unit on _______.
   a. How did the unit go?

2. What comes to mind as you view yourself teaching?

3. What were you reflecting (thinking) about when . . . ? (Followed by critical incidents)

4. How would you change the unit if you were to teach it again? Why?
   (Alternative: If you taught the same class again, what would you have done differently? What does do you feel need improvement?)

5. What are the strengths and weaknesses of the lesson?

6. What do you consider the most effective teaching moment was in teaching this unit?
   (Alternative: What was one of your successes as a teacher during the past week?)
   Why? How did you achieve? Why did it work? What signaled you that students were learning?

7. (With specific examples of metaphors, strategies, activities, etc. used by the teacher during teaching the unit)
   a. Why did you decide to use this?
   b. What evidence did you have that this worked? How did you know whether it was effective?

8. Try to remember one of the past incidents that you experienced in your classes and you felt it was critical. Could you tell me about the situation, how you felt and acted, and what you said? Why do you think that incident is critical?
   (Possible probing questions for clarification and fuller descriptions of his/her replies)
a. How did the experience affect you?

b. What changes do you have associated with the experience?

c. How did the experience affect significant others in your teaching life?

d. What feelings were generated by the experience?

e. What thoughts stood out for you?