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PRESERVICE TEACHERS' VIEWS OF CONTENT AND PEDAGOGICAL KNOWLEDGE PRESENTED IN THE ELEMENTARY COMPONENT OF A PHYSICAL EDUCATION TEACHER EDUCATION PROGRAM

DISSERTATION

Presented in Partial Fulfillment of the Requirements for

The Degree Doctor of Philosophy in the Graduate

School of The Ohio State University

By

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2002

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Making the transition from the role of student to teacher is difficult at times. The prospective teacher often comes into the program with many expectations and beliefs. Preparation of future teachers entails the acquisition of content knowledge, pedagogical skills, modification of student beliefs, and developing a level of comfort in the classroom. Student teachers navigate through this process of preparation at different times and speeds, using different routes and strategies.

The purpose of this study was to investigate whether or not, and if so, how the preservice PETE teachers viewed they had acquired and applied content and/or pedagogical content knowledge through the completion of the elementary component (methods course plus field-based internship) of their PETE program at Allentown University. This qualitative study used the constructivist view to gain a better understanding of the perceptions of the preservice teachers. The participants were the preservice teachers enrolled in the elementary portion of the Physical Education Teacher Education program and one professor. Data were collected from participant interviews and document analysis. Data will be analyzed using constant comparative methods looking at course syllabi, texts, handouts, and interview transcripts.

If the point at which student teachers acquire content knowledge and pedagogical content knowledge can be better understood, we may be better able to influence how this
process occurs. This study is just the first step towards a greater understanding of the development of the teacher. If teacher educators can understand the student teacher development process we will be more effective agents of change.
Dedicated to my family: Helen, Rodney, Charles,

Victoria, Calvin, Ethan

and Martin
I wish to thank my advisors, Drs. Sandra Stroot and Samuel Hodge, for intellectual support, encouragement, and enthusiasm, which made this dissertation possible, and for their patience in correcting both my stylistic and creative errors. I thank Dr. Janet Fink for her support and for her commitment of her time and energies to be on my committee. Thank you to the Master of Education students who volunteered their time and their thoughts to help me answer questions that piqued my curiosity.

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My final thoughts are best represented by a quote from T.S. Eliot:

We shall not cease from exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time
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  C. D. Ennis (Eds.), Student learning in physical education: Applying research to

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LIST OF TERMS

Apprenticeship of Observation- images of teaching collected by the preservice teacher through years of observation as a student (Lortie, 1975).

Cohort- group of peers progressing through experiences together.

Content Knowledge- knowledge of the major facts and concepts within the field and the relationships among them (Grossman, 1990).

Context- circumstances in which an event occurs.

Contextual Teaching and Learning- teaching that enables learning in which students employ their academic understandings and abilities in a variety of in- and out-of-school contexts to solve simulated or real world problems, both alone and with others (Howey, 1998).

General Pedagogical Knowledge- general knowledge, beliefs, purposes of education, and skills related to teaching (Grossman, 1990).

Knowledge of Context- knowledge of students, community, district, and school (Grossman, 1990)

M.Ed.- Master of Education.

Preservice PETE Student- student enrolled in M.Ed. PETE program at Allentown University.

Pedagogical Content Knowledge- The process of transforming the content knowledge into a teachable form is referred to as PCK (Shulman, 1987).

PETE Program- Physical Education Teacher Education Program.

Situated Learning Theory- Situated learning theory focuses on the social situations that help construct and comprise the learning of the individual (Lave & Wenger, 1991).
CHAPTER 1

INTRODUCTION

Teacher educators have an important responsibility to assist preservice teachers in acquiring the knowledge, skills, attitudes, and dispositions needed to work with diverse populations (Melnick & Zeichner, 1989). The National Commission on Teaching and America's Future (NCTAF) proposed "...an audacious goal for America's future. Within a decade... we will provide every student in America with what should be his or her educational birthright: access to competent, caring, qualified teaching in schools organized for success" (NCTAF, 1996, p.10). This Commission has put pressure on schools of education to evaluate and rethink the services provided to the products of their program, teachers.

Making the transition from the role of student to teacher is difficult at times. The preservice teacher often comes into the program with many expectations and beliefs. Preservice teachers have been provided the opportunity to observe the art and science of teaching for many years. Lortie (1975) referred to this as the 'apprenticeship of observation'. In whatever fashion the curriculum is designed, it inevitably contains three major components: general education, professional knowledge, and pedagogical studies (Lanier & Little, 1986). Therefore, the preparation of future teachers entails the
acquisition of content knowledge, pedagogical skills, modification of student beliefs, and a level of comfort in the classroom. The teacher education program is formed, shaped, and supported by the teacher educators that instruct within it. With this in mind, teacher education programs declare certain goals and objectives students are expected to gain while in the program. Generally program goals, as well as the mission statement, are influenced by teacher education certification requirements mandated by accrediting institutions. The National Council for Accreditation of Teacher Education (NCATE, 2001), National Commission on Teaching & America's Future (NCTAF, 1996), and the Interstate New Teacher Assessment and Support Consortium (INTASC, 1992) are the accrediting institutions that the currently studied institution, referred to by the pseudonym Allentown University, is in accordance. In addition, the physical education teacher education (PETE) program at Allentown University is expected to meet the standards of their learning community, the National Standards for Beginning Physical Education Teachers (NASPE, 1995). Teacher preparation and professional development are in a state of reform. In 1992, INTASC provided a framework from which this reform could be developed. There are ten standards that were presented by INTASC:

The teacher:

1. Understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and can create learning experiences that make these aspects of subject matter meaningful for students.

2. Understands how children learn and develop, and can provide learning opportunities that support their intellectual, social, and personal development.

3. Understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners.
4. Understands and uses a variety of instructional strategies to encourage students' development of critical thinking, problem solving, and performance skills.

5. Uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation.

6. Uses knowledge of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.

7. Plans instruction based upon knowledge of subject matter, students, the community, and curriculum goals.

8. Understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner.

9. Is a reflective practitioner who continually evaluates the effects of his/her choices and actions on others (students, parents, and other professionals in the learning community) and who actively seeks out opportunities to grow professionally.

10. Fosters relationships with school colleagues, parents, and agencies in the larger community to support students' learning and well being.

(INTASC Model Standards for Beginning Teacher Licensing and Development, 1992, pp.11-31)

Standards presented by INTASC have a learner-centered approach with a focus on performance-based licensing. Performance-based licensing describes what the teacher should be able to know and do, rather than listing courses that are required to be taken.

In order for NCTAF, NCATE, and INTASC requirements to be met, PETE programs must adopt one or more philosophies or frameworks and a curriculum from which teacher educators couch their work. These frameworks are grounded in theory, research, and practice (Howey & Zimpher, 1989). Howey and Zimpher (1989) continue to explain the role of frameworks within the PETE program:
Programs have one or more frameworks that explicate, justify, and build consensus around such fundamental conceptions as the role of the teacher, the nature of teaching and learning, and the mission of schools in this democracy. These frameworks guide not only the nature of curriculum as manifested in individual courses, but as well, questions of scope; developmental sequence; integration of discrete discipline; and the relationships of pedagogical knowledge to learning how to teach in various laboratory, clinical, and school settings. (p. 242)

Allentown University’s program draws on five theoretical frameworks to inform their practice: culturally sensitive framework, social efficiency model, experiential model, social reconstructivist model, and personalistic model.

The culturally sensitive framework suggests that individuals will process historically accurate and contemporary knowledge, and that teachers should appreciate and value an individual’s uniqueness across cultures (Padilla & Lindholm, 1995). Allentown University faculty seek to train a culturally diverse group of teachers to teach across diverse settings. They expect faculty and students to demonstrate a professionalism that reflects cultural sensitivity. The social efficiency model emphasizes educational practices that are derived from the research on teaching knowledge base and applied with an understanding of context (Zeichner, 1991). Students in Allentown University’s program: study effective teaching strategies, demonstrate instructional and managerial skills in a variety of contexts, and participate in a series of planned field experiences that build competence in increasingly challenging tasks. The experiential model emphasizes learning by doing, and reflecting on that experience. Allentown University’s teacher education program uses practical experiences that require students to reflect on those things learned and their participation in the activity in terms of its meaningfulness in the context of their life experiences or teaching (Dewey, 1938).
social reconstructionist model emphasizes the role of teachers as change agents in the context of educational and social justice (Tinning, 1988). Through a series of learning experiences that focus on social injustices and how to bring about change in schools and communities, the students in Allentown University’s program become aware of how to identify and deal with issues of social justice. The personalistic model emphasizes self-awareness and personal growth (Tinning, 1988). This occurs in the program through a series of experiences designed to help students articulate personal and educational philosophies.

These five theoretical frameworks inform the PETE faculty’s practice, while an overarching framework is used to couch their practice. One way to aid the student in acquiring the necessary performance standards presented by INTASC is to use a framework that is learner-centered. One such framework is the contextual teaching and learning (CT&L) framework (Sears & Hersh, 1998). The PETE program at Allentown University has adopted the CT&L framework as an overarching philosophical framework for the program. The partnership of The Ohio State University (OSU) and Bowling Green State University (BGSU) defined the term CT&L as: “teaching that enables learning in which students employ their academic understandings and abilities in a variety of in- and out-of-school contexts to solve simulated or real world problems, both alone and with others” (Howey, 1998, p. 19). The document continued to explain that CT&L “emphasizes higher-level thinking; knowledge transfer; and collection, analysis, and synthesis of information and data from multiple sources and viewpoints” (p. 5). A final comment, mentioned in the CT&L document is that authentic assessment is used as
formative (occurring throughout) and summative evaluations (at the end) of the course.

There are six components in the CT&L framework (Appendix A). It:

- Is problem-based
- Fosters self-regulated learning
- Employs authentic assessment and multiple methods for assessing student achievement
- Anchors teaching and learning in students’ diverse life contexts
- Uses teams or interdependent group structures so students can learn from each other
- Occurs in multiple settings or contexts

(Sears & Hersh, 1998, p.7)

Allentown University PETE program faculty has attempted to incorporate the CT&L components into the program.

Along with the CT&L components, the state of Ohio supports the National Commission on Teaching and America’s Future (NCTAF), and NCATE. The PETE program must comply with National Standards for Beginning Physical Education Teachers (NASPE) standards developed by their learned society. Accredited institutions and programs should:

- Ensure that new teachers attain the necessary content, pedagogical, and professional knowledge and skills to teach both independently and collaboratively
- Ensure that all new administrators and other professional specialists attain the knowledge and skills to create an environment for student learning
- Administer multiple assessments in a variety of forms, engage in follow-up studies, and use the results to determine whether candidates meet professional standards, and whether graduates can teach so that students learn
- Commit to preparing teachers for a diverse community of students
- Prepare candidates who can integrate technology into instruction to enhance student learning
- Encourage collegiality, reflective practice, continuous improvement, and collaboration among educators, learners, and families
• View teacher preparation and development as a continuum, moving from preservice preparation to supervised beginning practice to continuing professional development.

The teachers emerging from accredited institutions/programs should be able to:

• Help all P-12 students learn
• Teach to P-12 student standards set by specialized professional associations and the states
• Explain instructional choices based on research-derived knowledge and best practice
• Apply effective methods of teaching students who are at different developmental stages, have different learning styles, and come from diverse backgrounds
• Reflect on practice and act on feedback
• Be able to integrate technology into instruction effectively

The teachers should gain these abilities through completing:

• A broad liberal arts education
• In-depth study of the teaching field
• A foundation of professional knowledge upon which to base instructional decisions
• Diverse, well-planned, and sequenced experiences in P-12 schools
• Ongoing assessment of competence to practice, through an array of performance measures
  
  (NCATE Professional Standards, 2001, pp. 3-4)

For example, in the state of Ohio these standards (Praxis II, NASPE, and NCATE standards) are required to receive a teaching certificate. Praxis II measures candidates’ knowledge of the subject-matter they will teach as well as general and subject-specific pedagogical skills and knowledge. Candidates are tested on the following:

• Principles of learning
  - Organizing content knowledge for student learning
  - Creating an environment for student learning
  - Teaching for student learning
  - Teacher professionalism

• Physical Education Content Knowledge
Regardless of the program philosophy, the primary purpose of a teacher education program is to prepare competent effective teachers. Content knowledge, knowledge of pedagogy, and pedagogical content knowledge (PCK) are primary. Content knowledge defined by Shulman (1987) is:

...the knowledge, understanding, skill, and disposition that are to be learned by school children. This knowledge rests on two foundations: the accumulated literature and studies in the content areas, and the historical and philosophical scholarship on the nature of knowledge in those fields of study. (pp. 8 & 9)

Grossman (1990) suggested that content knowledge “refers to knowledge of the major facts and concepts within a field and the relationships among them” (p. 6). Having the content knowledge does not ensure the ability to teach this knowledge. The process of transforming the content knowledge into a teachable form is referred to as PCK (Shulman, 1987). Preservice teachers navigate through this process at different times and speeds, taking different routes. Grossman (1990) defined pedagogical content knowledge (PCK) as being comprised of four components:
- Knowledge and beliefs about the purpose for teaching a subject to different grade levels
- Knowledge of students' understanding, conceptions and misconceptions of particular topics in a subject matter
- Curricular knowledge (curriculum materials and literature)
- Knowledge of instructional strategies and representation for teaching particular topics

McEwan and Bull (1991) suggested that all knowledge is by nature pedagogic, and that a dualistic approach to content and pedagogy results in a division that obstructs teaching. “From a cognitive perspective, it is difficult, if not impossible, to separate content knowledge from pedagogical knowledge because knowledge of all kinds is viewed as a globally interrelated network that is constantly evolving” (Fernandez-Balboa, Barrett, Solomon, & Silverman, 1996).

Significance of the Study

It is usually assumed that content knowledge and pedagogical content knowledge are interrelated, however, there is limited research supporting or defining the relationship (Ball, 1991; Shulman, 1986, 1987; Wilson, Shulman, & Richert, 1987). If we can identify the point at which preservice teachers acquire content knowledge and pedagogical content knowledge we may be better able to understand how this process occurs. Acquisition of content knowledge and pedagogical content knowledge hopefully begins in the PETE program. Further acquisition, development, and implementation may indeed take place in the inservice or first years of teaching. This study is just the first step toward a greater understanding of the development of the teacher in terms of content knowledge and pedagogical content knowledge acquisition. As teacher educators, if we can understand the student teacher development process we will be more effective agents of change.
Purpose of the Study

The purpose of this study was to investigate whether or not, and if so, how the preservice PETE teachers viewed they had acquired and applied content and/or pedagogical knowledge through the completion of the elementary component (methods course plus field-based internship) of their PETE program at Allentown University.

Research Questions

The specific research questions that were addressed in this study were:

1. What content/pedagogy did the professor view she taught in her preservice elementary methods courses and internship?

2. What content/pedagogy did the preservice PETE teachers view they learned in their preservice elementary teacher education experience?

3. How did the preservice PETE teachers view they had learned the content/pedagogy?

4. To what extent did preservice PETE teachers view the content/pedagogy to be relevant in their ability to teach elementary physical education?

5. At what point in a 10-week elementary experience did preservice PETE teachers find the content/pedagogy to be relevant to their ability to teach elementary physical education?

Limitations of the Study

The focus of this study was the elementary component of the PETE program at Allentown University (pseudonym); therefore results may not be generalizable. Other programs may study the findings, but because of the uniqueness of the environment, participants, and university, the findings may not be applicable to other settings. The participants for this study were ‘purposefully chosen’ as they would provide ‘information rich cases’ that would allow the researcher to “learn a great deal about [the] issues of
central importance" (Patton, 1990, p. 169). The entire PETE cohort at Allentown University was invited, though only 6 of the 12 chose to participate in the study.

Findings of this study may not be representative of the entire PETE cohort, due to self-selection to participate. Another limitation was that the researcher was inexperienced at conducting interviews. Due to the inexperience of conducting interviews by the researcher, research questions may have been inadvertently answered superficially and may not have been fully explored.

**Delimitations of the Study**

The delimitations of the study included the data collection timeline and the participants of the study. Data collection was limited to the elementary school placement due to the boundaries placed by the researcher. The elementary portion is the first progressive 10-week (week-by-week) teaching experience. Up to this point in the program, preservice PETE teachers had attended classes, observed teaching and completed coursework.
CHAPTER 2

REVIEW OF LITERATURE

The purpose of this chapter is to provide a review of literature focused on contextual teaching and learning, field-based programs, and the development of knowledge, specifically pedagogical content knowledge. This review will be presented in several sections, with the first introducing the contextual teaching and learning framework. The exploration of the concept of pedagogical content knowledge will follow, and the third section will present pedagogical content knowledge studies performed in the general education field. Studies focusing on pedagogical content knowledge in the physical education field will be presented in the fourth section, and the final section will present the theoretical framework in which the study was couched.

Contextual Teaching and Learning Framework

Contextual Teaching and Learning (CT&L) emphasizes knowledge transfer; higher-level thinking; and collection, analysis, and synthesis of data and information from multiple viewpoints and sources. There are six characteristics comprising CT&L that are infused throughout the program (Appendix A). CT&L:

- Is problem-based
- Fosters self-regulated learning
- Employs authentic assessment and multiple methods for assessing student achievement
Anchors teaching and learning in students' diverse life contexts
Uses teams or interdependent group structures so students can learn from each other
Occurs in multiple settings or contexts

(Sears & Hersh, 1998, p.7)

A CT&L framework has been implemented in the Physical Education Teacher Education (PETE) program at Allentown University. "Contextual teaching and learning is a conception of teaching and learning that helps teachers relate subject matter content to real world situations and motivates students to make connections between knowledge and its applications to their lives as family members, citizens, and workers and engage in the hard work that learning requires" (Sears & Hersh, 1998). A brief discussion of the six characteristics CT&L will ensue.

In problem-based learning, students are confronted with a problem to be solved. By providing either a real life or simulated problem, the student is cognitively challenged. In problem-based learning, Pierce and Jones (1998) suggested that engagement of the student, inquiry and investigation, presenting the findings, and debriefing about the problem are essential elements to ensure the success of this element of CT&L. The problem that is presented should be one that forces the student to integrate different components of the program or course requirements and even different disciplines to solve the problem.

Self-regulated learning (SRL) suggests that the student must have and use three traits: an awareness of thinking, a set of strategies, and sustained motivation. With the awareness of how they think, the student will be more able to engage in successful self-evaluation and reflection. Strategies for studying, learning, and evaluating are self-selected. This perspective allows the student to find what best fits his or her style and
provides an awareness of the many strategies that are available for the student to use. Paris and Winograd (1998) suggested that self-regulated learning involved motivation about the goals of the activity, perceived difficulty and value of the task, self-perception of the learners' ability to complete the task, and the potential benefits or consequences of completing or not completing the task.

A third characteristic of CT&L is authentic assessment. Interweaving the assessment within the instruction, having continuously ongoing assessment, and deriving the assessments from multiple sources is one aspect of authentic assessment. This assessment strategy discovers and assesses the skills, knowledge, and character of the teacher in the teaching and learning environment. This assessment data is gathered through real life teaching experiences in the classroom (Lund, 1992) and in the natural environment. The user of authentic assessment considers the process, as well as the end result and provides students an opportunity to share assessment responsibilities (Zessoules & Gardner, 1991). Examples of authentic assessment include a work sample, case study, portfolio, class change project, and action research. Any of these examples can represent a sample of the quality of work the student has developed and completed over the course of the program.

Dewey (1916) suggested that schools should be more like life—that people should learn by engaging in meaningful and purposeful activities rather than being in a sterile environment where students and teachers interact through a textbook. Learning in multiple contexts is thought to enhance transfer of knowledge from theory to practice from one setting to another (Fernandez-Balboa, 1997; Flinchum & Pease, 1985; Rovegno, 1993). Borko and Putnam (1998) suggested that theories of situated cognition
assume that knowledge is set in the context in which it is learned and that the interactions
between people has a major influence on what is learned and how learning occurs.
Cognition is social in nature and is dispersed across and through individuals and objects.

Having teaching and learning anchored in students’ life contexts exposes the
student to the diversity that is associated with life contexts. Sears and Hersh (1998)
suggested that, “Today’s students reflect the values and mores of different cultures and of
cultures different from that of the majority of white, middle class teachers” (p. 8). By
having students (preservice PETE teachers) interact with their peers, and get involved
with communities outside of their own, the students will experience diverse life contexts.

Preservice PETE teachers will be progressing through the elementary component
of the PETE program as a cohort, thus creating interdependent learning groups.
“Engagement in cooperative learning structures such as cohort groups appears to be an
ideal means of encouraging interdependent learning” (Sears & Hersh, 1998, p. 8). By
placing preservice PETE teachers in learning groups, it allows them to analyze their own
teaching as well as their peers. By interacting with a cohort group it could be suggested
that the preservice PETE student learning experience is enhanced. Cohort arrangements
would enable members to experience intellectual development collectively, engage in
group socialization, and develop a stronger relationship between the cohort and the
faculty (Zimpher, 1998).

The researchers Sears and Hersh (1998) suggested that the characteristics of
CT&L aid and assist the preservice teacher in becoming competent teachers for
tomorrow’s classrooms. In the following section the knowledge base for teaching and the
transformation of this base knowledge into a teachable form, better known as pedagogical content knowledge (PCK) are discussed.

Field-Based Programs

Field experiences allow the preservice teacher to inquire, experiment, and reflect while collaborating and receiving feedback from colleagues, professors, and practicing teachers. Theissen (2000) suggested that there are three components that require schools and universities to work collaboratively to provide opportunities for the student in various concepts and educational structures: studying about practice, observing and trying out practice under simulated conditions, and comparing and elaborating practice for classrooms.

<table>
<thead>
<tr>
<th>Pedagogical Frame</th>
<th>Primary Form of Knowledge Development</th>
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<tr>
<td>Studying about practice</td>
<td>Integrating knowledge</td>
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<td>Observing and trying out practice under simulated</td>
<td>Applying and transforming knowledge</td>
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<td>conditions</td>
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<tr>
<td>Comparing and elaborating practice for classrooms</td>
<td>Integrating and generating knowledge</td>
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(Theissen, 2000, p. 137)

Table 2.1: Concepts and Educational Structures Derived from Collaboration.

By providing opportunities to form knowledge development, the student will learn through integrating, applying, transforming, and generating knowledge (Theissen, 2000).
This will help the student to retain knowledge across different settings and, upon entrance into the field, at the completion of the program.

Flinchum and Pease (1985) explain that competence is gained both theoretically and practically in field based programs. Smylie, Bay, and Tozer (1999) suggested that opportunities to learn should be based in inquiry, experimentation, and reflection. They go on to mention that these experiences should be collaborative with teacher colleagues and other education professionals that can provide feedback and innovative ideas. Furthermore, these experiences should be logical, intensive, and ongoing. Early field experiences (EFE) occur in field-based programs. These field experiences, prior to student teaching, allow the preservice teacher to observe practicing teachers and pupils in a live classroom, instruct individuals and small groups, and see first hand how schools operate from the standpoint of a teacher (Curtner-Smith, 1997, 2001; Dodds, 1989).

Due to limited research in the EFE field, the advantages and disadvantages are left, for the most part, for an institution to discover. Fullan (1985) and Feiman-Nemser and Buchmann (1986) voiced some concerns about multiple early field experiences. Fullan (1985) suggested that multiple experiences might thwart knowledge development about the profession. Along the same note, put forward by Feiman-Nemser and Buchmann (1986) the student may in fact learn inappropriate actions and functions that take place in the school setting. These actions may have a deleterious effect upon what is being taught at the university. Emans (1983) stated that a negative experience or a poor cooperating teacher could negate what is taught at the university.

Field based programs do provide some advantages: collaboration between schools and universities, improved assessment strategies, and increased student accountability.
Structured field experiences guide the preservice PETE student and will allow them to gain knowledge in a variety of settings. "Student teaching has been seen as the bridge between the theory, knowledge, and skills gained at the university and their application in the classroom" (Wildeen, Mayer-Smith, & Moon, 1998, p. 152). Siedentop and Locke (1997) stated that schools in which placements occur must be schools where good, positive, and appropriate physical education instruction occurs. Jones (1992) mentioned that careful attention must be paid to site selection for field experiences, appropriate training of cooperating teachers, and planned debriefing opportunities. This requires a collaborative effort between the schools and the university PETE program. Fiorentino, Kowalski, and Barrette (1993) concur, and go on to say that it is important to provide positive settings in which the student teacher will be placed. In order for early field experiences to be successful they need to be closely linked to methods courses, supervised by PETE faculty, have a specific goal to be achieved, and the students need to be able to be reflective upon their own teaching (Curtner-Smith, 1996). By having good channels of communication and collaboration between schools and the university, the potential for producing a teacher that is competent and ready to enter the field will be increased.

Planning for the success of the student teaching experience involves locating successful physical education programs in local schools. The cooperating teacher (CT) needs to be aware of the expectations the university has for its students. The best way for this to occur is for the CT to be aware of the PETE program goals. The CT should keep three basic principles in mind when accepting the responsibility of taking a student teacher: modeling, providing appropriate practice, and providing feedback (Pellett,
Strayve, & Pellett, 1999). The goals of the PETE program and the practice of the CT should be aligned. Having this alignment will aid in the development of the student teacher and increase the chances of completing the required program competencies.

One of the characteristics of the CT&L framework is learning to effectively teach diverse populations. In order to accomplish this task, diverse populations must be encountered. Context represents the variable conditions within the school and classroom. These conditions range from the student background to the school environment to the interaction of teacher and students characteristics. Context varies from one setting to another and is inevitable from one time to another (Rink, 1997). Rink suggested that our lack of adequate knowledge base in different settings/contexts is one of the biggest inhibitors in the development of teachers. By providing multiple early field experiences for the students, the student teacher will be more prepared when they come into contact with different contexts. The closer the context is to the situation in which it will be applied, the greater chance of transfer of knowledge in an actual situation (Fernandez-Balboa, 1997; Rovegno, 1993). Fernandez-Balboa, Barrett, Solomon, and Silverman (1996) suggested that PETE programs expose teachers to a wide array of experiences and knowledge. By providing the opportunities to link content knowledge, student characteristics, and classroom management the student teachers will form a solid knowledge base in many contexts (Fernandez-Balboa et al., 1996). The experiences should provide practice to enable the student teacher to successfully and comfortably adapt his/her teaching style and decision-making strategies in situations when faced with adverse conditions.
By sheer design, PETE programs should provide context and provide a systematic approach to preparing students (Rink, 1995). Field experiences provide context, a real place for the student teacher to learn. Taggart (1988) suggested that student teaching (field experiences) allows students, "to demonstrate their teaching skills, strategies, techniques, and ideas about effective teaching" (p. 72). Through experiencing real life situations the student teacher learned how to transmit theoretical knowledge to practical knowledge (Curtner-Smith, 1997, 2001; Hardy, 1999). Knowledge needs to be connected with some of the practical issues that future teachers will face in the schools (Wilson, 1989). By providing field experiences throughout the program the student is provided with opportunities to learn about different schools and diverse populations. Interacting with diverse populations of students allows the student teacher to learn how to teach to the needs of diverse students (Fernandez-Balboa, 1997). The PETE program at Allentown University infused CT&L characteristics into a field-based program.

Pedagogical Content Knowledge

Research in teaching in the latest decades has produced important findings in the quest for answers about the knowledge base for teaching. The increasing literature base regarding teachers' knowledge and practices has begun to present an explosion of different ways to organize and separate the various types of knowledge. Gudmundsdottir (1987) posed several questions: What kind of content knowledge do teachers need? Is the content knowledge for teaching different from the knowledge held by scholars in the field? What does this different way of knowing look like? How do you investigate it? It was suggested that the knowledge necessary for teaching differs from the knowledge held by scholars in the same field; therefore pedagogy needs to be incorporated. In attempts to
better understand the organization and separation of teacher knowledge, researchers have
created models, which present different categories of knowledge (Table 2.2).
<table>
<thead>
<tr>
<th>Scholars</th>
<th>Types of Knowledge</th>
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<tr>
<td>Elbaz (1983)</td>
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<td>Milieu of Teaching</td>
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<td>Leinhardt &amp; Smith (1985)</td>
<td>Lesson Structure Subject Matter</td>
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<td>Instruction</td>
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<td>Shulman (1987)</td>
<td>Content Curriculum Pedagogy</td>
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<td>Pedagogy Contexts of Education</td>
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<tr>
<td>Grossman (1990)</td>
<td>Subject Matter General Pedagogy PCK</td>
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<td>Learners &amp; their characteristics</td>
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<td></td>
<td>Educational Philosophies, Goals, &amp; Objectives</td>
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Table 2.2: Knowledge Components in Different Conceptions of Pedagogical Content Knowledge.
Elbaz (1983) identified five categories of knowledge: knowledge of self; knowledge of subject matter; knowledge of curriculum development; knowledge of the milieu of teaching; and knowledge of instruction. Knowledge of self constitutes the sense of one’s own abilities, a sense of self in the role as a teacher, and in relation to others in the instructional environment. Subject matter knowledge according to Elbaz (1983) is practical knowledge shaped by and for realistic situations. Being able to determine student needs, organizing course work, developing materials to use during instruction, and evaluation procedures would fall under the category of knowledge of curriculum development. The milieu of teaching covers such topics as the environment in which one teaches, the interactions of teacher beliefs and environmental factors, interacting with others in the environment (teachers, students, administrators), and any political influences in the school, community, or in the larger educational system. Knowledge of instruction encompasses learning theories, beliefs about teaching, planning, and organization of instruction (ordering of materials, evaluation procedures, and student and teacher interactions).

Leinhardt and Smith (1985) were more general in their categorization of knowledge and produced two categories: subject matter knowledge and knowledge of lesson structure. Subject matter knowledge supports the lesson structure and acts as a resource in the selection of examples and demonstrations. Lesson structure knowledge refers to the skills needed to plan and run a lesson smoothly, to pass easily from one segment to another, and to explain material clearly.

Shulman (1987) put forth the notion that there are seven categories of knowledge: (a) knowledge of content; (b) knowledge of curriculum (grasp of material and programs
that serve as “tools of the trade”); (c) knowledge of pedagogy (broad principles and strategies of classroom management and organization); (d) knowledge of contexts of education (working in group or classroom, governance and financing of schools, characteristics of community and cultures); (e) knowledge of learners and their characteristics; (f) pedagogical content knowledge (process of transforming content knowledge into a teachable form); and (g) knowledge of educational philosophies, goals, and objectives. Shulman (1987) very eloquently explained pedagogical content knowledge (PCK) as “the province of teachers, their own special form of professional understanding” (p. 8). He goes further to argue the value of pedagogical content knowledge as the foundation of teacher education:

Pedagogical content knowledge is of special interest because it identifies the distinctive bodies of knowledge for teaching. It represents the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction. Pedagogical content knowledge is the category most likely to distinguish the understanding of the content specialist from that of the pedagogue. (p. 8)

Pedagogical content knowledge in its most basic definition is the taking of content knowledge one possesses and transforming that into a teachable form. Shulman (1987) stated,

The key to distinguishing the knowledge base of teaching lies at the intersection of content and pedagogy, in the capacity of a teacher to transform the content knowledge he or she possesses into forms that are pedagogically powerful and yet adaptive to the variations in ability and background presented by the students. (p. 15)

Pedagogical content knowledge is not only having the content knowledge, but also having the ability to break down that knowledge and explain it to another person. Pedagogical content knowledge requires the teacher to have an understanding “from
being able to comprehend subject matter for themselves, to becoming able to elucidate
subject matter in new ways, reorganize and partition it, clothe it in activities and
emotions, in metaphors and exercises, and in examples and demonstrations, so that it can
be grasped by students” (Shulman, 1987, p. 13).

Grossman (1990) contended that no matter how many definitions of the categories
of knowledge there are inevitably four general areas: subject matter knowledge; general
pedagogical knowledge; pedagogical content knowledge; and knowledge of context
(Appendix B).

Subject matter knowledge is comprised of content on the subject. The knowledge
is substantive and factual. This knowledge deals with the relationships between facts and
concepts within a field. Also mentioned were the syntactic structures of the discipline.
This is the understanding of how the knowledge claims are evaluated by the experts in
the discipline, the evidence and proof.

General pedagogical knowledge deals with beliefs and skills related to teaching. Also included under this heading are the beliefs concerning learners and learning, in
addition the general principles of instruction are included. Classroom management as
well as the knowledge and beliefs about the aims and purpose of education fall under
general pedagogical knowledge.

Knowledge of context is the understanding of the context in which the teachers
teach. Encompassed under this is the knowledge of the district they are teaching in,
school setting, and knowledge of the community and specific students. Knowledge of
context allows the teacher to be aware of the opportunities, expectations, and constraints
of the district as well as any departmental guidelines. It is logical to say that having an
understanding of the culture of the school, students, and families will allow the teacher to better fit their instruction to the interests and needs of their students.

Pedagogical content knowledge presented by Grossman (1990) is comprised of four areas of knowledge acquisition: apprenticeship of observation; disciplinary knowledge; professional education; and classroom experiences. Apprenticeship of observation is not a true apprenticeship as the preservice teacher has only seen teaching from the viewpoint of a student. This viewpoint may give preservice PETE teachers a distorted view of teaching (Lortie, 1975). The apprenticeship of observation contributes to pedagogical content knowledge in several ways: content knowledge mixes with instructional knowledge; knowledge of student understanding; and curricular knowledge. Teachers remember how they were taught when they were in grade and high school, these memories mesh with the instructional strategies they have learned in the college classroom (Lortie, 1975). Another way the apprenticeship of observation is related to PCK is the preservice PETE teachers’ knowledge of student understanding. Preservice PETE teachers rely on thoughts of themselves as students to create the expectations they have for their students (Grossman & Richert, 1988). The curricular knowledge may be affected by the apprenticeship of observation because preservice PETE teachers remember what texts and topics were presented at particular grade levels when they were students (Lortie, 1975). The influence of the apprenticeship of observation has a great impact upon preservice PETE teachers, as they become teachers.

Disciplinary knowledge of the preservice teacher affects the curriculum they choose to teach and the material used to teach the subject, as teachers are more likely to teach subjects with which they have comfort and knowledge. Professional coursework
helps the student acquire knowledge of content and knowledge of pedagogy (Grossman, 1990). However, it is important to note that what is included in the coursework is unique to the program in which it is taught. Classroom experiences allow the teacher to learn about their students as well as what strategies work well when presenting information (Grossman, 1990). Apprenticeship of observation, disciplinary knowledge, professional education, and classroom experiences interact with each other. For example, if the focus of subject-specific methods courses is on innovative practices the courses will need to overcome the knowledge and beliefs teachers have already developed through the apprenticeship of observation. If teacher education has had a strong impact, then what teachers learn from subsequent experiences in classrooms may be influenced by the PETE program coursework and experiences; if teacher education has been a weak intervention, its’ lessons are likely to be overwhelmed by classroom experience (Zeichner & Tabachnik, 1981).

Pedagogical Content Knowledge in General Education

Grossman (1989) used case study methodology to describe the subject-specific components of teacher education in the development of teachers’ pedagogical content knowledge. The participants were six first-year high school English teachers. Three of the participants had formal professional preparation, while the other three did not. The formal professional preparation was the completion of a five year teacher education program. The participants without formal professional training had a strong background in English literature and journalism. Data were collected through interviews and observations. All six participants were interviewed five times and observations were completed for only five of the six teachers for a teaching unit. Syllabi, course readings,
handouts, and student work were collected as artifacts. Grossman also interviewed an English professor and an English supervisor from the teacher education program and inquired about the content of the courses as well as the goals set for the students.

Grossman's (1990) findings showed that the two groups of teachers differed in their curricular choices and decisions. It was found that teachers with formal professional training organized their courses around writing and based their choices on their knowledge of their students. This group also anticipated the needs and interests of their students and displayed instructional behaviors that fit student understanding. Teachers without formal training organized their courses around the literature and based their choices on their knowledge of the literature. Furthermore, this group had more difficulty in anticipating students' previous knowledge, had high student expectations, and when the students were struggling, they did not easily adjust to assist in the student learning. Grossman pointed out the importance of formal teacher preparation program in acquiring the skills to instruct from knowledge, rather than experience.

Borko and Livingston (1989) investigated the nature of pedagogical expertise by comparing planning, teaching, and post lesson reflections of three students teachers and their cooperating teachers. Participants were observed teaching mathematics; they were interviewed before teaching about their instructional planning, and interviewed after teaching focusing on their reflections of the lesson. The instructional planning interview focused on the nature of the lesson, how they planned, what they thought about when they planned, and what factors influenced their planning. Post lesson interview focused on prominent features of the lesson, any unexpected occurrences, any changes from the
plans, and reasons for those modifications. Field notes were taken during the teaching observations and photocopies of lesson plans were made for documentation.

Borko and Livingston (1989) found that planning done by the preservice teachers focused on development of strategies for presenting the content. This proved to be more time consuming and less efficient than the expert teachers. Preservice teachers also encountered difficulty during interactive lessons when they attempted to improvise during the lesson by adapting their teaching in reaction to student actions or questions. During the post lesson reflection preservice teachers tended to be less focused and more concerned with specific instructional events rather than analyzing teaching as a whole. Some recommendations were suggested for student teaching experiences (Borko & Livingston, 1989). First, limit the number of courses for which the student teacher must prepare. This may help ensure that the student teacher will have sufficient time to plan and present high-quality lessons. Second, student teachers should only be assigned to prepare and teach in areas in which they have strong content knowledge. If the students have strong content knowledge they may be able to focus on pedagogical strategies. Finally, student teachers should be given the opportunity to revise instruction and then immediately try out the revisions in a similar section of the course.

DeRuiter (1991) described a graduate class designed to teach about linkages between pedagogy and content. He also discussed phases of teacher development and development of pedagogical content knowledge. Data were collected through field notes, written statements from the students at the beginning and end of the course, videotaped lessons with children, and interviews. Preservice teachers enrolled in the course were asked at the beginning to write answers to the following questions and statements: what is
learning; what is the nature of human development; what is teaching; why do some students learn more and others less; describe yourself as a learner; and describe yourself as a teacher. At the end of the course they were asked to answer the same statements and questions, however the last two questions were modified slightly: describe what you have learned about yourself this semester and describe how you have changed as a teacher during this semester. During the interviews preservice teachers were asked about the important concepts in the course, if they had any questions about the course, and self-evaluation about their progress and learning in the class.

DeRuiter (1991) suggested that preservice teachers progressed through different phases of understanding throughout the semester. Phase one, “dawning awareness”, students began to recognize that constructivism exists as a theory of learning. In phase two, “black and white”, preservice teachers became more focused on the practice or craft of teaching. During phase three, “there’s really more to it than I thought”, preservice teachers began to realize that constructivism requires a change in thinking about thinking and learning. Phase four, “this is hard, but I can do it”, suggests that preservice teachers began to apply the concepts learned in the class. It was noted that at the end of the semester preservice teachers displayed a higher phase of understanding than at the beginning of the semester. DeRuiter (1991) suggested that more than an understanding of children’s thinking and learning is needed to develop PCK. DeRuiter (1991) believed that learning to teach was a holistic process, and when the preservice teachers in the study learned something new it was quite evident, and their understanding was more concrete. Building on his belief that learning is holistic in nature DeRuiter (1991) suggested that PCK develops simultaneously with the transformations of understanding of pedagogical
knowledge and content knowledge. Three ideas were proposed from the findings of this study: (a) teachers will ground their PCK development in an epistemological stance; (b) a teachers understanding of preservice teacher thinking and learning strategies is central to PCK development; and (c) preservice teachers will develop PCK more effectively and efficiently if teacher educators regard student learning as holistic.

Even (1993) investigated the interrelations between mathematics teachers' content knowledge and pedagogical content knowledge related to two essential features of the concept of function, arbitrariness, and univalence. One hundred sixty-two preservice secondary mathematics teachers participated in this two-phase study. In the first phase the 162 participants who were enrolled in the methods course completed a questionnaire. During the second phase, ten of the initial 162 participants answered the questionnaire and were also interviewed. The goal of the first phase was to gain a general picture of preservice teachers' subject matter knowledge and their pedagogical content knowledge. The goal of phase two was to clarify the general findings of the questionnaire and add more details to the findings.

Even's (1993) findings indicated that many of those preservice teachers did not hold modern conceptions of functions in mathematics and could not explain the need for univalence. The participants lacked an appreciation for the arbitrary nature of functions. It was concluded that an "important step in improving teaching should be better subject matter preparation for teachers" (p. 113). Better subject matter preparation would be done not by changing the number of courses, but rather the reconstruction of the current courses. Also pointed out was that "good subject matter preparation for teachers is necessary, but not sufficient" (p. 113). In addition, "...good content-specific pedagogical
preparation is also needed" (p. 114). It was stated that teachers with strong content-specific pedagogical preparation would be able to create a learning environment for their students that fostered the development of the student.

Loughran (1993) described the emerging themes and issues that impacted the learning of how to teach science. Eighteen science graduates were interviewed about their first year teaching. Of these, 14 remained in the profession and completed their second year. It was these 14 teachers that participated in the study. Participants were interviewed to ascertain the teachers' views of the findings of the first year of teaching interviews and to explore the teacher's development in their second year of teaching science. The first year's research suggested that teachers operating with interaction with colleagues, having an understanding of content, being able to adapt and create lessons, and those that had successful teaching strategies were more concerned with student learning. Therefore, their approach to teaching was to have better alignment of teaching strategies and student learning, rather than focusing only on the transmission of content knowledge.

Loughran's (1993) second-year data revealed that teachers recognized time, self-confidence, and collegial support as affecting their development of their pedagogy. Time referred to the amount of time available to think about the content and how to present the content. Time also referred to the amount of time necessary for the teacher to be a learner so they can have a greater understanding of the content topic. Confidence was discussed in terms of comfort in the classroom. Having gained experience over a year, the teacher gained confidence just from merely surviving the first year. The benefits of working in a supportive environment was discussed in terms of sharing of ideas and
approaches to teaching content. Most of the participants described time and time again that a supportive environment was a healthy place to develop PCK. During the interviews the participants were asked what they saw as influencing their pedagogy, 11 of the 14 mentioned their teacher preparation program. Complexities of teaching are enhanced when expectations developed in the teacher preparation program conflict with the real world of teaching. It was suggested that the effects of the teacher preparation program are not so much "washed out" but rather repressed because of the competing complexities of teaching.

Ebert (1993) described the knowledge base of preservice mathematics teachers in relation to the topic of functions and graphs. Her focus was on describing and documenting the sources of pedagogical content knowledge, the transformation of knowledge and beliefs about the content and the learners, and specific features of pedagogical content knowledge. Eleven preservice mathematics teachers enrolled in a secondary methods class were the participants of this study. Data were collected through: (a) written assessment of subject matter knowledge of functions and graphs; (b) written responses and videotaped interviews of responses to vignettes of students solving problems dealing with functions and graphs; (c) unit planning; (d) video taped peer lessons on quadratic functions; and (e) two stimulated recall interviews.

Ebert's (1993) findings about preservice teachers' subject matter knowledge were that the teachers had difficulty in diagnosing student errors in their function-evaluation and with constant versus variable functions. Preservice teachers indirectly revealed their subject matter knowledge by understanding student misconceptions of functions and graphs in the vignettes. Some of those preservice teachers believed that mathematics at
the secondary level should be demonstrated and the students told. While other preservice teachers believed that students should explore representations of mathematical concepts and test their beliefs. Instructional decisions were based on the preservice teachers’ beliefs of learners and learning mathematics. When asked about their beliefs of mathematics some preservice teachers believed that mathematics is largely rules-based and the teachers’ job is to inform the students of those rules. Other preservice teachers believed that mathematics should make sense to the students and this understanding comes to the students through the instructional practices used by the teacher.

Pedagogical knowledge again split the preservice teachers into two groups. The first group were teachers that value student observations and believe in the importance of making connections, though not allowing students to make those connections, but rather making the connections for the students. The second group of teachers valued their student input and believed in group work because they believed that this placed a value on student understanding and extending their existing knowledge.

Donlan and Black (1993) investigated whether a course in pedagogical content in English would have an impact of the lesson plans of 11 preservice teachers. The researchers contrasted two sets of lesson plans written at the beginning and at the end of an English pedagogical content course to determine the effect the course had on changing the lesson plans. This study expanded that investigation by focusing on two preservice teachers, one experiencing the most change and one experiencing the least amount of change in their lesson plans. Prior to the first meeting of the course the researchers gave the 11 preservice teachers copies of Jack London’s “To Build a Fire” and asked them to read the story. On the first day of class the students were asked to write a lesson plan that
they would teach to a 10th grade class. On the final day of the class the preservice teachers were again asked to write a lesson plan that they would use to teach 10th graders this material. The final step, preservice teachers were asked to compare their first lesson plan with their second lesson plan and describe how they differed. Data were collected through the collection of documents: (a) first lesson plan, (b) second lesson plan, and (c) the self-assessment of the differences between the two.

Findings of Donlan and Black's (1993) initial study suggested that preservice teachers were open and willing to use new methods and approaches. However, it was noted that the degree of change varied considerably between the 11 preservice teachers. The extended study compared the preservice teacher who had the largest degree of post-class change (Helen, pseudonym) with the preservice teacher with the least amount of post-class change (Marv, pseudonym). The preservice teacher with the least amount of change was very descriptive in his reasons for wanting to teach. The preservice teacher with the most amount of change had scored significantly higher in her pedagogical course content. Helen's lesson plans were more sensitive to the objectives of the course. She focused more on preparing the students for reading the text, guiding them through the text, and providing opportunities for her students to respond to the text through writing and speaking activities. It was suggested that pedagogical content courses could have a differential effect on preservice teachers and their planning of lessons.

Gess-Newsome and Lederman (1993) investigated the nature of preservice biology teachers' subject matter structures during their final year in the preparation program. Sources of the teachers' subject matter structures as well as the stability were queried during their student teaching and microteaching placements. After collecting
answers to those questions the researchers explored whether there was a relationship between the preservice biology teachers' subject matter knowledge and their teaching. A total of 10 preservice biology teachers participated in the study. Each preservice teacher was asked to plan and teach four 20-minute lessons, which were videotaped and critiqued by the university instructor, peers, and the preservice teacher (self critique). Data were collected and analyzed in two phases. During phase one the preservice teachers answered a questionnaire asking them what topics made up their primary teaching content area, how they would diagram this information, and if they had thought about their content area in this fashion before. Preservice teachers were asked these questions on the first day of their methods course and then again at the midterm (Week-5) and at the end of the course (Week-10). However, during the midterm and final administration of the questionnaire rather than asking if they had thought of their content in this fashion before they were asked if their views of their subject matter structures had changed and if so why and how. Phase two of data collection and analysis occurred half way through the preservice teachers' student teaching experience. Each participant was asked to complete the questionnaire for the fourth time and participate in a videotaped interview. The interview was for the participants to clarify or elaborate on information they diagramed and listed on the questionnaires.

Gess-Newsome and Lederman (1993) found that a majority of the preservice teachers had not thought about the relationship between their subject matter before. Structures of subject matter consisted of simple listings of courses and topics taken at the university. Sources of the subject matter came directly from the courses that they had been exposed to during their teacher preparation. These preservice teachers realized that
there might be an organized framework through which they should view biology. The fact that they had not come up with one appeared bothersome to them. This finding suggested that these preservice teachers were not being provided with either an explicit or implicit structure of biology. In other words, the content and topics presented at the university were presented in disconnected and fragmented ways. Changes in the questionnaire responses were quite evident in the third (microteaching) and fourth (student teaching) administrations. It was found that the subject matter structures were quite malleable and unstable. The structures were influenced by the content, course information, and reflections of the student teachers. Relationships between the teachers’ subject matter structures and their teaching occurred during their student teaching. It is here where the preservice teachers began to think about how the content needed to be presented, this in turn influenced their subject matter structures.

Magnusson, Borko, and Krajcik (1994) described the analysis of teacher pedagogical content knowledge for the topics of heat, energy, and temperature. This study was part of a research effort that enabled experienced teachers to use specific instructional materials to help students develop knowledge of heat, energy, and temperature. The goal of this project was to describe the knowledge teachers used to help make heat, energy, and temperature concepts understandable for students. Content framework, student understanding, and topic-specific strategies were the pedagogical content knowledge components on which this study focused. Experienced, knowledgeable, and committed teachers comprised the participant pool of six. Data were collected through interviews conducted at the beginning and end of the school year. Interviews consisted of open-ended questions and problem-solving tasks. Elicited
information was about participants’ PCK associated with understanding the relationship between heat energy and temperature. Information was sought on: (a) what conceptual understandings the teachers expected their students to use in responding to a task; (b) what the teacher’s students would predict and how the students would reason about the heat energy phenomena they were asked to interpret; (c) what reasoning might have led a student to a particular response; and (d) what the teachers would do instructionally to help their student develop the desire scientific knowledge required to accurately respond to the task. Content frameworks that were identified by the participants were: (a) energy framework, (b) molecular framework, (c) factor framework, and (d) transfer framework. Frameworks were named according to what idea they emphasized. All teachers were aware of lay misconceptions held by their students though some lacked sensitivity to some of the common reasoning errors made by the students. With respect to why students reacted or reasoned in a certain way the participants varied. There were substantial differences between the participants and their knowledge of topic-specific pedagogical strategies. Most of the participants did not exhibit substantial knowledge about pedagogical strategies.

Lederman, Gess-Newsome, and Latz (1994) assessed the development and changes in preservice science teachers’ pedagogy and subject matter knowledge structures as they progressed through their professional teacher preparation program. A total of 12 preservice secondary science teachers participated in the study. Data were collected and analyzed in two phases. During phase one participants answered questions inquiring about what topics made up their primary teaching content area, how they would diagram this information, and if they had thought of their content area in such a manner
before. They were then asked the next day, during their methods course, similar questions, though the focus was on the important elements/concerns of teaching and again they were asked to diagram this information. These sets of questions were asked at the end of the field practicum, and the end of their microteaching and five weeks into the student teaching experience. During the second, third, and fourth administrations of the questionnaires the question of, “if you had thought of this information in this manner before” was changed to “have your views changed, and if so how and why”. A total of four subject matter and four pedagogy questionnaires were completed. Phase two of the study followed the completion of the student teaching experience. Participants were interviewed to help clarify any potential confusion from the questionnaire. They were asked to describe their current knowledge structures, discuss any changes that occurred during the year and why they occurred, discuss any relationships between knowledge structures or between either knowledge structure and their teaching, and their feelings about the questionnaires used throughout the year.

Responses to the subject matter questionnaires in Lederman et al.’s (1994) study indicated that preservice teachers felt inadequate during the first two questionnaire administrations. The subject matter structures were primarily listings of the teacher-oriented components with student-oriented components rarely mentioned. Pedagogy structures tended to be fashioned linearly in nature. It was found that preservice science teachers were not being presented with an overt or covert structure of subject matter. Science subject matter tended to be presented in a non-sequential, non-linear, and non-connected order at the university. After completing the year of coursework the preservice teachers appeared to possess no coherent structure of their subject matter. Changes were
clearly noted in their subject matter and pedagogy knowledge structures by their microteaching and student teaching experiences. Subject matter structures tended to become more consistent when preservice teachers decided how each content area would be presented. Pedagogy representations became increasingly more complex during the year. During student teaching preservice teachers’ pedagogy structures shifted toward a student focus, rather than in the beginning where student concerns were rarely mentioned. During the interview when asked if subject matter and pedagogy knowledge could be presented on the same diagram the majority of participants replied emphatically no. It was mentioned that these two were indeed separate entities that were integrated for application during teaching. Lederman et al. (1994) suggested that with the benefit of experience and continual use of subject matter knowledge the division between pedagogical knowledge and subject matter knowledge would blur.

Jones and Vesilind (1994) inquired about the organization of preservice teachers’ knowledge, and how their teaching changes during the last year of the undergraduate program, including the student teaching experience. Participants were 23 seniors enrolled in the middle school teacher preparation program. The preservice teachers were asked to draw a concept map about effective teaching on four separate occasions (August, January, March, and May). Upon drawing the concept maps they reviewed the previous map that was drawn to compare to see if there were any changes. After reviewing the previously drawn maps the preservice students were interviewed to find out what influenced the change represented in their concept maps. The cooperating teachers and the university supervisors were also asked to draw concept maps. The 20 most frequently used concepts collected from these maps were used in the interview process with the
preservice teachers. The concepts were put on index cards. The preservice teachers were asked to organize or group the index cards according to the concepts and how they related to each other. Then a rationale was elicited from the preservice teacher.

Jones and Vesilind’s (1994) findings showed an increase in the cross-links and concepts in the March (3rd) interview. The time of this interview was important because the March interview coincided with student teaching. The preservice teacher had detailed knowledge at the beginning of the year, but lacked the ability to link the concepts. At the end of student teaching the concepts and processes were discussed in a more global and reflective way. Preservice teachers made more holistic connections between the variables of teaching. During the interviews the preservice teachers also talked about how the concepts they learned in the university courses had come up in their own teaching.

Lederman and Chang (1994) investigated preservice science teacher’s in Taiwan and the United States. The purpose was to assess the nature, development, and changes in preservice secondary science teachers’ conceptions/knowledge structures of subject matter and pedagogy as they proceeded through their student teaching experience in their preparation programs. Twelve preservice secondary science teachers from the United States and 14 preservice teachers from Taiwan participated in the study. Significant differences between the teacher preparation programs were noted prior to the collection of data. United States students were in a Master of Arts program and the Taiwanese students were in a four-year undergraduate preparation program. Data were collected and analyzed in two phases. Phase one began by having the participants answer questions inquiring about what topics comprised their teaching content area, what would it look like if they diagramed them, and had they ever thought about visually presenting the content
area rather than verbalizing. These questions were asked two weeks prior to student teaching, then one week later the participants were asked to answer the same questions, though slightly modified. Inquiry was focused more on what important elements or concerns of teaching made up their content area. Preservice teachers were then asked to answer the questions again, only this time after the completion of student teaching. A question about if the preservice teachers' views of teaching or the content had changed and if so why and how. Phase two began within two weeks of completing student teaching. Participants were interviewed about their: current knowledge structures; any changes that had occurred; reasons for those changes; discuss the relationship between knowledge structures and pedagogy; and their feelings about completing the questionnaire in the first phase. Participants were given a chance to redesign their original diagram representation of their subject matter.

Initial subject matter representations found by Lederman and Chang (1994) were predominately discrete lists. Interestingly, the United States participants separated subject matter knowledge and pedagogy, however, Taiwanese students consistently integrated these two. Another noted difference between these two groups was that U. S. preservice teachers put student-oriented components of instruction on the periphery while Taiwanese preservice teachers placed the student as the focal point. It was found that preservice teachers from both nations appeared to possess very little coherence for their structure of subject matter. There were virtually no changes in subject matter representations for either group. Participants did not alter their views of subject matter even though subject matter knowledge had been placed in the context of teaching. Changes were noted in the U.S. group in their pedagogy knowledge structures, they
became more complex. Taiwanese preservice teachers' knowledge structures remained quite stable throughout student teaching. A clear difference between the participant groups was the conceptualization of pedagogy. Taiwanese preservice teachers did not separate, but rather integrated pedagogy and subject matter knowledge, while U.S. preservice teachers markedly kept them separate, even after student teaching.

Tuan, Jeng, Whang, and Kaou (1995) investigated the nature and development of content and pedagogical knowledge, nature and development of pedagogical content knowledge, and factors that influenced the development of pedagogical content knowledge. Three preservice chemistry teachers were interviewed, observed, and asked to provide documents that consisted of their assignments for the course in which they were enrolled. Preservice teachers had not thought of or conceptualized chemistry content knowledge they learned in college. In describing their knowledge a hierarchical structure of logically sequenced concepts was presented. By the end of the year the preservice teachers were still using hierarchical structures, however, they connected their content with other disciplines and with daily life. When asked about pedagogical knowledge the preservice teachers listed a few principles, but basically stated that pedagogy was teaching and learning. When asked to describe or define teaching or learning at the beginning of the study they could not give specific examples or definitions. At the end of the study the preservice teachers began to elaborate and to provide specific examples. These preservice teachers lacked a repertoire of strategies to present material. It seems logical to say that because of their lack of ability to define teaching and learning, this may have attributed to their limited strategies to present material. When asked about the connection between content and pedagogy these

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preservice teachers said there were very few connections. However, at the end of the study they began to have awareness that these two disciplines did indeed have some connections. Factors that influenced the development of pedagogical content knowledge were the ability and willingness to reflect on their teaching experiences, lack of a variety of strategies to present material, and the classroom experience in which they participated. Tuan et al. suggested that science educators should provide opportunities for preservice teachers to conceptualize the content, work with experienced teachers, stress linkages between chemistry content and different disciplines and everyday life, and stress reflective practice.

Fuller (1996) characterized and compared preservice and experienced elementary teachers’ pedagogical knowledge and pedagogical content knowledge of three major topics in mathematics there were whole number operations, fractions, and geometry. A total of 26 preservice teachers and 28 experienced elementary (K-8) teachers participated in the study. All teachers volunteered for the five-year research project. The participants completed the Survey on Teaching Mathematics. This survey consisted of 12 questions that involved whole number operations, fractions, geometry, number sense, and mathematical reasoning. Shulman’s description of pedagogical reasoning and the approaches to teaching mathematics as defined by Kuhs and Ball (1986) were used to analyze the data. They identified two approaches to teaching: learner-focused and content-focused. In the learner-focused approach the teachers’ role is to stimulate student-learning by posing problems, asking questions, designing experiences, and listening to, probing, restating, and encouraging student thought and learning. Content-
focused approach emphasizes understanding mathematics, the teachers’ role is to organize the content and guide the student through the learning process.

Fuller (1996) found that preservice and experienced teachers think that good teaching consists of showing and telling students how to do the work. The three categories that were focused on were whole number operations, fractions, and geometry. The findings suggest that experienced teachers possessed a greater conceptual understanding of whole number operations than preservice teachers. Experienced teachers were found to have a greater conceptual understanding of whole number operations than they do of fractions. These two findings suggest that neither pedagogical knowledge nor pedagogical content knowledge is necessarily acquired through experience.

Gee, Boberg, and Gabel (1996) examined the level of elementary education majors’ science content knowledge, pedagogical knowledge, and pedagogical content knowledge. There were two phases of this study, the first phase of the investigation occurred during the fall semester. Two pools of participants were drawn from in the first phase: 24 elementary majors in science and 24 elementary majors not in science. In the second phase of the study, nine preservice teachers were selected from the preservice teachers: six QUEST students and three non-QUEST students. QUEST is an acronym for Quality University Elementary Science Teaching; therefore, QUEST preservice teachers are those that are majoring in science. Information was sought in science content knowledge, pedagogical knowledge, and pedagogical content knowledge. Observations, document collection, and self-evaluations were used to collect the data. During the first phase data were collected during regular class sessions through questionnaires and

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analysis of lesson plans. It was found that the preservice teachers from both groups (majors and non-majors) perceived that science is integrated with other subjects in the school system. Both groups also believed in “doing” science rather than just learning a collection of facts. Five aspects of pedagogical content knowledge were examined: (a) the learning cycle, (b) social interaction, (c) children’s prior conceptions, (d) higher level learning, and (e) children structuring their own learning. Pedagogical content knowledge aspects examined were: (a) applying appropriate pedagogy, (b) adapting college instruction to the appropriate level, and (c) applying appropriate technology. Participants indicated that they supported a constructivist philosophy of teaching. As for adapting college instruction to the appropriate level, all participants struggled. This may be due to lack of content knowledge. From analyzing the questionnaires it was found that none of the participants valued technology in the classroom.

The second phase of Gee et al’s (1996) study dealt with participants from the QUEST program and participants not involved in QUEST, totaling nine participants. An interesting finding from the interviews was that all of the participants in this phase perceived the interdisciplinary nature of science integrating other content areas with science, rather than integrating the sciences. In the pedagogical knowledge section the learning cycle was applied and used with these participants. The only difference between the groups was that some forgot to apply the culminating phase of the learning cycle. QUEST participants failed to inquire about student conceptions in their observed lessons. It was found that all of the participants, QUEST and non-QUEST, seemed to be continually developing their understanding of pedagogical methods. Overall findings suggested that participants hold their own interpretation of the interdisciplinary nature of
science, inquiry about practicing it, and they admitted that they had limited content knowledge. Even more distressing was the fact that these preservice teachers mentioned that they did not understand the content that they were to teach at the elementary level. Results of pedagogical content knowledge showed that participants appropriately applied and adapted pedagogy for the purpose of teaching science; however, none of the participants demonstrated truly adequate PCK. The QUEST preservice teachers consistently felt and displayed confidence in their abilities to teach science to children. The level of pedagogical content knowledge seemed directly related to the participant’s ability to cope with classroom management issues.

Ebert and Risacher (1996) searched for a link between knowledge and beliefs to potential instructional practices for two groups by examining the influences on both knowledge in the content area, and beliefs about the learner and mathematics on potential instructional practices. A total of 20 participants were involved (10 full-time preservice teacher from an undergraduate program and 10 part-time preservice teachers from a laboratory). The laboratory participants were research scientists and mathematicians that were interested in obtaining a teaching certificate. Data were collected through completing a beliefs scale on the views relevant to the teaching and learning of math, a written assessment of subject matter knowledge, a written assessment of preservice teachers’ understanding of student conceptions and misconceptions of functions and graphs, and reaction statements to presented vignettes.

Ebert and Risacher (1996) found differences between the subject matter knowledge of the two groups of students. First, the lab preservice teachers had difficulty in determining relationships displayed as diagrams and graphs, in determining truth in
statements related to graphs, and constructing graphs. Full-time preservice teachers had difficulty in examining the graphs and determining which graph represented which function, in determining truth of statements from examining graphs, and graphically representing functions. Beliefs about teaching, learning, and mathematics in both groups were very similar. Both groups of preservice teachers believed that learning occurs when students construct knowledge. When learning mathematics, authentic problem situations were thought to be the best way to present content. Both groups of preservice teachers agreed that mathematics is comprised of activities made up of applications that are modeled from data, logic, and reasoning. The one area that these groups of preservice teachers did not agree was the statement that poor performance in mathematics can be remediated with deliberate teaching, lab preservice teachers agreed, while the full-time preservice teachers did not. In response to the vignettes again there was very little difference between the preservice teacher groups. The main difference was that the lab preservice teachers tended to have traditional teacher directed responses. They also consistently utilized accurate scientific information. The lab preservice teachers were unable to suggest responses to their students that capitalized on their knowledge and beliefs. Overall, the beliefs about learners and learning mathematics had played an important role in determining the nature of responses to teaching mathematics.

Using case study methodology, Hutchinson (1997) explored the relationship between subject matter and acquisition of pedagogical content knowledge in preparation of a preservice elementary mathematics teacher. Data were collected using mathematics educational biography interview, two in-depth fraction task interviews, two classroom observations of the preservice teacher, and an observation of the mathematics methods
course. The preservice teacher was interviewed during their first quarter to determine their mathematic educational biography. The biography was completed to ascertain the subject matter knowledge and the teachers' beliefs about mathematics. To gain an understanding of the subject matter knowledge and pedagogical content knowledge of the student, two fraction task interviews were performed, one before and one after the mathematics methods course. Fraction tasks were used because fractions are a difficult subject, thus making it easier to differentiate between subject understanding. During the second quarter the preservice teacher was observed in the classroom teaching, two out of the three times math was taught at the third grade level. Observation in the mathematics methods class in which the participant was enrolled was also observed. It was found that the pedagogical content knowledge was hindered by the limited amount of subject matter knowledge. The knowledge that the preservice teacher brought with her affected her ability to acquire pedagogical knowledge. Hutchinson (1997) suggested further exploration on how subject matter knowledge can filter acquisition of pedagogical content knowledge.

Galvez-Martin (1997) compared the reflection of preservice teachers when they are reflecting about pedagogical issues in general methods courses versus content knowledge combined with pedagogy in social studies methods courses. A total of 44 master of education students participated in the study. Data were collected through reflective journal entries. Findings were that the pedagogy group tended to be more reflective than the social studies group. The pedagogy group was the first to gain new understanding on pedagogical content, reviewing what they had learned, and evaluating their own performance during their student teaching. The social studies group reflected
only upon what they had learned in the course. This may be due to the training of reflective practice that had been received by the pedagogy group. When comparing the levels of reflections achieved in pedagogy versus pedagogical content knowledge it was found that training in reflection did not make a difference.

Van Driel, Verloop, and de Vos (1998) examined the development of teachers' pedagogical content knowledge with respect to chemical equilibrium within the context of an inservice program. Chemical equilibrium was chosen because it challenged the conceptions about chemical relations preservice teachers have derived from previous education. The study was concerned with identifying factors either promoting or hindering the processes of conceptual change. In order to achieve this purpose both an experimental course of chemical equilibrium for upper-secondary education students and an inservice workshop for chemistry teachers were designed. The inservice workshop comprised of 12 chemistry teachers was the focus of this study. Documents from the inservice, audiotapes, and questionnaires were collected as data.

Van Driel et al.'s (1998) findings suggested that the chemistry teachers struggled with the abstract nature of the dynamic conception of chemical equilibrium and its relations to observations during chemical experiments. From analyzing answers on the questionnaire it was evident that these teachers’ understanding of the students’ conceptions of molecules had deepened. Teacher responses during the workshop sessions indicated that they had indeed gained knowledge about students’ reasoning and learning difficulties with the context of chemical equilibrium. Throughout the workshop the teachers increased their repertoire of successful strategies and representations of this
content. The content knowledge of teachers’ conceptions appeared to be traditional, thus being a hinder to the innovation of science education.

Smith (1999) investigated how a cohort of elementary education preservice teachers specializing in science built their subject and pedagogical content knowledge and how they integrated those into their growing professional knowledge base. Participants consisted of five preservice teachers, who were treated as partners in the investigation rather than participants. Data were collected through several methods: educational documents supporting their educational history; assessments of subject knowledge from course assignments and teaching plans and evaluations; and three semistructured individual interviews that focused on the preservice teacher development over the course of four years. It was found that the preservice teachers’ subject content knowledge was a significant ingredient in their growing professional knowledge base. Though it was mentioned that subject knowledge couldn’t be viewed as a separate entity, but rather as a part of the whole professional knowledge base. Development of subject knowledge led to changing perceptions of their need for a deeper understanding of their subject. These perceptions were influenced by the situations in which they were teaching and their changing views of how to teach and learn. Student teaching was a major source of the development of pedagogical skills and knowledge, however it is important to note the combination of learning from different sources is also a major source of their development. Analysis of the collected data showed a change in the structure of the students’ knowledge as they reconstructed their views of teaching and learning through their experiences.
Koballa, Gräber, Coleman, and Kemp (1999) investigated German preservice chemistry teachers' conceptions of the knowledge needed for teaching chemistry. Eight preservice chemistry teachers and one professor participated in the study. Data were collected through interviews and field notes. Interviews focused on eliciting descriptions of what knowledge base is needed for chemistry teachers. Four concepts were found to be prominent in the preservice teachers' answers. First, they believed that you needed to have university chemistry knowledge. It was important to know chemistry facts and concepts, chemical theories, and how to conduct a lab and possess problem-solving skills. This was based on the belief that good chemistry teaching is based on one's understanding of the content. Second, teachers should have knowledge about the chemistry taught in the schools. Third, teachers should possess multidimensional knowledge comprising of knowledge of teaching, students, and the curriculum. This concept was based on the belief that the more the teacher knows about his/her students the more successful they will be. Finally, teachers should have learner-oriented multidimensional knowledge. Believing that students construct their own understanding of chemistry, a knowledge base about the students' conceptions and misconceptions is necessary. The professor mentioned the knowledge needed comes from the university chemistry preparation. He made no mention of any pedagogic knowledge.

Veal (1999) described how pedagogical content knowledge developed in preservice secondary chemistry and physics teachers. Four preservice teachers enrolled in a secondary science curriculum class volunteered for the study. The goals of the class were to allow students to explore and experience the role of science teacher curriculum development and implementation. Data were collected through structured and
semistructured interviews, documents (syllabi, philosophy statement, and class handouts), field notes, journal entries, and response to vignettes. Findings from this study suggest that the notion that beliefs and pedagogical content knowledge are tied together. A full conceptual change in the preservice teacher's beliefs did not occur. From observing it was found that the actions of the participants did not always represent what they thought were ideal ways of teaching science. Prior beliefs and understandings impeded the participants' development of new beliefs systems. The preservice teachers had a difficult time developing pedagogical content knowledge and altering their belief structures when the content was abstract or too mathematical. Interestingly, these preservice teachers' instruction was viewed as coming from a learners' perspective. Conclusions drawn from the study showed support that secondary science teacher preparation is viewed as an interaction between knowledge base and beliefs. These preservice teachers tended to ground their knowledge base development within their beliefs; this ultimately affected how they taught in the classroom. Therefore, in order to enhance PCK development preservice teachers needed to reflect on their beliefs on the development of knowledge and observing and interacting with more experienced teachers.

Veal, Tippins, and Bell (1999) investigated the evolution of pedagogical content knowledge in preservice secondary physics teachers. Using case study methodology two preservice secondary physics teachers were studied, one in the curriculum class and the other in the subsequent student teaching field experience. The focus of the inquiry was on the cognitive development of pedagogical content knowledge. Data were collected with structured and semistructured interviews, documents (philosophy statement, class handouts, and course syllabi), field notes were taken, and reflective journal entries
collected. The preservice teachers were asked to respond to two different vignettes. Results of this study supported three major findings about the development of pedagogical content knowledge in preservice secondary physics teachers. First, preservice teachers believed that the classroom experience was an integral part of their development. Second, these teachers became student centered in their teaching and began to reflect about their beliefs of teaching and learning in science. Finally, development of PCK was determined to be complex and non-linear in nature. In this study, six phases were determined to be associated with the development of PCK. Preservice science teachers: (a) showed an increased differentiation in how they viewed the teaching of physics/chemistry; (b) were able to integrate curricula, textbooks, and resources into a coherent lesson plan; (c) encountered perturbation that created some sort of dissonance in their beliefs on how to teach science; (d) had the opportunity to reflect on their beliefs, content knowledge, and perturbations; (e) wrestled with the conflicting beliefs by instructing outside of the cooperating teachers’ paradigm; (f) and they integrated, modified, or developed new personal theories that took into consideration many aspects of the classroom learning environment. It was suggested that the development of PCK does not occur suddenly, it occurs in phases that are neither sequential nor linear. The development is gradual and progressive (Veal et al., 1999).

Jegede, Taplin, and Chan (2000) investigated areas in which preservice and inservice mathematics and science teachers considered themselves to be knowledgeable and confident. They also looked at the effect of experience on teachers’ perceptions of the gap between their current knowledge and what they need to know to become an expert teacher by comparing preservice (inexperienced) and inservice (experienced)
teachers. A 60-item instrument, Science and Mathematics Expert Teacher Preparation Survey (SMETPS), was created and validated before being administered to 183 participants. Sixty-five preservice and 116 inservice teachers answered questions dealing with: (a) biographical information, (b) knowledge of concepts; (c) ability to follow rules and procedures, (d) pedagogical knowledge, (e) pedagogical content knowledge, (f) knowledge about teaching theories and their use, and (g) current knowledge concerning personal experiences with aspects of teaching.

Jegede et al. (2000) found that preservice and inservice teachers were not particularly confident about the quality of their current knowledge. They tended to be more confident in procedural, pedagogical knowledge, and pedagogical content than content knowledge, knowledge concerning personal experiences with aspect of teaching, or teaching theories and their use. There were several areas in which the respondents desired to know more: (a) knowledge of concepts, (b) pedagogical content knowledge, (c) pedagogical knowledge, and (d) knowledge about theories of teaching and their use. Preservice teachers desired to know more about teaching theories and their use and knowledge concerning personal experiences with aspects of teaching, while inservice teachers yearned for more confidence in pedagogical knowledge and pedagogical content knowledge. When investigating the gap between the current knowledge and what knowledge is needed to become an expert teacher there were differences between the two groups in all areas except one: preservice teachers and inservice teachers did not differ in their gap of content knowledge. This finding suggested that what teachers believed they need to know to become and expert teacher does not reduce with experience (Jegede et al., 2000).
Van Driel and De Jong (2001) aimed to gain a better understanding of factors, which either promoted or hindered, the development of pedagogical content knowledge and they also aimed to contribute to the research-base design of teacher education courses in science. Development of PCK in chemistry teaching and the use of models and modeling was the focus. The study was situated in the context of a one-year postgraduate teacher education program with eight preservice teachers in chemistry. In order to enter into the teacher education program the participants needed to have obtained a master’s degree in chemistry. During the time in the teacher education program the preservice teachers worked in the schools first with observations and assisting, and then eventually taking over classes. Prior to the study a new course module was developed that focused on teaching models and modeling within chemistry education. Data were collected from written questionnaires, written notes and reports from the participants, and from audio taped discussions during the workshop and classroom activities.

Van Driel and De Jong (2001) reported findings in three areas: (a) changes in the preservice teachers’ knowledge of difficulties associated with learning of models and modeling, (b) changes in the preservice teachers’ knowledge of teaching activities aimed at promoting students’ understanding of models and modeling, and (c) factors influencing the observed changes. It was noted that most of the preservice teachers displayed a distinct development of PCK about models and modeling and became more aware of the role of models and modeling in teaching chemistry. Participants gained a better understanding of specific difficulties associated with particular models and modeling activities. Most of the participants displayed evidence of increased knowledge of specific teaching activities when using models and modeling activities. A comment made about
the findings was that the preservice teachers differed in what they focused on while teaching. Some focused on models and modeling activities while others focused on content, while others simply focused on general issues of teaching.

**Pedagogical Content Knowledge in Physical Education**

Stroot and Morton (1989) explored planning strategies utilized by effective elementary physical education teachers. Five questions were investigated:

1. How do teachers plan?
2. What factors affected planning?
3. To what extent do teachers rely on their lesson plans?
4. Are there planning differences between beginning, intermediate, and veteran teachers
5. Are there planning differences between units identified by teachers as “strong” or “weak” units?

Data were collected through a questionnaire, lesson plans, and interviews. Lesson plans were written using a similar format: learning objectives; equipment and facilities; organization of students and environments; activities or lesson focus; student evaluation; and evaluations/critique of lesson. Factors that were important to planning a lesson were goals and objectives of the activities, organization of activity, and level of students’ skill performance. Factors that forced the teachers to modify their lessons most often were assemblies, field trips, and special events at the school. The extent of reliance on lesson plans directly related to the confidence of the teacher with teaching and knowledge of the unit topics. Beginning teachers relied on lesson plans to a greater degree than intermediate and veteran teachers. Veteran teachers were found to refer to their lesson plans more when the material being taught was new or unfamiliar activity. Veteran teachers were also more likely to plan culminating events and special events for their students. Intermediate teachers began to integrate special events, and beginning teachers
did not have time after planning their lessons' activities to create and plan for special events. In relation to "strong" and "weak" units, all teachers relied more on lesson plans during weaker units as well as spent more time preparing.

Walkwitz and Lee (1992) conducted a study to see how veteran, physical education teachers with five or more years experience, transform their knowledge about the mechanics of throwing. Furthermore, they attempted to see how this knowledge influenced the information presented to the students in the class. The participants were eight kindergarten teachers who possessed high levels of generic teaching skills. Teachers completed a knowledge assessment prior to participation. Responses to the questionnaire revealed that the teachers had no experience playing either baseball or softball. Of these eight teachers, four attended a training session (knowledge group) and four did not (nontrained group). Prior to teaching the unit, a knowledge assessment was administered to all participants.

Findings from Walkwitz and Lee (1992) showed that the knowledge group possessed more knowledge than the nontrained group. Evidence to support the findings was the number of stages, correct feedback, specific instructional strategies, and developmental body actions identified by the teachers. All teachers taught a six-week overhand throwing unit to their whole class. Three of the five lessons each week focused on the overhand throw, the other two lessons focused on activities other than throwing. The teachers were videotaped three times and engaged in stimulated recall interviews after each videotaped session. The stimulated recall interviews focused on feelings, thoughts and reactions to the taught lesson. Results of the interviews from both teaching groups were compared. Both the knowledge and non-trained groups completed a
knowledge assessment after the throwing unit. This assessment was observational in nature, rather than written. Teachers were shown video segments depicting six immature throwers. Teachers were asked to observe and then make statements as to how they would instruct the student to improve. An overall knowledge score was obtained for each teacher by recording the number of references made, to enhance student skill acquisition, by the teacher while watching the video displaying immature throwing actions, developmental stages, and instructional procedures. Finally, the criterion of contralateral foot stepping during the performance of throwing was used to describe whether the instruction provided resulted in high quality practice. They also found that students who attended classes taught by the knowledge group teachers performed twice as many contralateral throws as the students in the nontrained teachers’ classes. Findings showed that the knowledge gained during the training session formed the basis of many of the teachers’ thoughts and was reflected in their teaching. Both groups of teachers were concerned about throwing accuracy, however the knowledge group described more concerns about how technique affected accuracy rather than just the force of the throw. It was also found that the knowledge group focused on different patterns of skill observation more often than the nontrained teachers (Walkwitz & Lee, 1992).

Gomez and Housner (1992) examined the structure of declarative knowledge about pedagogy housed in the memory of an experienced teacher educator. They sought to determine the influence of a teacher educator on the development of declarative knowledge in undergraduate education preservice teachers. Also investigated was the relationship between measures of correspondence to preservice teachers’ ability to semantically classify the relations connecting concept pairs. Their teacher educator had
11 years working experience at the university level. Undergraduate students, totaling 28, were enrolled in a course on generic teaching methods in physical education taught by the teacher educator. The initial step of the study was to delineate the pedagogical knowledge of the teacher educator by asking him to generate concepts that he found to be important. The teacher educator came up with 92 concepts, because of the large number he was asked to pick 40 or fewer of the most important concepts, he identified 36 and grouped them. Six categories were created: (a) direct instruction concepts, (b) management concepts, (c) task structure concepts, (d) feedback concepts, (e) pedagogical content knowledge, and (f) student growth concepts. The instructor was then asked to rate the relatedness of the concepts that were randomly paired. When asked to identify the overarching pedagogical concepts that the teacher wished to convey he mentioned two: student engagement and success. Preservice teachers were asked to rate the relatedness of the concepts as well as draw linkages between the concepts. Preservice teachers’ knowledge of relatedness and linkages more closely approximated the instructors at the end of the course. Looking at the networks drawn by the preservice teachers, it was identified that students displayed increased organization and differentiation of pedagogical concepts. Even though there was an increase in the linkages of concepts by the students they still had considerable fewer linkages than the experienced teacher educator.

A follow-up investigation was conducted with eight preservice teachers. These eight preservice teachers were interviewed six months after completion of the teaching methods course (Gomez & Housner, 1992). During the first follow-up session preservice teachers rated the relatedness of all possible pairs of the key pedagogical concepts in a
manner that was similar to the initial investigation. This was done to check for retention of concepts. In the second phase the preservice teachers were required to identify the semantic nature of the linkages connecting pairs of concepts using a rating system. The follow up session indicated that preservice teacher's retained structural integrity of their knowledge. Findings marginally support that preservice teachers with knowledge similar to that of the instructor represented knowledge at a deeper more semantic level than preservice teachers with less similar knowledge. However, regardless of the level of knowledge correspondence all students had difficulty identifying semantic linkages between concepts. An interesting finding was that preservice teachers with a history of academic success were more able to organize the pedagogical concepts in their memory and utilize that body of knowledge successfully.

Rovegno (1992a) described what and how seven preservice teachers learned during a field-based elementary physical education methods course that met two times each week for a full semester. The two questions that were investigated were: what knowledge did the preservice teachers describe as salient; and how did this knowledge develop. Class meetings were observed and field notes were taken. Three formal, one-hour, interviews were performed with each preservice teacher. The first interview occurred four-weeks after observations began, the second and third interviews took place during weeks 8 and 13. Each interview consisted of open-ended questions. The first interview dealt with the preservice teachers' experiences with physical education, sport, and teaching. The second and third interviews focused on what happened in the methods course and how meaning was made out of the happenings. Class notes, journals, unit plans, and examinations were collected as documents.
Rovegno (1992a) found that development of pedagogical content knowledge was thought to be a prominent factor in learning to teach. Two major sections were discussed by the participants: (a) development of pedagogical content knowledge as increased differentiation in terms of individual/task/environment relations; and (b) the relations between knowing “how” and knowing “that”. Having learned in a field-based course the preservice teachers’ knowledge became differentiated in terms of the relations between capabilities and goals of the individual, the tasks of observing and teaching, and the environment in which the field experience was set. In terms of the relations between knowing “how” and knowing “that” a concern for five of the seven participants was that their pedagogical content knowledge was not differentiated enough to support their teaching in relation to providing appropriate feedback to the children’s actions. In the instances where preservice teachers were able to transform from knowing “that” to knowing “how” it was found to be neither an easy nor quick transformation. The preservice teachers linked weak PCK with problems observing student performance and teaching those students. Also found, was that knowing “that” did not necessarily ensure the teaching and observing teaching “how”.

In a related study, Rovegno (1992b) investigated how preservice physical education teachers acquired content knowledge. There were eight preservice teachers who participated in the study. The program in which they were enrolled was a movement approach to K-8 elementary physical education. It was noted that the movement approach required the student teacher to acquire new content knowledge that was discrepant from traditional programs. There were two formal interviews, observations, and videotaped lessons. In the formal interviews these preservice teachers were asked
what aspects of the movement approach they found confusing, how they learned about those aspects, and if and why they tried to use those aspects while in their field experience. Observations were made in the movement approach content/methods course over a six-week period. Each participant was observed and videotaped for two half days, this amounted to one to three lessons being taped.

Rovegno's (1992b) findings identified two aspects of the movement approach that proved to be problematic: (a) deeper content objectives and (b) relations between movement variety and quality. A problem that these preservice teachers had with the deeper content objectives was that they did not clearly understand the purpose of movement within games, dance, and gymnastics that made each content area unique. Variety and quality of movement was discussed and understood by the participants, however the participants were confused about the relationship between these aspects. Movement variety refers to the performance of the skill with a variety of patterns. Quality refers to the motor, cognitive, and affective skillfulness and understanding. The participants linked their confusion of knowledge acquisition to four mechanisms: (a) inappropriately setting mutually exclusive categories; (b) over-reliance on a single, mid-range concept; (c) not recognizing the pertinence of a concept; and (d) over generalizing a rule of thumb. In this study it was found that students initially conceived (inappropriately) that movement variety and movement quality were mutually exclusive categories. Also, it was found that the participants overrelied on movement variety and did not focus on how to help the children improve their skill performance. The participants also simply did not recognize the relevance of quality across contexts. An example given by Rovegno on overgeneralizing, “Don’t tell the children what to do”,
results in the participants not helping the children improve their skills. Student teachers tended to over simplify the content and had problems connecting the lesson content to overarching principles.

Housner, Gomez, and Griffey (1993) examined the structure of pedagogical knowledge housed in the memory of an experienced teacher educator and the influence of this knowledge on changes in the pedagogical knowledge structures of preservice teachers enrolled in one of three different sections of the same teaching methods course. The participants were 1 teacher educator and 28 undergraduate education majors. The teacher educator was interviewed prior to the methods course and was asked what perceptions of effective teaching and knowledge teacher educators wanted preservice teachers to take away from the course. From these interviews a list of 92 concepts that the teacher educators wanted preservice teachers to learn was generated. Due to the amount of time it would have taken to rate all 92 items the teacher was asked to select 40 or fewer concepts that represented the most important pedagogical concepts. The concepts were grouped into six categories: (a) direct instruction, (b) management concepts, (c) task structure concepts, (d) feedback concepts, (e) pedagogical content knowledge, and (f) student growth concepts. The concepts were paired and rated on a scale from highly related to completely unrelated by the teacher educator. The preservice teachers in the study were then asked to rate the relatedness of the key pedagogical concepts provided. It was noted that preservice teacher knowledge structure changes could also be examined by comparing the number and order of the links between concepts before and after instruction. Believing this, these preservice teachers were asked to rate all possible pairs using the same process and scale as the teacher educator,
both prior to and during the final week of the class. The second phase of the study involved the preservice teachers having to identify the semantic nature of linkages of the concepts, and verbally describe the link between the concepts. Semantic relations described by Chaffin and Herrmann (1984) were used to analyze the link between the concepts. Five types of semantic relations were revealed: (a) ordinate-subordinate, (b) causal, (c) co-occurrence, (d) shared class, and (e) procedural. Ordinate-subordinate relations are when one concept is a type of another concept. Causal relations are when one concept is caused by another concept. Co-occurrence relations are when the two concepts appear in the same lesson or segment of class. Shared class relations are when the pair of concepts belong to the same group of concepts. Procedural relations occurs when one concept represents and action performed on or about another concept. Findings indicated that preservice teachers internalized, retained, and used the key pedagogical concepts taught within the course. However, the preservice teachers were only at the beginning of meaningfully assimilating the pedagogical knowledge. In this vein, the preservice teachers had a difficult time identifying the meaningful relations that linked the concepts.

Rovegno (1994) studied the continued delineation of the nature of pedagogical content knowledge and to refine our understanding of how aspects of pedagogical content knowledge emerge and persist in context. Rovegno explored how the shift to a relational (situated) view of knowing might enhance our overall understanding of pedagogical content knowledge. Two preservice teachers were observed teaching a games unit in their elementary placement and a sport unit in their high school unit. Field notes were taken and informal interviews were completed before and after each lesson of the unit.
The interviews were performed to collect information on the preservice teachers’ prior knowledge and experiences as well as aspects of their school culture. This information was gathered as a source of content knowledge and to see if it influenced the preservice teachers on knowing and acting. The prominent aspects of pedagogical content knowledge that emerged from the preservice teachers’ experience in the high school setting was to teach sports by staying within a curricular zone of safety. This zone exists in any setting because of the community, administrative, teacher, and pupil cultures that prevent preservice teachers from teaching any content in any way that they choose. The relations within the teaching, school culture, and goals, capabilities, and initial inadequate pedagogical content knowledge of the teachers also constitute the curricular zone of safety. This study showed that aspects of the school culture were fundamental to the development and application of pedagogical content knowledge that emerged and persisted for two preservice teachers.

Tan, Fincher, Manross, Harrington, and Schempp (1994) investigated the knowledge differences between teachers of varying levels of expertise. Participants comprised of five competent and five preservice physical education teachers. Three criteria were used to determine competent teachers: (a) five or more years of teaching experience, (b) recommended to researchers by peers and university faculty members, and (c) sustained acceptable service as a cooperating teacher. The preservice teachers were student teachers within one year of graduation and teacher certification, they had no prior public school teaching experience. Participants were interviewed three times using questions created within the framework of Grossman’s (1990) research. Interviews were conducted by two researchers and lasted approximately one hour. The first interview
gathered information on the experienced teachers background and their conceptions of
teaching physical education. The second interview required the teachers to plan a
hypothetical unit in a subject area that they had no experience in and had not previously
taught. The third interview explored the teaching of a specific skill within the planned
unit.

Tan et al’s (1994) findings indicated that preservice teachers attributed student-
learning difficulties to the learners’ background and characteristics. Preservice teachers
were quick to blame parents for the lack of student learning because of lack of support at
home. Competent teachers, when faced with learning new information, were quicker to
admit their lack of knowledge and were more willing to learn than preservice teachers.
Competent teachers were intent on identifying the important components of the skills so
they could better teach the skill. The competent teachers were also more concerned about
their ability to perform/demonstrate the skill and their ability to teach it well. Relying on
logical or technical explanations the competent teacher justified the skills, while the
preservice teacher justified the skills on their authority as teacher (Because I said so, or
We have always done it this way). To increase knowledge about a new skill, preservice
teachers referred to books while competent teachers referred to external sources.
Reflective practice by competent teachers illustrated that they recognized variability in
students’ ability and judgment and they planned accordingly, while preservice teacher’s
reflections illustrated that lessons were based on their knowledge of the skill and
availability of equipment rather than student needs. Their findings suggested that
preservice teachers, due to their lack of experience and knowledge, need different forms
of inservice and preservice training to develop pedagogical content knowledge.
Also in physical education, Manross, Fincher, Tan, Choi, and Schempp (1994) completed a study that focused on the influence of subject matter expertise on the pedagogical content knowledge of teachers. Participants consisted of ten physical education teachers with expertise in elementary or middle school physical education. The participants were interviewed four times with the intent to: (a) determine experience with physical education, (b) plan two hypothetical units, (c) explore teaching of specific skill lessons, and (d) to assess, after teaching, the fit between the hypothetical and actually taught lessons. Interviews focused on gathering information on teacher background in and familiarity with two subject areas (one expert and one nonexpert), perceptions of planning for and instructing in these areas, and the teachers experiences teaching the subjects.

Manross et al. (1994) found four main differences between teachers instructing in expert and nonexpert subject areas: (a) recognition of problems in the student learning, (b) detail in planning and organizing subject matter, (c) comfort and enthusiasm for teaching, and (d) the ability to accommodate a range of learner skills and abilities. Those with subject matter expertise felt that student motivation would be the most difficult challenge in instruction. In the nonexpert area the concern was mastery of the task and providing practice opportunities for their students. In the expert subject area teachers felt confident in devising activities and providing practice opportunities. Planning and organization of the subject matter differed in that the expert area teachers could quickly and easily outline progressions and create contingency plans to teach, while the nonexpert area teachers relied on resources and sought out assistance. Comfort and enthusiasm in performing the teaching differed between the two subject areas in that the
expert felt confident, comfortable, and enthusiastic, while the nonexpert area teacher felt unease and searched for approval and help from others. Finally, the ability to accommodate the range of learners’ skills and abilities in the classrooms proved to differ from the expert and the nonexpert in the subject matter taught. Teachers with expert subject area knowledge proved to accommodate the range of learner skills and abilities more readily than non-expert subject area teachers. Differences between expert and non-expert subject area teachers were manifested in the quality, quantity, and variety of classroom activities.

Graber (1995) examined preservice teachers beliefs about how they incorporated general pedagogical knowledge and pedagogical content knowledge into lessons. Graber also examined the beliefs held by preservice teachers regarding those elements of their teacher education programs that most directly guided their practice. The participants were 20 preservice teachers, seven teacher educators, and eight cooperating teachers. Interviews were used to gather data. The preservice teachers’ interviews focused on program influence, general pedagogical knowledge, and pedagogical content knowledge. Interviews of teacher educators and cooperating teachers were performed to determine how they assessed preservice teacher beliefs, progress in the program, and the potential teaching ability of the preservice teachers. This interviewing process was broken into four sections: (a) pedagogical material, (b) beliefs of teaching intended to instill in student teachers, (c) assessment of the student teacher’s group of pedagogical skills, (d) and the description of the preservice teachers progress in the program.

Graber (1995) found that general pedagogical knowledge differences in the preservice teacher responses can be attributed to past experiences of the preservice
teacher, the training program with which they were affiliated, the student teaching
setting, the type of cooperating teacher assigned, and the grade level of the pupils.
Overall, preservice teachers reported they attempted to implement what they acquired
during their teacher preparation program. Findings targeting pedagogical content
knowledge indicated the student teachers are unlikely to try new procedures or strategies
because they are in the mode to survive by pleasing the cooperating teacher, teacher
educator, and their pupils. Having limited knowledge and unfamiliarity with details of
the activity and subject matter precluded preservice teachers from making informed
choices about the best way to teach the subject. These preservice teachers were found to
revert back to familiar instructional techniques to survive. The last area investigated was
the influence of the program, where the researcher found that the most useful professional
activities were those taught by instructors who conveyed pedagogical information in
relation to activity. Participants said that their actions were more influenced by the
situation at hand rather than their preparation program. These preservice teachers
believed that the knowledge acquired in a class was contingent upon the instructor. Also,
these preservice teachers believed that the professional activity courses were critical in
developing subject matter knowledge. However, a complaint was that these courses
focused on higher-skilled students and failed to prepare for lower-skilled or elementary
level students.

Chen and Ennis (1995) examined the content knowledge transformation process
associated with teachers’ curricular decisions in the physical education domain. Three
middle school master physical education teachers, with 14 to 32 years of teaching
experience, were the participants. Data were collected using several methods: (a)
participant observations, (b) formal interviews, (c) a knowledge importance evaluation, and (d) Pathfinder concept mapping. Eight-weeks of participant observations were conducted to identify a content unit and the knowledge and skills taught by the teachers. Volleyball was chosen as the content knowledge base because all three teachers taught this content. Interviews were conducted after the observation period. Teachers were asked to elaborate on the volleyball subject matter and pedagogical content knowledge; this also included the concepts and skills that were not presented. Findings showed that the content taught was similar in all three schools. Teachers were expected to possess and understand the subject matter and also be able to identify the core ideas of that subject matter, covering both skills and knowledge. Teachers felt that the students' physical development and abilities were limited at the middle school; therefore, the students were not ready for advanced skills. Volleyball bump, set, underhand serve, basic rules, scoring, side out, and position zones were taught. None of the teachers taught strategies or patterned play. Findings showed an inconsistency between teacher expectations and curricular decisions. These findings led the researcher to believe that teachers' beliefs on what is teachable, was based on the perceptions of the students' ability and learning competency. Curricular decisions were based on two factors; they were: student physical development and teacher perceptions on the importance of the concept.

Rovegno (1995) continued her research by examining preservice teachers’ pedagogical content knowledge and decision-making about task content and progression. The participant was a preservice teacher that taught one unit in an elementary setting and another in a high school setting. A nine-lesson volleyball unit was taught to third and
fourth graders. A five-week unit of badminton, two to three lessons a week, was taught to 11th and 12th graders. Data were gathered in the areas of: (a) content, organization, and progressions of tasks; (b) explanations; (c) demonstrations; and (d) the feedback observed during the lessons taught. Findings showed that in volleyball the bump, underhand serve, and modified games were taught. During the badminton unit fewer tasks were taught, mostly tournament play occurred. The preservice teacher justified his content selection and decision-making on his knowledge of how students learn and how to divide and sequence skill and game content. His knowledge, referred to as conceptions by Rovegno, was related to two issues specifically biomechanical efficient body position and game play. Biomechanical efficient body position is telling and reinforcing positions of mature skill performance. It was taught that mature patterns were correct. Learning occurred in these situations when the pupil heard about and made changes in their body position to correct and improve towards a mature pattern of skill performance. Game play referred to rallies, rules, and routines and competition facilitated learning. Rallies were described as drill time. The preservice teacher wanted the pupils to be familiar with rules and routines. This familiarity, along with rallies, would allow the pupils to enjoy a game. Competition facilitated learning was described by the preservice teacher as helping the students to concentrate and gain confidence in the presented task. The belief that competition forces the pupil to focus on the task was reported by the student teacher. His knowledge of subject matter and student learning directly affected his decisions of what and how to teach.

Barrett and Collie (1996) explained that research on PCK in physical education to date has described particular teachers' knowledge discovered through observation of their
teaching and formal and informal interviews. Their study differed because it identified pedagogical content knowledge that teachers could use in teaching a specific movement form, lacrosse. This being said, Barrett and Collie (1996) investigated the pedagogical content knowledge discovered within the context of children learning lacrosse from teachers learning to teach it. A workshop was developed and taught to elementary physical education specialists who were unfamiliar with lacrosse and were interested in learning how to teach this content to their classes. The workshop was presented in three parts: (a) goals and objectives of workshop, (b) skills and tactics that would be used to teach students, and (c) how to teach the skills and tactics to children. Four teachers were the participants for the study. Data were collected through video taped lessons taught. Findings were presented in terms of content knowledge specific to lacrosse. The most prominent finding was that the teachers used the PCK in lacrosse that they were presented in the workshop. This PCK helped the teachers learn the skill and tactic and in return helped them teach the skill and tactics to their students. Another major finding suggested that for continuous development of the cradle in lacrosse to occur, teachers must be able to help children use to their advantage: (a) the natural opposition of arms and legs that occurs when running, (b) the effect of the running speed on their range of movement, (c) the critical role played by their stick position, (d) hand placement, (e) and available space. If the teacher had difficulty in using the PCK, then the student’s progress in advanced performance of the skill was limited. It is the teacher’s responsibility to observe the relationships between the child, environment, and task characteristics. Being able to identify and observe these relationships will allow the teacher to better adapt the lesson to the needs of the student to enhance learning.
Doutis (1997) described and examined two experienced teachers' pedagogical content knowledge and pedagogical theories of content as evident in their descriptions and proactive of teaching. Focus of the study was on the instructional tasks and how they were presented to students. Two physical education teachers were interviewed twice. The purpose of the first interview was to gain knowledge of the teachers' educational values about the content they were teaching. The second interview was to elicit information from the teachers about their assessment of the work accomplished and provide them with the opportunity to talk about issues or concerns dealing with the particular unit and students' responses to the unit. Informal interviews were conducted before and/or after the lesson. Systematic observations and analysis was used to provide an accurate description of the structure and development of lesson activities used to teach the content. It was found that practices concerning learning progressions were a substantive part of the teachers' pedagogical content knowledge. Both teachers developed their content through different progressions. One teacher included applying tasks in every lesson while the other teacher used more extending and refining tasks in the beginning and more applying tasks at the end of the lesson. Both teachers considered their students' responses in developing their content. In regards to examining the teachers' theories of content it was found that both teachers had theories that informed their teaching decisions. Again, the teachers considered the students' developmental skills when developing their content. The theories of content used by the teachers seemed to be influenced by their own experiences, personal philosophies, school curriculum, their formal training, and their experience as a participant. Overall, this
study demonstrated that at least both of these teachers had theories of content grounded on knowledge and beliefs about specific content.

Rovegno (1998) conducted a study that described three aspects of learning a movement approach that were salient and initially problematic for one experienced, two early career teachers, and two preservice teachers. Rovegno conducted in depth individual and group interviews that covered topics such as: (a) teacher background; (b) how and why the teachers learned about the movement approach; (c) topics, issues and teaching skills that were difficult to understand or apply; (d) aspects of the teachers' knowledge, curriculum, and teaching that had changed and the factors that influenced those changes; (e) problems that the teachers had teaching the movement approach; and (f) the teachers' philosophies and school context.

Rovegno (1998) found that the teachers had three major problems of learning how to teach a constructivist movement approach. First, knowing to what extent the teachers should give information and tell the children what to do when teaching less structured content proved to be difficult. Second, knowing the whole of the movement approach curriculum and how various components of the movement approach connected with each other caused difficulty. Finally, knowing the content within the less structured lesson activities in enough depth and to the detailed level they needed proved difficult.

Rovegno found that there were several factors that facilitated knowledge development in each of these three areas. In knowing what extent to give information, both process (how teachers learned) and content factors (what teachers learned) affected knowledge development about the movement approach. Understanding of the movement approach was affected by learning through experience with guidance from experienced teachers.
The participants in this study did not initially understand the big picture of the approach, but over the course of the study they learned links between sport (games, dance, gymnastics) and the approach. By having these links identified the participants were more able to clarify what content was important to have in teaching the approach. Also, it was found that if the participants not only learned the links, but also learned progressions, the knowledge about the movement approach became clearer and more easily applied. An implication for pedagogical content knowledge of the participants in this study was found that insufficient knowledge led to problems. Lacking enough pedagogical content knowledge caused problems with “knowing what to say, what to look for, how to focus the children’s attention within a task, how to break down movement concepts into a progression leading to both movement quality and variety, how to give the appropriate information to constrain tasks, how to use equipment to elicit more refined movement patterns, and how to generate sufficiently different questions for learning different concepts and critiquing dance and gymnastics sequences” (p. 155). As stated by Rovegno “without strong pedagogical content knowledge of the content within activities, it is difficult to hold children accountable for learning anything more specific than the lesson activities, to know what questions to ask to deepen the children’s understanding, or how to critique children’s performance” (p. 156). A note mentioned was that the complexity of the environment at times poses constraints on developing pedagogical content knowledge. Keeping this in mind, Rovegno (1998) suggested several factors that contribute to the development of pedagogical content knowledge: carefully watching children and discussing how they learn, attending workshops, and reading relevant literature.
Chen and Rovegno (2000) studied the characteristics of three expert and three preservice teachers’ constructivist-oriented teaching practices while using a movement approach to teaching elementary school physical education. Each teacher was videotaped teaching a self-designed unit of three progressive dribbling lessons to third graders. Two formal interviews were performed with each teacher. The first focusing on gathering the teacher’s background, beliefs about teaching and learning, and their teaching practices. The second was to gain insight into the teachers’ perspectives on how they provided students with opportunities for their own learning, how they built new learning experiences on students’ prior/present knowledge, and how they guided students to interact cooperatively. Expert teachers were found to facilitate students’ self-regulated learning by engaging them in problem solving activities and thinking challenges that guided students in critical thinking about their movement in activities. Expert teachers also helped students make connections from prior/present knowledge to the new material. Expert teachers facilitated students’ social cooperation by establishing and reinforcing rules for group work. Preservice teachers encouraged students to be actively engaged in discovery learning activities, asked them questions to elaborate on their initial responses, and guided the students through cooperative learning to explore movement variety. However, the preservice teachers lacked ability to facilitate students’ self-regulated learning, critical thinking, and advanced and sustained cooperative activities. Preservice teachers also lacked the motivation to try and link new material to students’ prior/present knowledge. Findings suggest that teacher educators need to assist the preservice teacher in looking beyond just presenting the content and more into presenting content using the constructivist-oriented approach.
Theoretical Framework

"Learning is essentially a matter of creating meaning from the real activities of daily living" (Stein, 1998, p.1). Situated learning theory focuses on the social situations that help construct and comprise the learning of the individual (Lave & Wenger, 1991). It focuses on "... learning as a social practice in social settings. In its most simplistic uses, the 'situatedness' of learning means merely that learning takes place in particular sets of circumstances, in time and space" (Kirk & Macdonald, 1998, p. 380). In situated learning, "it is the authentic social context in which learning occurs that offers the benefit of increased knowledge and offers the learner the potential for applying that knowledge in new ways and in new situations" (Lankard, 1995, p. 1).

Situated learning has four major components that guide the development of the classroom activity: (a) learning is grounded in the actions of everyday situations; (b) knowledge is acquired situationally and transfers only to similar situations; (c) learning is the result of a social process encompassing ways of thinking, perceiving, problem solving and interacting in addition to declarative and procedural knowledge; and (d) learning is not separated from the world of action but exists in robust, complex, social environments made up of actors, actions, and situations (Anderson, Reder, & Simon, 1996; Wilson, 1993).

Situated learning has the preservice teacher at the center of the instructional process consisting of content, context, community, and participation. Content are the facts and processes of the task. Context is the situations, beliefs, values, and environment. Community refers to the group with which the learner creates meaning. Participants are the learners (preservice) and the experts of the community that work
together within the community (Brown, Collins, & Duguid, 1989; Lave, 1988; Shor, 1987).

Lave and Wenger (1991) presented the notion of legitimate peripheral participation. A complex notion, legitimate peripheral participation is within social structures that involve relations of power. In attempts to clarify this concept and strengthen their argument for situated learning, Lave and Wenger (1991) explain legitimate peripheral participation in relation to schooling: "...the organization of schooling as an educational form is predicated on claims that knowledge can be decontextualized, and yet schools themselves as social institutions and as places of learning constitute very specific contexts" (p. 40). Schools, as we all know, have a personality of their own that is created by the people, environment, community, and resources involved or related to the school. Knowing this, Lave and Wenger (1991) stated that peripheral legitimate participation is not itself an educational form. It is an analytical viewpoint on learning, the differentiation between a learning curriculum and a teaching curriculum.

A learning curriculum consists of situated opportunities for the improvisational development of new practice... (it) is a field of learning resources in everyday practice viewed from the perspective of learners...(it) is essentially situated .... A learning curriculum is...characteristic of a community (Lave & Wenger, 1991, p. 97).

A teaching curriculum:

... is constructed for the instruction of newcomers. When a teaching curriculum supplies – and thereby limits- structuring of resources for learning, the meaning of what is learned... is mediated through an instructor’s participation, by an external view of what knowing is about (Lave & Wenger, 1991, p. 97).
Knowing this, it seems logical to teach teacher educators with a learning curriculum, by placing them within the legitimate peripheral participation to learn and apply their acquired knowledge.

Lave and Wenger (1991) discussed communities of practice. They do not clearly define communities of practice, but rather suggest that they are collective groups that contribute to public practices in specific venues of life. "A community of practice is a set of relations among persons, activity, and world, over time and in relation with other tangential and overlapping communities of practice.... [It] is an intrinsic condition for the existence of knowledge" (Lave & Wenger, 1991, p. 98).

Kirk and McDonald (1998) suggested that the professionals in physical education struggle to apply situated learning if the purpose of physical education is to prepare young people for an active lifestyle to be carried from childhood to adulthood. Kirk and McDonald (1998) continue by stating that the formal structure of physical education programs inhibits the teaching of life long activities to students due to time constraints, school philosophies, and the inability to provide opportunities for children to participate in communities of practice. The challenge for teachers is to provide learning opportunities in various settings and venues for their preservice teachers, while at times facing adversity and resistance. Physical education teachers are faced with rapid changes to the curriculum and the purpose and place of physical education in the school (Kirk & McDonald, 1998). The struggle for physical education teachers lies in providing legitimacy and meaning to physical education in the eyes of professionals and the public. The contextual teaching and learning (CT&L) model practiced in the PETE program, as...
well as having a field-based program may lend a hand in including situated learning theory into physical education.

When looking at the four components of situated learning theory:

- Learning is grounded in the actions of everyday situations
- Knowledge is acquired situationally and transfers only to similar situations
- Learning is the result of a social process encompassing ways of thinking, perceiving, problem solving and interacting in addition to declarative and procedural knowledge
- Learning is not separated from the world of action but exists in robust, complex, social environments made up of actors, actions, and situations (Anderson, Reder, & Simon, 1996; Wilson, 1993)

And the six characteristics of CT&L:

- Problem-based
- Fosters self-regulated learning
- Employs authentic assessment and multiple methods for assessing student achievement
- Anchors teaching and learning in students’ diverse life contexts
- Uses teams or interdependent group structures so students can learn from each other
- Occurs in multiple settings or contexts (Sears & Hersh, 1998, p. 7)

An alignment becomes apparent. For example, the first component of situated learning theory is learning is grounded in the actions of everyday situations. This can fit cleanly into four of the six CT&L characteristics: (a) problem-based, (b) occurs in multiple settings, (c) anchored in students’ diverse life contexts, and (d) employs authentic assessment. The notion that knowledge is acquired situationally and transfers only to similar situations is directly related to authentic assessment, problem based, occurs in multiple contexts, and being anchored in students’ diverse life contexts. The belief that learning is the result of a social process encompassing ways of thinking, perceiving, problem solving and interacting in addition to declarative and procedural knowledge
matches with fostering self-regulated learning, problem-based, and utilizing interdependent learning groups. The last component of situated learning theory suggested that learning is not separated from the world of action but exists in robust, complex, social environments made up of actors, actions, and situations. All six of the CT&L characteristics are based on these beliefs. Contextual teaching and learning and situated learning theory clearly can be interwoven to provide a firm foundation in which to infuse into a teacher education program. A chart of the alignment between the two, situated learning theory, and the contextual teaching and learning framework, can be found in Appendix C. A field-based program provides opportunities to learn in multiple contexts and to interact with diverse populations, thus enhancing the CT&L framework and situated learning theory.
CHAPTER 3

METHODOLOGY

The purpose of this study was to investigate the views of preservice Physical Education Teacher Education (PTE) teachers in the elementary component of the PTE program at Allentown University as to whether or not, and if so, how they acquire and apply content knowledge. This chapter will outline the methodological framework used for the investigation, provide a description of the participants, explain the procedures used to gain access, outline the collection of data and analysis strategies, and discuss the trustworthiness of the data.

Methodological Framework

Within the qualitative paradigm, researchers use multiple methods and approaches to conduct a study. These varying methods and approaches are performed in hopes to “... get a better understanding of the subject matter at hand” (Denzin & Lincoln, 2000, p. 3–4). Each method and approach allows the researcher to view the world with different lenses, thus allowing the researcher to understand the phenomenon from many viewpoints.
The research format used in the current study was that of a case study design. Creswell (1998) described the case study design as being "an exploration of a 'bounded system' or a case (or multiple cases) over time through detailed, in depth, data collection involving multiple sources of information rich in context" (p. 61). Stake (2000) explained that: "A case study is not a methodological choice but a choice of what is to be studied" (p. 435). The case chosen "has working parts; it is purposive; it ... has a self. It is an integrated system" (Stake, 2000, p. 436). "A case study is both a process of inquiry about the case and the product of that inquiry" (Stake, 2000, p. 436).

Inductive analysis (Patton, 1990) was used to determine any themes that emerged from the collected data in each individual case. A cross case analysis (Huberman & Miles, 1998) was used to discover any similarities and differences between the emerged participant themes in relation to the research questions.

The researcher chose to take an in depth look at the elementary component of the PETE Master of Education program at Allentown University. There are six conceptual responsibilities of the case study researcher:

1. Bounding the case, conceptualizing the object of study.
2. Selecting phenomena, themes, or issues, that is the research questions to emphasize.
3. Seeking patterns of data to develop the issues.
4. Triangulating key observations and bases for interpretation.
5. Selecting alternative interpretations to pursue.
6. Developing assertions or generalizations about the case.

(Stake, 2000, p. 448)
The following section will more clearly articulate how the researcher carried out these responsibilities.

According to Stake (2000), there are several types of case studies: (a) intrinsic (better understanding of a particular case, the case is of utmost interest) (b) instrumental (case is of secondary interest as it facilitates an understanding of something else); and (c) collective (investigate phenomenon, population, or general condition). The instrumental case study is best suited to the current study because it helped provide insight into a particular issue (the PETE program at Allentown University) or to gather more information on an overgeneralization that may be prevalent by studying individual cases (participants in the PETE program). “The case still is looked at in depth, its contexts scrutinized, its ordinary activities detailed, but all because this helps the researcher to pursue the external interests” (Stake, 2000, p. 437). Stake (2000) further explains that “the case is of secondary interest, it plays a supportive role, and it facilitates our understanding of something else” (p. 437). The external or primary interest focused on in this case study was whether or not preservice teachers viewed they had acquired and applied content and pedagogical content knowledge by completing the elementary component of the PETE program.

Having served as a university supervisor for preservice PETE teachers at Allentown University, the researcher was quite interested in the PETE program. This interest stemmed from the involvement in the program and the skepticism of the researcher that a one-year PETE M.Ed. program provided enough opportunities for the preservice PETE teachers to acquire content knowledge and develop pedagogical content knowledge to become effective teachers. Because of this skepticism, the researcher
wanted to take an in depth look at the program to explore the views of the preservice PETE teachers enrolled in the program. Due to the boundaries set by the researcher, 10-week data collection, the study was limited to the elementary methods/field experience and the knowledge and experiences brought into the program with the preservice PETE teachers from their undergraduate program.

The research format and theory both needed to be couched within a paradigm. "Paradigms are frameworks that function as maps or guides for scientific communities, determining important problems or issues for its members to address and defining acceptable theories or explanation, methods and techniques to solve defined problems" (Usher, 1996, p.15). The framework for this study was the constructivist paradigm. The belief that the individual creates truth and knowledge is the basis of constructivism. The individual interprets and molds the knowledge they have learned to fit the experiences they encounter. With each new experience comes new interpretations and creation of new knowledge. Constructivists resonate with "the world of experience as it is lived, felt, undergone by social factors" (Schwandt, 1994, p. 125) yet believe in objectivism, realism, and truth. The properties of construction according to Guba and Lincoln (1989) are:

1. Constructions are attempts to make sense of or to interpret experience, and most are self-sustaining and self-renewing.

2. The nature or quality of a construction that can be held depends upon "the range or scope of information available to a constructor, and the constructor’s sophistication in dealing with that information".

3. Constructions are extensively shared, and some of those shared are disciplines constructions,” that is, collective and systematic attempts to come to common agreements about a state of affairs.

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4. One’s constructions are challenged when one becomes aware that new information conflicts with the held construction or when one senses a lack of intellectual sophistication needed to make sense of new information.

(Guba & Lincoln, 1989, p.71)

The constructivist paradigm was chosen for this study, as the nature of the study was to understand whether there was an alignment between what the professor of the elementary component viewed she taught and the preservice PETE teachers viewed they had learned. The transformation of learned knowledge to usable knowledge and use of that knowledge in the preservice PETE teachers’ teaching were also studied.

**Participants**

The participants for this study were purposely selected, as the study focused on the preservice PETE teachers’ perceptions of the elementary component of the PETE program in which they participated. Purposive sampling was used because, “it is believed to be a rich source of the data of interest” (Gay, 1996, p. 213-214). “The logic and power of purposeful sampling lies in selecting information-rich cases for study in depth. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the research…” (Patton, 1990, p. 169). Since the study dealt with the preservice PETE teachers enrolled in the elementary component of the PETE program and the professor instructing this course, these were the participants chosen. A total of 12 preservice PETE teachers and one professor were contacted to volunteer for the study. Of those, volunteers consisted of six participants \((n = 6)\) as M.Ed. preservice PETE teachers and one \((n = 1)\) professor. All the preservice PETE teacher participants (four females, two males) were White American. The professor was female and of European descent.
Procedures

Each participant received a consent form prior to participation. The participation in this study was voluntary. Permission to conduct the study was provided from the researcher’s university human subjects review committee (protocol number 01E0397). The purpose of the study was clearly articulated to the participants, verbally and in a formal written document, prior to the signing of the consent form (Appendix D).

Access and Entée

At the time of this research, the researcher was a doctoral candidate at the same university as the preservice PETE teachers and the elementary experience professor. The researcher had worked on several grants to assess compliance of the PETE program with National Council for Accreditation of Teacher Education (NCATE), Contextual Teaching and Learning (CT&L), and the Praxis II standards. The researcher was a graduate student in the program, and had become familiar with the program, the preservice teachers, and the professor, thus making access and entrée less complicated.

Data Collection

The data collection period was during winter quarter of the 2001-2002 academic year. Data were collected through two methods: artifacts and interviews. Artifacts consisted of course syllabi from previous quarters (summer and autumn) and the current quarter (winter) and class activities, assignments, and handouts from the same courses. A total of five interviews were collected from each participant, the professor of the current quarter class and the preservice PETE teachers that volunteered for the study.
Documents

Documents provide “a behind the scenes look at the program that may not be directly observable and about which the interviewer might not ask appropriate questions without leads provided through the documents” (Patton, 1990, p. 245). The documents collected in this study were course syllabi, student assignments, and any materials considered relevant by the instructor or the preservice PETE teachers. The instructors of each class completed during summer and autumn quarters in the PETE program by the preservice PETE teachers were contacted via email and asked to supply the syllabus and any class activities and assignments. Documents were used to generate questions that were addressed and clarified in interviews with the participants.

Semistructured Interviews

The format of face-to-face, semistructured interviews was used to collect data from the preservice PETE teachers enrolled and the professor in the elementary component of the PETE Program. Face-to-face interviewing “is one of the most common and powerful ways in which we try to understand our fellow human beings” (Fontana & Frey, 2000, p. 645). The interview methodology was chosen because it allowed the researcher to interact directly with the participants. The overall structure of the interview was a set of three open-ended questions. The set of questions was used to keep both the researcher and participant on task and focused on the issues at hand.

Gubrium and Holstein (1998) suggested that the interview has become a means of contemporary storytelling, where a person divulges life accounts in response to questions asked. The questions were semistructured in nature, which allowed the researcher to probe for details from the comments made by the participants. “Each interview context is
one of interaction and relation: the result is as much a product of this social dynamic as it is a product of accurate accounts and replies” (Fontana & Frey, 2000, p. 647). If an elicited response needed clarification or the researcher thought it would be an interesting venue, the semistructured format allowed for this to be explored.

The interview process began by first interviewing the professor every two weeks as to what was planned, and ultimately what was presented to the preservice PETE teachers during the course of the elementary methods/field placement experience. The professor was previously asked to provide a copy of her course syllabus and class assignments for reference. Second, the preservice PETE teachers were interviewed at the beginning of the quarter and every two weeks thereafter. The beginning of the quarter interview for the preservice PETE teachers was to find out content and pedagogical knowledge they brought into the elementary methods/field experience. Preservice PETE teachers were asked about their undergraduate preparation and summer and autumn participation in the PETE program. They were then asked about what content and pedagogy they learned in the elementary methods/field experience. The interviews were completed every two-weeks. The researcher inquired about the content taught during the two-week time period, the meaningfulness of the content, and if it influenced the preservice PETE teachers teaching. All interviews were tape recorded, transcribed, and lasted approximately 20 minutes. Interview questions can be located in Appendix E. Research questions inquired about what material was learned, and how and when the material became relevant to the preservice PETE teachers during their elementary physical education teaching experience. Contextual teaching and learning (CT&L), as well as situated learning theory have the context or environment and the learner as the
focus of learning. Both the CT&L framework and situated learning theory suggest that learning is influenced by contextual factors, and the research questions investigated what material became relevant to the preservice teachers during their elementary physical education student teaching experience.

Data Analysis

Grounded theory is a method of data analysis where theory is generated through inquiry (Glaser & Strauss, 1967). Grounded theory offers guidelines in order to build frameworks that help explain the specific relationships between concepts. The methods of grounded theory do not clearly state the data collection methods to be used, but rather suggested that methods “...move each step of the analytic process toward the development, refinement, and interrelation of concepts” (Charmaz, 2000, p. 510).

Flexibility of data collection methods was instrumental in the attempt to attain an understanding of other people’s views. “Theory may be generated initially from the data, or if existing (grounded) theories seem appropriate to the area of investigation, then these may be elaborated and modified as incoming data are meticulously played against them” (Strauss & Corbin, 1994, p. 273).

In this study, the researcher used Grossman’s (1991) model of teacher knowledge that was developed in the English classroom and adapted it for use in the physical education context. Grossman (1991) proposed four general areas of knowledge that teachers should acquire, namely subject matter knowledge, general pedagogical knowledge, pedagogical content knowledge, and knowledge of context. The data gathered in this study was placed in one of these categories. If the data did not fit in one

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of these categories, one was created, thus elaborating and modifying the established model.

Constant comparative analysis was the strategy used to interpret the data and generate theory. This method is a four-step process: (a) comparing incidents applicable to each category, (b) identifying properties and common themes in the data, (c) comparing themes across data categories, and (d) writing explanatory theory (Glaser & Strauss, 1967). Raw data were taken, summarized, and categorized into themes after each interview, then compared to find similarities and differences. New categories were created when a new data entry could not match thematic descriptions of existing categories.

Data gathering methods (interview and artifacts) were designed to further develop, probe, or question the participant’s view of the acquisition of pedagogical content knowledge. Because of the different data gathering methods, the analysis process was specific to the method and the type of data collected. Interview transcripts and course syllabi and class assignments were all treated as documents. “Material culture always has to be interpreted in relation to a situated context of production, use, discard, and reuse” (Hodder, 2000, p. 706). To organize the analysis of these documents, categories and charts were developed according to the themes found in the data.

Documents

The course syllabi, including class activities and assignments, from previous quarters (summer and autumn) and the quarter the study was conducted (winter) of the PETE program were collected and analyzed. The content presented was listed and
referred to when devising probes for the interview questions for the preservice PETE teachers.

**Semistructured Interviews**

Interviews were transcribed and analyzed. Following the constant comparative method, themes were pulled from the data and categorized. Themes and categories emerged from the data and were continually identified by the researcher. These themes were constantly compared with the previous data. This procedure moved the raw data through a series of progressive stages. The first stage was the development of analytic categories that provide the basis for subsequent data collection and data analysis. The second phase of analysis involved analysis of the initial analytic categories and reworking the raw data. This reworking of the data may have led to changes in original assertions. Changes included adding and merging specific analytic categories. The final stage the researcher focused on building relationships among the evidence and writing explanatory theory. The researcher sought data trends, however unique cases were also noted and analyzed.

Data collected was managed with the use of QSR N5 (2000) software for qualitative research. The researcher imported all the participants interview transcripts into the QSR N5 (2000) program. All of the transcripts were coded and categorized. These categories helped with the discovery and development of themes for each participant.

**Trustworthiness of Data**

Qualitative researchers are faced with the issue of proving trustworthiness of their data. Within the realm of qualitative research, establishing that the data in fact can be
trusted proves to be difficult. The relationship between the researcher and the participants was a concern. There is an inherent faith of the researcher that the relationship between them and the participant will not bias the elicited responses (Atkinson & Silverman, 1997; Silverman, 1993). In an effort to ensure that elicited responses were truthful, the researcher agreed that the results of the study would not be shared with the professor prior to grades being assigned. This agreement was made in order to reassure the preservice teachers that their comments would not affect their graded performance. The researcher also used multiple methods in the collection of data to help ensure the trustworthiness of the data. "The combination of multiple methodological practices, empirical materials, perspectives, and observers in a single study is best understood, ... as a strategy that adds rigor, breadth, complexity, richness, and depth to any inquiry" (Flick, 1998, p. 231). Three of the major strategies discussed in the literature for establishing trustworthiness were used in this study: triangulation, member checking, and peer debriefing.

**Triangulation**

In order to increase confidence in research findings, the researcher may collect data from multiple sources, or triangulate the data. Triangulation involves multiple kinds of data sources (e.g. not just teachers, but students) (Denzin, 1989). In this study the data sources included interviews with the professor and six of the enrolled preservice PETE teachers, as well as artifacts related to courses in the PETE program (e.g. course syllabi, assignment criteria) up to and including the elementary methods/field experience. The course syllabi were collected from the quarter the study was completed and prior quarters completed in the PETE program (summer and autumn), as all courses taken constitute the
preservice PETE teachers' current knowledge. During the data triangulation a piece of evidence was compared and cross-checked with other kinds of evidence (e.g., comparing syllabi with interview evidence). The amalgamation of the multiple sources and methods helped ensure that the data were indeed trustworthy.

**Member Checking**

Member checking was another method used to ensure trustworthiness. Member checking is a method of providing data and data interpretations to the participants (Patton, 1990). Performing a member check allows the researcher to obtain participants' reactions to the written material created from the data they provided. Member checks allow the researcher to verify that they have correctly represented the participants, any potential political and ethical issues due to potential publication, and assist the researcher in developing new ideas or new venues to explore (Glesne, 1999). There were numerous layers of member checks used throughout the study. Initial member checks were performed after the transcription of data. Participants were given the transcript of their interview to ensure the correctness of the content, and were encouraged to comment, clarify, elaborate, or suggest changes that would accurately represent their views and thoughts during the interpretation phase of data analysis. The participants were encouraged to comment on or make changes to these documents.

The second layer of the member checks occurred after the analysis of data and involved sharing typed data interpretations with the participants. The researcher summarized data sets and shared them with the participants. Again, the participants were encouraged to comment on the documents. The researcher met with the participants to
discuss the comments made by the participants, which provided a thicker and richer description of the data.

**Peer Debriefing**

Another method used to ensure trustworthiness of data was peer debriefing. "This is a procedure whereby the fieldworker confides in trusted and knowledgeable colleagues and uses them as a sounding board for one or more purposes" (Schwandt, 1997, p. 113). Two professors served as peer debriefers. Their role was to question the themes and issues the researcher pulled, or potentially overlooked, from the data. Scheduled peer debriefing meetings were held with the peer debrievers who read the raw data, preliminary analysis, and interpretations, and then the final write up. This helped the researcher focus, clarify and develop interview questions during the process and provided the researcher with different perspectives and lenses with which to focus on and analyze the data.
CHAPTER 4

FINDINGS

The purpose of this study was to investigate the views of preservice Physical Education Teacher Education (PETE) students in an elementary component of a PETE program as to whether or not, and if so, how they acquire and apply content and pedagogical content knowledge. Five research questions provided the focus for this study.

1. What content/pedagogy did the professor view she taught in her preservice elementary methods courses and internship?

2. What pedagogy/content did preservice PETE teachers view they had learned in their preservice elementary teacher education experience?

3. How did the preservice PETE teachers view they learned the content/pedagogy?

4. To what extent did preservice PETE teachers view the content/pedagogy to be relevant in their ability to teach elementary physical education?

5. At what point in a 10-week elementary experience did preservice PETE teachers find the content/pedagogy to be relevant to their ability to teach elementary physical education?

Chapter four presents findings drawn from all data sources: collected documents (syllabi, course assignments, stimulated recall charts, emails) and interviews. Chapter four begins with an outline of the PETE program prior to and including the elementary 10-week
experience. Then a brief description of the participant’s educational history and elementary school placements is followed by research question 1, which focused on perspectives of Dr. Peanut (pseudonym), the university professor for the elementary methods courses. Research question 1 was answered by Dr. Peanut’s recollection and referral to the course syllabi. Preservice PETE teachers answered the remaining four research questions. Information from research questions 1 was presented to the preservice PETE teachers in a stimulated recall format to solicit answers for research questions 2 through 5. Stimulated recall was used to aid the preservice PETE teachers in their recollection of course content.

**Description of courses taken in summer, autumn, and winter quarters in the Master of Education PETE program at Allentown University**

The preservice PETE teachers at Allentown University brought preexisting knowledge into the winter quarter 10-week elementary field experience placement. Courses taken prior to the 10-week elementary experience in winter session, offered within the PETE program were: (a) *Professional Transition to Teaching Physical Education* (course 706); (b) *Beginning of the School Year Internship* (course 889); (c) *Curriculum and Instruction* (course 709); (d) *Curriculum and Instruction Internship* (course 889.02); (e) *Analysis of Teaching and Learning Processes* (course 708); and (f) *Research on Teaching in Physical Education* (course 925.20). Other required courses such as: (a) *Media and Technology in Education*; (b) *Teachers and Teaching*; and (c) *The Changing Context in Equity, Diversity and Exceptionality*, were taught in other departments within the College of Education at Allentown University.
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<th>Summer</th>
<th>Autumn</th>
<th>Winter</th>
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<td>Professional Transition to Teaching Physical Education</td>
<td>Analysis of Teaching and Learning Processes</td>
<td>Professional Issues for Prospective Physical Educators</td>
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<tr>
<td>Beginning of the Year School Internship</td>
<td>Curriculum and Instructional Design</td>
<td>Teaching Physical Education in the Elementary Schools</td>
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<td>Media and Technology in Education</td>
<td>Internship</td>
<td>Internship in Physical Education at the Elementary School</td>
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<td>Teachers and Teaching: The Changing Context in Equity, Diversity, and Exceptionality</td>
<td>Research on Teaching in Physical Education</td>
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Table 4.1: Program of Study for Preservice PETE Teachers at Allentown University

Syllabi were gathered from the courses offered within the PETE program to analyze and assist with the participants' recollection of what had occurred. Master of Education courses in the summer and autumn added to the preservice PETE teachers' knowledge base prior to the entering into the 10-week elementary field experience. Summer courses required the preservice PETE teachers to participate in a community-mapping project, diversity project, and do observations in local schools. Autumn quarter included reflection, learning about the value of physical education, interviewing skills, diversity assignments, learning curricular models, developing a personal philosophy, and unit planning. A more detailed description of each course follows.

**Summer Courses**

*Professional Transition to Teaching Physical Education* (course 706) and the *Beginning of the Year School Internship* (course 889), both taught in the summer, helped
to facilitate growth, as preservice PETE teachers gained an understanding of the roles and responsibilities of teachers, and were provided with opportunities for teacher observation. During these courses the preservice PETE teachers were asked to discuss the roles of schools in teaching, their personal philosophy of physical education, diversity of school contexts and environments, diversity of learners, and rules and routines for the beginning of the school year in physical education. Topics for each class session focused on different issues and themes. Throughout the summer quarter preservice PETE teachers were asked to complete several assignments: (a) a mission and philosophy statement; (b) an educational autobiography; (c) a student shadow project (follow a student for half a day and reflect upon their experiences); (d) a teacher shadow project (interview master teacher about their role and challenges); (e) an assignment requiring preservice PETE teachers to design rules, routines, and expectations; (f) a diversity assignment (select group not familiar with and do research on); and (g) a community mapping assignment (walk around community and learn issues, resources, and challenges to educating students) (Document: Course Syllabus, Summer, 2001).

**Autumn Courses**

In the autumn quarter preservice PETE teachers began their *Curriculum and Instruction* course along with the supporting *Internship* (courses 709 and 889.02). The course was designed to assist the preservice PETE teachers in systematic examination, planning, and design of programs and courses in physical education. Preservice PETE teachers were expected to learn program planning and curriculum development, design content and instruction to support the curriculum model, and apply principles of instructional design to develop sequences and use instructional design methodology to
develop and evaluate instructional materials. In order to learn this material, a variety of assignments were given: (a) content development; (b) task analysis; (c) scoring and sequence charts; (d) case studies; (e) assessment activities; (f) reflections; (g) development of major goals for students; (h) analysis and presentation of fitness curriculum; (i) design and presentation of a three year curriculum plan for upper elementary, middle, or high school; continued development of a personal philosophy; and (j) creation of a 20+ day unit of instruction selected from their curriculum plan (Document: Course Syllabus, Autumn, 2001).

The *Internship attached to the Curriculum and Instruction course* (course 889.02) provided opportunities for the preservice PETE teachers to examine curricula-in-context. This allowed preservice PETE teachers to learn from practicing teachers as they articulated rationales, and constructed and implemented curricula to support their rationales for the purpose of physical education. Throughout this internship, preservice PETE teachers were: (a) to become more knowledgeable about curriculum models; (b) to be able to identify curricular decisions and instructional strategies most suited to effective delivery of these models; and (c) to make judgments about strengths of specific models in meeting the national standards for physical education (Document: Course Syllabus, Autumn, 2001)

*Research on Teaching in Physical Education* (RT-PE) (course 925.20) was offered in the autumn. This course was designed to provide students with a basis for understanding two decades of research on teaching in physical education and the manner in which the research is utilized in elementary and secondary physical education classrooms. The course focused on major issues in RT-PE and the methodologies used to
collect and interpret data on effective teaching. Throughout the course students were provided opportunities to: (a) discuss major themes in RT-PE; (b) analyze and critique journal articles; (c) analyze and apply findings; (d) gather, analyze, summarize, and interpret data relative to effective teaching; (e) construct a data-based reflective paper; and (f) understand the impact of the culture of the school and the community on the teaching and learning process (Document: Course Syllabus, Autumn, 2001).

The final course offered in the autumn was the *Analysis of Teaching and Learning Processes* (course 708). This course provided opportunities to: appreciate the challenges and opportunities of teaching young people; provided skills to observe and reflect on how to best work with students; provided preservice PETE teachers with a set of lenses to define, observe, analyze, and critique the teaching/learning process with a particular focus on student experiences; and to help clarify a set of beliefs and assumptions about teaching that will guide their planning and interacting with students while teaching. During this class preservice PETE teachers continued to work on their educational autobiography, completed weekly reflection journals, coded student behaviors, performed an in depth student study, and performed a case study and reflective teaching essay (Document: Course Syllabus, Autumn, 2001).

**Winter Courses**

Winter quarter was when the 10-week elementary experience and the collection of data began. During this quarter the preservice PETE teachers enrolled in *Professional Issues for Prospective Physical Educators* (course 707); *Elementary Field Experience in Physical Education for the Elementary School Child* (course 786); and *Teaching Physical Education in Elementary School* (course 740).
Professional Issues for Prospective Physical Educators focused on preparing preservice PETE teachers for acquiring a job and the issues they may face upon entering the field. They were asked to create a resume, develop a professional portfolio, go through a mock interview, and learn about the Praxis II examination. Also presented in this course were logistical issues such as budgeting, scheduling, facility management, grading strategies, authentic assessment, dealing with disabilities, legal issues for physical education, professional behavior, sexual harassment, unions, professional organizations, and mentoring programs for beginning teachers (Document: Course Syllabus, Winter, 2002). Two retired physical education teachers, who also served as university supervisors to the preservice PETE teachers during their elementary student teaching experience, taught this course.

Elementary Field Experience in Physical Education for the Elementary School Child (course 786) was the 10-week elementary teaching experience for the preservice PETE teachers. Objectives for this course were to: (a) extend the skills of systematic observations and reflections; (b) develop teaching skills including planning, class and student management, instruction, and evaluation; (c) produce a work sample document that demonstrated their effectiveness of teaching; and (d) participation in the school community as a professional by demonstrating behaviors expected of teachers. The preservice PETE teachers began reporting to their school sites for half days and then by week five of the ten-week experience they were at the school site for full days. Gradually they worked their way into the classes by first observing, then teaching small segments from the cooperating teachers' lesson plans, then whole lessons from their cooperating teachers' plans, and then finally creating lessons and teaching all classes from their own
lesson plans. During week 6 and 10 of the preservice PETE teachers’ elementary experience they were evaluated by their cooperating teacher and university supervisor, and completed a self-evaluation on their teaching performance. Preservice PETE teachers were presented with the evaluation form to ensure understanding of the goal of the elementary physical education field experience. The evaluation form presented the following categories to be evaluated: (a) teacher interaction, (b) knowledge of subject matter, (c) planning, (d) class and student management, (e) class control, (f) instructional effectiveness, (g) student progress, (h) intern’s professionalism, (i) strengths of intern to date, and (j) areas to focus on for improvement.

Along with the teaching experience and the Professional Issues for Prospective Physical Educators course the preservice PETE teachers were also enrolled in Teaching Physical Education in Elementary School (course 740). In this course they were introduced to physical education content, and pedagogical teaching strategies that are developmentally appropriate for elementary school children. Four themes were embedded in the 740 course, according to the syllabus: (a) emphasis on understanding diversity (cultural, ethnic, physical, and gender) and adapting instruction based on individuals’ needs; (b) emphasis on the use of technology to promote the preservice PETE teachers and public school children learning outcomes; (c) use of work sample methodology and assessment strategies to examine impact of preservice PETE student’s instruction on student learning outcomes; and (d) use of reflection as a tool to promote professional growth.

The 740-course syllabus stated that the goals and characteristics of elementary physical education were discussed. Preservice PETE teachers were asked to plan a lesson
and unit following national, state, and local physical education guidelines. Pedagogical and assessment strategies were learned and then some were practiced at a clinical education site, Sage Elementary School (pseudonym). Assessment was discussed in terms of strategies to authentically assess a student using a variety of rubrics and other assessment tools. Rules, routines, and expectations, as well as student and teacher roles in the classroom were discussed. Developmentally appropriate practice was investigated by learning about fundamental motor skills and movement concepts. Skill content areas of gymnastics, dance, juggling, jumping rope, and games were presented to the preservice PETE teachers. All of the content and pedagogy learned was viewed through a lens of multicultural awareness and the importance of including all students in the activity in the elementary setting.

Content and pedagogy taught by Dr. Peanut and the clinical educators, Mr. Martin and Ms. Maggie, is discussed in research question one. What was presented on the syllabus as was being taught and what was actually taught at a particular time during the 10-week experience did in fact differ, this was based on the needs of the preservice PETE teachers. Planned topics were not eliminated, rather the time that was planned on being spent on a topic was reallocated to a topic that appeared to be more appropriate to serve the needs of preservice PETE teachers.

The 10-week elementary experience began on January 7, 2002. Preservice PETE teachers attended class at the university on Monday, Tuesday, Thursday, and Friday mornings from 8:00 a.m. to 12:00 p.m. and Wednesday afternoon from 1:30 p.m. to 5:00 p.m. The times that the preservice PETE teachers were not at the university they were at either a clinical education site or their elementary school placement. It is at these three
locations where preservice PETE teachers developed their knowledge base in content, pedagogy, and pedagogical content knowledge.

Participants’ Educational History Prior to Entering the Master of Education Program in PETE

For purposes of this study, pseudonyms are used in discussing all participants. Participants for this study consisted of one PETE professor and six preservice PETE teachers. The professor, Dr. Peanut, is female and is of European descent. The preservice PETE teachers in the study were four females and two males, all of whom were White American. Four of the preservice PETE teachers had completed their undergraduate degrees at Allentown University. One of these four students did not have a physical education undergraduate degree, while the remaining three completed the PETE undergraduate sport and leisure studies program at Allentown University. The other two students graduated from other universities. The participants came from different backgrounds, the influences and experiences that they encountered could indeed have had an effect on the way they teach, the way they see themselves as teachers, and their beliefs on the purpose of physical education. These differences represent the essence of learning to teach looking from a contextual teaching and learning framework and constructivist and situated learning theories.

Dr. Peanut

Dr. Peanut had 17 years total of teaching experience. Eight of these years were in her country of origin and were at levels equivalent to elementary school in the United States. Dr. Peanut has a terminal degree in motor development, which she received in the
United States. She then taught for five years at a university in the southwest. At this southwestern university she taught the elementary methods course. She then arrived at Allentown University where she taught the elementary student teaching experience courses for the past four years.

**Patty**

Patty completed her undergraduate program in natural resources at Allentown University. In order to be accepted into the M.Ed. PETE program she was required to complete the following prerequisites: racquetball, table tennis, golf, social dance, lifeguard training, motor development, basketball officiating, coaching young athletes, and teaching sport, leisure, and exercise (website: Allentown University). Patty entered the program with 10 years of experience working in a local recreation department. While working for the recreation department, Patty had the opportunity to teach tennis, swimming, soccer, basketball, and to officiate several activities. Even though Patty did not complete the undergraduate feeder program at Allentown University, she came into the program with a basic knowledge of sport and exercise taught in the prerequisites in addition to her experience in recreation (Patty: Interview 1, January 17, 2002).

**Lucy**

Having completed her undergraduate program in psychology at a different university, Lucy applied to the PETE program at Allentown. Lucy completed the following classes to meet prerequisite requirements: history of leisure and sport, sociology of sport, yoga, badminton, and teaching sport, leisure, and exercise (website: Allentown University). Lucy had taken anatomy, physiology, biology, chemistry, drug and alcohol awareness, stress management, death and dying, first aid, lifeguard training,
Lucy entered the M.Ed. PETE Program. In the daycare and school settings she had the opportunity to present information to groups of students/children, though not necessarily activity/recreation based information. Having been an active participant on the varsity tennis team while in high school, Lucy stated that most of her sport knowledge is, "knowledge I have from high school, from participating in varsity sports" (Lucy: Interview 1, January 17, 2002, 62 – 63). She continued to say that since high school she had not been involved in any sport, therefore, her content was limited (Lucy: Interview 1, January 17, 2002).

Marcy

Marcy was required to take prerequisite courses in the following areas to be admitted into the PETE program: racquetball, dance, golf, tennis, yoga, teaching sport, leisure, and exercise, motor development, anatomy, and kinesiology (website: Allentown University). Marcy chose to complete some of her prerequisite courses at Allentown University while completing others at surrounding colleges and universities. Marcy completed her bachelor’s degree in business and she previously had worked in a business setting where she had the opportunity to teach computer classes. Her presentations had nothing to do with physical education; however, she did gain some pedagogical skills presenting to groups of people (Marcy: Interview 1, January 17, 2002).

Linus, Charles, and Sally

Linus, Charles, and Sally completed their undergraduate program at Allentown University. In order for Linus, Charles, and Sally to be accepted into the Master of
Education program they needed a grade point average of 3.0, and to have completed a program of study that included: racquet sports, team sports, individual sports, dance, fitness, and swimming. The liberal arts courses required for admission for Linus, Charles, and Sally were: anatomy or kinesiology; physiology; motor development; first aid and CPR; a health course; and history or philosophy of sport, leisure, or physical education (website of Allentown University). Charles mentioned that the content that he had acquired in his undergraduate program at Allentown University were sports skills (gymnastics, court sports, racquet sports), analyzing skills, assessment, teaching sport, leisure and exercise, and adapted physical education (Charles: Interview 1, January 17, 2002). Linus and Sally did not divulge as much information as Charles about their undergraduate program, however all three traveled through the undergraduate program together.

Preservice PETE Teachers Elementary Placement

Patty

Patty was placed at an elementary school with an enrollment of 310 students. The community in which her school was set had limited ethnic diversity, in that 90% of the residents of the community were White American, 5% Black American, and the remaining 5% were Asian or Hispanic. The school population was comprised of 93.9% White American, 4.5% Black American, 1.1% Asian, and 0.5% were Native American. The purpose of physical education at this school, reportedly stated by the physical education teacher, was the provision of skills to improve performance levels of students, with a goal of improving their social interaction in the process (Patty, personal 109
The students attended physical education for six consecutive days, then the next six days they participated in art and music, then returned to physical education for another six days (Patty, personal communication, Winter, 2002).

Lucy

Lucy was placed at an alternative elementary school. At this site the cooperating teacher taught kindergarten through second grade and pre-school adapted physical education. The community in which her school was located was comprised of 79.2% White Americans, 13% Black Americans, 4.7% Hispanic, 2.2% Multi-racial, and 0.1% Hawaiian, Pacific Islanders. The school’s philosophy, as stated by the physical educator, reported by Lucy, was to educate the total child (physically, emotionally, and intellectually). The physical education curriculum stressed health-related concepts including nutrition, substance abuse, stress management, cardiovascular fitness and exercise (Lucy, personal communication, Winter, 2002).

Marcy and Linus

Marcy and Linus were both placed in the same urban elementary school. Approximately 98% of the student population was Black American and the remaining 2% being White American and Somalian. Students at this school were faced with many hurdles to overcome including low incomes and alcohol/drug problems within their families (Marcy, personal communication, Winter 2002). Physical education classes were held in the cafeteria, auditorium, and an all-purpose room. Kindergarten through third grade had physical education once a week for 30-minutes, while fourth and fifth graders met once a week for 40-minutes. Physical education was included in the school’s...
mission statement. According to Marcy and Linus, the purpose of the physical education program was to help improve the quality of life for the individual and the community (Marcy: personal communication, Winter, 2002; Linus: personal communication, Winter, 2002). Even though physical education was included in the school’s mission, Marcy and Linus both noted that physical education did not appear to be supported by the administration (Marcy: Personal Communication, Winter 2002; Linus: Personal Communication, Winter, 2002).

Charles and Sally

Charles and Sally were placed in an affluent suburban elementary school. The student population was comprised of 92.8% White American, 5.7% Black American, 0.9% Asian/Pacific Islander, 0.3% Hispanic, 0.2% Multi-racial, and 0.1% Native American and Alaskan Native. Parks and recreation facilities surrounded the school giving students the opportunity to be active outside of their physical education classes. The administration, according to Charles and Sally, supported the physical education program because they wanted the students to be life-long learners and they wanted the students to continue to be physically active in the future (Charles: Personal Communication, Winter 2002; Sally: Personal Communication, Winter, 2002).

R.Q. 1 What content/pedagogy did the professor view she taught in her preservice elementary methods courses and internship?

Content, pedagogy, and pedagogical content knowledge topics were presented by Dr. Peanut and several other instructors in the PETE program winter courses,

*Professional Issues for Prospective Physical Educators, Elementary Field Experience in* 111
Physical Education for the Elementary School Child, and Teaching Physical Education in Elementary School. Data were collected through bi-weekly interviews with Dr. Peanut and from course syllabi, course assignments, textbooks, and handouts supplied to the preservice PETE teachers by Dr. Peanut.

Weeks 1 and 2 (Interview 1)

Week 1

Content concerning appropriate material for elementary physical education was presented during the first two weeks of the 10-week experience. Pedagogy topics focused on effective strategies, how to manage the classroom setting, and how to begin teaching a unit.

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<tr>
<th>Weeks 1 &amp; 2</th>
<th>Content</th>
<th>PCK</th>
<th>Pedagogy</th>
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<tbody>
<tr>
<td></td>
<td>Fundamental Motor Skills Stages</td>
<td>Progressions</td>
<td>Planning (Unit, Block, Lesson)</td>
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<td>National, State, Local Standards</td>
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<td>Task Analysis</td>
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<td></td>
<td>Motor Development Stages</td>
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<td>Rules, Routines, &amp; Expectations (R, R, &amp; E)</td>
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<td>Resume</td>
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<td>Assessment (Cognitive, Affective, Psychomotor) (CAP)</td>
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<td>Interviewing</td>
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<td>Teaching Styles</td>
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<td>American Master Teacher Program</td>
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<td>Authentic Assessment Strategies</td>
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<td>Instructional Strategies</td>
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Table 4.2: Topics Presented to Preservice PETE Teachers at the University Weeks 1 and 2.
Winter quarter and the beginning of the elementary physical education experience for this cohort of preservice PETE teachers began January 7, 2002. As with any class, the first day brought many questions from the students as they inquired about assignments, student teaching placements, responsibilities, and the role they would assume as the teacher. The remainder of the day the mission, philosophy, and goals of physical education in a global sense and within the elementary setting were discussed.

Dr. Peanut wanted to explore the information learned in,

...the four [previous] classes and the ability of the preservice PETE teachers to articulate what we do in PE. What type of short and long-term goals do we [physical educators] have? What type of content do we have? How do physical educators teach content and how do they evaluate and assess that content? (Dr. Peanut: Interview 1, January 23, 2002, 32-37)

Later that day, preservice PETE teachers were provided with a scenario to test what they had retained from their previous quarters. The scenario was that the district had decided to cut money from the budget by eliminating physical education. Preservice PETE teachers were asked to create a rationale as to why physical education should not be eliminated. This rationale was to explain the purpose and value of physical education, with supporting evidence, and was to be presented to the “school board” in a 5-minute presentation. Dr. Peanut then briefly defined and explained how quality physical education programs need to be developmentally and instructionally appropriate.

Every Tuesday the preservice PETE teachers went to a local elementary school (Sage Elementary School) where they met with a clinical educator (Mr. Martin). He focused on rules, routines, and expectations on the first Tuesday of the 10-week experience by showing the preservice PETE teachers the rules, routines, and expectations that helped his class run smoothly. Also, on Tuesdays the preservice PETE teachers met
in the evening for their *Professional Issues for Prospective Physical Educators* course. During the first week the class addressed resume development.

On Wednesday (January 9, 2002), the class focused on developmentally appropriate practice and understanding the elementary school age child. Strategies for teaching students of different ages and developmentally appropriate strategies were targeted in this class. A resource packet covering stages of fundamental motor skills, cognitive development, and data related to social issues dealing with children was provided, with children divided into specific age groups. Rather than lecturing on developmentally appropriate practice, Dr. Peanut took them to the gym and put them in different scenarios. Using their resources the preservice PETE teachers were asked to identify, describe, and demonstrate cognitive, motor, and affective characteristics of their age group for their assigned skill. Using the compiled information the preservice PETE teachers discussed the type of language and pedagogical skills they would use based on their understanding of the assigned age groups’ development.

Thursday and Friday (January 9, 2002 & January 10, 2002) the preservice PETE teachers were at their school sites, as Dr. Peanut was at a conference. At their school sites the preservice PETE teachers observed the rules, routines, and expectations that were already in place. This enabled them to gain an understanding of the classroom in which they would be teaching.

**Week 2**

For week-2 (January 14, 2002 – January 18, 2002), Dr. Peanut immediately focused the preservice PETE teachers’ attention on learning assessment strategies, as this was a huge focal point of the work sample project required in the PETE program (Dr.
Peanut: Interview 1, January 23, 2002). The importance of assessment was not articulated in the course syllabus; rather it was imbedded in the work sample project. Dr. Peanut lectured for a short time, and then provided examples of tasks sheets, rubrics, and other examples of assessment for the preservice PETE teachers to explore. Finally, they began to develop their own assessment tools.

Continuing with assessment on Tuesday (January 15, 2002), the preservice PETE teachers went to Sage Elementary School and practiced assessment within Mr. Martin's classroom during a floor hockey unit. Preservice PETE teachers were asked to develop a rubric to show their understanding on how to evaluate game play of a 6th grade class in a floor hockey unit. After assessing the 6th graders, preservice PETE teachers discussed their findings, struggles, and successes when attempting assessment within the classroom. Suggestions for modifying strategies, and how assessment would be useful for a teacher followed this exercise. Preservice PETE teachers then taught 3rd and 4th graders how to receive and give forehand and backhand passes in floor hockey.

They had to develop a task sheet and document entry behaviors ... on the task sheet. Preservice PETE teachers were asked to determine entry behaviors of a child for a skill and also determine exit behavior of that child ... based on their instruction. Then preservice PETE teachers had to discuss if any learning was brought about as a result of their instruction, and what factors influenced how effectively students learned. (Dr. Peanut: Interview 1, January 23, 2002, 182-189)

Kindergarten was the last age group the preservice PETE teachers instructed and assessed that day. Preservice PETE teachers taught kindergarten students how to throw, kick, and punt. Preservice PETE teachers were asked to focus on three concepts while they were teaching: evaluation of student performance; setting appropriate levels for the student; and determining when it was appropriate to move to the next activity.
Tuesday evening in the *Professional Issues for Prospective Physical Educators* course the preservice PETE teachers discussed the interviewing process and peer edited each other's resumes. Each preservice PETE student created a resume and assisted with the creation of a resume assessment rubric. Preservice PETE teachers then used the rubric to assess their peers' resume and made comments on how to improve the presentation and content of the resume.

On both Wednesday and Thursday (January 16, 2002 and January 17, 2002), the focus turned to planning. Dr. Peanut had preservice PETE teachers go through national, state, and local standards, as well as the Surgeon General's report. They discussed the definition of a physically educated person. Then as a class, the preservice PETE teachers received a handout discussing the development of an annual, unit, and block plans throughout the year. For the remainder of those two days a discussion continued about unit goals and the creation of a task analysis that would help guide a teacher toward meeting their goals.

On Friday (January 18, 2002), the preservice PETE teachers watched selected sections of the Master Teaching Video by George Graham (1994). This video took them through instructional strategies such as pinpointing, using clear and concise directions, and scanning. After each video clip a brief discussion about the importance of the strategies and suggestions for use in the classroom occurred. Supplementing the video was a discussion on Mosston's different teaching styles continuum (Dr. Peanut: Interview 1, January 23, 2002).
Weeks 3 and 4 (Interview 2)

During the third and fourth weeks, the focus continued to be on appropriate practice for elementary physical education. There was an added focus on pedagogical content knowledge. Preservice PETE teachers extended their experience with developmentally appropriate practice and strategies to present information to different skill levels and ages.

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<th>Weeks 3 &amp; 4</th>
<th>Content</th>
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<th>Pedagogy</th>
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<td>Continuum Practice</td>
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<td>Adapting to Teach Different Ages</td>
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<td>Jump Rope</td>
<td>Progressions and How to Teach</td>
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<td>Praxis Information</td>
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Table 4.3: Topics Presented to Preservice PETE Teachers at the University Weeks 3 and 4.

Week 3

Monday, January 21, 2002 was a holiday; therefore, no class was held. Beginning on the 22nd of January, the preservice PETE teachers reported to Sage Elementary School to work on assessment strategies with Mr. Martin. For this session the preservice PETE teachers were given four motor skills and were asked to identify several cognitive and
affective behaviors, and to develop and implement an assessment rubric for those skills during Mr. Martin’s class.

Tuesday evening, in the *Professional Issues for Prospective Physical Educators* course, preservice PETE teachers discussed logistical issues of a new job, consisting of a wide range of topics: time management; scheduling of classes; equipment; budgets; and facility management. Each of the preservice PETE teachers had experiences relating to these topics from the past two weeks in their elementary school placement and they came to the evening course to share and reflect.

A focus on fundamental motor skills development and movement concepts occurred on Wednesday and Thursday during the *Teaching Physical Education in Elementary School* course. On Wednesday, the preservice PETE teachers reviewed the different stages of fundamental motor skills they learned during week one by participating in activities in the gymnasium. The instructional aspect of how to teach fundamental motor skills was discussed on Thursday. Dr. Peanut presented instructional strategies to assist the preservice PETE teachers in gaining an understanding of how to teach fundamental motor skills, she discussed the pedagogical content knowledge (PCK) of teaching fundamental motor skills. Preservice PETE teachers created a series of drills that would help identify the stages of an assigned skill. By identifying cue words they would use, the preservice PETE teachers created three developmentally appropriate tasks for a low and a high performing child relative to the assigned skill. The remainder of class time was spent discussing movement concepts.

On Friday, the preservice PETE teachers went to Mr. Martin’s school and watched him implement a jump rope for heart curriculum (Dr. Peanut: Interview 2, 118)
January 31, 2002). Mr. Martin used a skill continuum, according to Dr. Peanut, “It’s very individualized, and it is a very effective teaching strategy” (Dr. Peanut, Interview 2, January 31, 2002, 101-102). The skill continuum allows students to work at an individual pace to complete each level of a skill. All students began at the first level and practiced the skill. When they were ready to be tested they either raised their hand or faced the wall and the instructor went over and assessed them, telling them either to remain at the level and practice or move on to the next level.

Week 4

Monday of week four (January 28, 2002 - February 1, 2002), Dr. Peanut brought the preservice PETE teachers through a gymnastics series. Several preservice PETE teachers were teaching gymnastics at their site; therefore, Dr. Peanut thought it would be useful,

Two groups are doing gymnastics so we [Dr. Peanut and the PETE cohort] decided it was really important that they had a good understanding of gymnastics. I gave them a handout and took it from a skill standpoint. I did a task analysis of all the skills: forward roll, backward roll, handstand, headstand, cartwheel, round-off, jumps, balances, partner or trio balances. We modeled [each skill]; pointed out critical elements, talked about cue words, and then I physically put them through lead up activities, and showed them how to individualize instructions. They practiced spotting on each other. Most importantly, the preservice PETE teachers physically went through [each skill]. The two groups that are teaching do not have a background in gymnastics...so it was helpful to them. (Dr. Peanut: Interview 2, January 31, 2002, 112-124)

Monday afternoon, Dr. Peanut and the three university supervisors met to evaluate the preservice PETE teachers’ unit plans. It was decided that the preservice PETE teachers needed more time to develop their unit plans, and clarification of the desired content for the unit plans was required for the preservice PETE teachers. Because of this revelation, Tuesday and Wednesday were devoted to development of unit
plans, rather than the planned lessons on fundamental motor skills at the clinical education site. Preservice PETE teachers reported to the university campus and used the computer lab and the classroom to refine their unit plans. Guidance from the university supervisors and the professor was available throughout the class period. Dr. Peanut explained,

I sat down to grade unit plans and realized they were really off base.... I decided that the unit plan was something crucial for them because they are going to start teaching in a couple of weeks. It is also critical that their unit plan, particularly the goals and the assessment are done correctly... if they are going to complete the work sample. So the unit planning became a very high priority in terms of what was most important for them.... I took Tuesday and Wednesday afternoon and turned them into unit plan work sessions. I think a lot of them saw the light over those couple of days. (Dr. Peanut: Interview 2, January 31, 2002, 125 - 138)

Tuesday evening in the Professional Issues for Prospective Physical Educators course a discussion about how to prepare and register for the Praxis II examination was held. Preservice PETE teachers were given a booklet and listened to a guest speaker who explained the examination. A brief tutorial on how to register for the examination on the computer was provided.

On Thursday (January 31, 2002), Dr. Peanut focused on multicultural awareness and diversity, covering physical, gender, and ethnic differences. Preservice PETE teachers watched the video Eye of the Beholder (1987) and discussed issues related to being a culturally diverse child in a monoculture environment. This discussion also covered teachers' beliefs, values, and responsibilities about diversity and differences. A question was posed and a discussion ensued about “what types of responsibilities do you have as a teacher to promote an acceptance of cultural diversity in your classroom?” The week ended by discussing and performing some dances including basic, folk, and creative...
dances (Dr. Peanut: Interview 2, January 31, 2002). Dances performed by the preservice PETE teachers in the gymnasium consisted of the Electric slide, Macarena, Whoomp dance, Tinikling, D'Hammerschmieds'selln, and the Virginia Reel. Dances were performed and teaching techniques discussed to aid the preservice PETE student in developing their pedagogical content knowledge (PCK).

Weeks 5 and 6 (Interview 3)

Preservice PETE teachers began teaching full days at their elementary school sites during week six. Full day teaching brought a continued focus on pedagogical strategies and pedagogical content knowledge.

<table>
<thead>
<tr>
<th>Weeks 5 &amp; 6</th>
<th>Content</th>
<th>PCK</th>
<th>Pedagogy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Movement Concepts</td>
<td>How to teach and include all students</td>
<td>Tactical Approach</td>
</tr>
<tr>
<td></td>
<td>Dance and Aerobics</td>
<td>Introducing Games and Progressions</td>
<td>With-it-ness</td>
</tr>
<tr>
<td></td>
<td>Test of Gross Motor Development (TGMD)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Juggling</td>
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</tbody>
</table>

Table 4.4: Topics Presented to Preservice PETE Teachers at the University Weeks 5 and 6.

Week 5

Monday, February 4, 2002, began by completing the dance lesson from Friday. A specific request for tinikling was made, so Dr. Peanut demonstrated the basic tinikling steps,
The preservice PETE teachers participated in floor aerobics by performing some activities and talking about ideas and pedagogical strategies to teach them. On Monday, she also focused on the developmental notion of games. Preservice PETE teachers were divided into three groups (volleyball, soccer, basketball) and separated each game into three areas: skills, strategies, and cognitive knowledge. Preservice PETE teachers were asked to decide when and how to introduce a game and then to identify different developmental considerations. They decided on what skills to teach and whether they would teach tactics at that time. A discussion followed about the presentation of games from year to year, and the importance of progression. This contributed to PCK acquisition. “The goal for that activity was to get them to think about teaching games from a developmental standpoint, using Graham's ideas” (Dr. Peanut: Interview 3, February 17, 2002, 29 – 31). To conclude Monday’s class, preservice PETE teachers listened to a brief presentation of the Test of Gross Motor Development (TGMD). Several students mentioned they were unaware and unfamiliar with this main assessment instrument, “I let them know that TGMD was one of the primary instruments that was used” (Dr. Peanut: Interview 3, February 17, 2002, 35 – 36).

On Tuesday, the preservice PETE teachers arrived at Mr. Martin’s school. They observed and assessed students participating in a juggling unit taught by Mr. Martin. The goal was to show how he used an individualized approach to instruction that allowed children to work successfully along a continuum of tasks. It was the same pedagogical
approach that Mr. Martin used with jump rope, but now he used it with juggling. The intent of that session was to show the preservice PETE teachers the concept of reusing of a pedagogical strategy with different content (Dr. Peanut: Interview 3, February 17, 2002). Tuesday evening, during the Professional Issues for Prospective Physical Educators course, the preservice PETE teachers participated in formal mock interviews. Local physical educators and school administrators came to the university to interview the preservice PETE teachers. These interviews were to help prepare the preservice PETE teachers for their upcoming interviews.

On Wednesday, February 6, 2002, the preservice PETE teachers were given the several choices. They could use this opportunity to stay at their school or work at home on their unit plans and work sample. It was also possible to go to the university and meet with Dr. Peanut to discuss or clarify any issues that were frustrating or confusing.

For Thursday and Friday, the preservice PETE teachers were at their elementary school placements all day. This was the beginning of full days at the elementary school placement. On Thursday, February 7th, Dr. Peanut held the first evening seminar of the Teaching Physical Education in the Elementary Schools course. During this seminar, discussions about student learning outcomes, assessing outcomes, individualizing instruction, and adapting instruction to meet student needs occurred (Dr. Peanut: Interview 3, February 17, 2002). Dr. Peanut stated that she was impressed with the preservice PETE student’s discussion about striving to meet student needs because she felt, “Typically at this point in the quarter they (preservice PETE teachers) are overwhelmed with their teaching and overwhelmed with their amount of work they have to do” (Dr. Peanut: Interview 3, February 17, 2002, 68 – 70). Dr. Peanut was quite
surprised with the discussion that occurred during this seminar, "[The preservice PETE teachers] were talking about student learning outcomes, assessing student learning outcomes, individualizing instruction, and adapting instruction to meet student-learning outcomes relative to student needs" (Dr. Peanut: Interview 3, February 17, 2002, 77 – 82). Dr. Peanut noted that she would not typically expect preservice PETE teachers to be as concerned about student learning as this cohort group appeared to be.

**Week 6**

This was the first full week of being at the elementary school site full time. Preservice PETE teachers began taking over their cooperating teachers' responsibilities during week six. Preservice PETE teachers attended seminars at the university only on Tuesdays, Thursdays, and select Wednesdays and Fridays for the remainder of the 10-week elementary experience.

On Tuesday, February 12th, 2002, a discussion on assessment and evaluation occurred in the *Teaching Physical Education in Elementary School* course. Preservice PETE teachers reported to a local school and learned gymnastics progressions from Mr. Martin. They also learned about the tactical approach to teaching games from Ms. Maggie, another clinical educator, by participating in different activities. Ms. Maggie had completed her doctorate at Allentown University in teacher education and she facilitates workshops on the tactical approach to teaching games for the university.

Thursday, February 14th, saw the preservice PETE teachers discussing issues that they were all facing in their first week of full day teaching at their elementary school placement. The topic getting the most attention was behavior management issues. This was a reflective time for all the preservice PETE teachers (Dr. Peanut: Interview 3,
February 17, 2002). Dr. Peanut devoted university class time to discussing preservice PETE teachers' teaching experiences. This was a time where preservice PETE teachers could share, listen, and provide suggestions to each other.

**Weeks 7 and 8**

Content during weeks seven and eight concentrated on areas of support for new teachers. Behavior management strategies remained a constant; while modification of tasks and writing of individual education plans (IEP's) to meet student needs were added to the preservice PETE teachers' knowledge base.

<table>
<thead>
<tr>
<th>Weeks 7 &amp; 8 Content</th>
<th>PCK</th>
<th>Pedagogy</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEP &amp; Disability</td>
<td>Modification of Tasks</td>
<td>Behavior Management Strategies</td>
</tr>
<tr>
<td>PAR</td>
<td>Writing IEP</td>
<td>Effective Teaching Characteristics</td>
</tr>
<tr>
<td>Employment Opportunities</td>
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</tbody>
</table>

Table 4.5: Topics Presented to Preservice PETE Teachers at the University Weeks 7 and 8.

**Week 7**

On February 19, 2002 an adapted physical education specialist spoke at Allentown University about disability and individualized education plans (IEP's). A discussion occurred about the role of the physical educator in the development of the IEP. The importance of assessing the individual with a disability and setting functional goals was stressed. On Wednesday and Friday, Dr. Peanut targeted work sample projects and
classroom management issues. Dr. Peanut discussed work sample and gave the preservice PETE teachers time to reflect and discuss behavior management issues at their school sites on Wednesday. On the 23rd of February, 2002 (Friday), the preservice PETE teachers met with a PETE professor and worked on data analysis for their work sample projects. He showed them how to take raw data, enter it into a graph, and how to interpret the data that the preservice PETE teachers had collected so a report could be generated for their work sample project (Dr. Peanut: Interview 4, March 15, 2002).

The director of physical education in the local school district came in and discussed her role in the curriculum development and securing funds for physical education programs. She also presented information about how to obtain employment in the local district. She provided the preservice PETE teachers with a website address to refer to and her business card to use if they had any questions about employment.

**Week 8**

During February 25, 2002 to March 1, 2002, Dr. Peanut was not available due to her attendance at a conference; therefore, Mr. Martin taught seminar for her on Thursday, February 28, 2002. Preservice PETE teachers met at Sage Elementary School and discussed care of playgrounds. Mr. Martin then held a discussion on Rink's (1993) criteria for how teachers should function in the teaching and learning process, focusing on areas that teachers need to be concerned with in order to be effective. Rink described seven topics that teachers should focus upon: identify outcomes, planning, present tasks, organize and management the learning environment, monitor the learning environment, develop content, and evaluate. Preservice PETE teachers were asked to reflect on their
performance relative to the teacher process behavior; and what had they learned along the way (Dr. Peanut: Interview 4, March 15, 2002).

Peer Assistance and Review (PAR) was discussed in the *Professional Issues for Prospective Physical Educators* course. PAR mentors came in to the university classroom and spoke of their responsibilities within the program. They provide support by observing teacher several times throughout the year as well as assisting with planning and abiding by local school district regulations. The PAR representative also discussed effective teaching characteristics.

**Weeks 9 and 10 (Interview 5)**

Material presented to the preservice PETE teachers during the final weeks of their elementary experience had a renewed focus on professional growth and support. Topics that would enhance the preservice PETE student's knowledge base including further discussions of the Praxis II Exam and legal and grant writing techniques were introduced.

<table>
<thead>
<tr>
<th>Weeks 9 &amp; 10</th>
<th>Content</th>
<th>PCK</th>
<th>Pedagogy</th>
</tr>
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<tr>
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<td>Sport Law</td>
<td>Praxis Review</td>
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<tr>
<td></td>
<td>Praxis Review</td>
<td>Pedagogy/Content Chart</td>
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<tr>
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<td>Grant Writing</td>
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<tr>
<td></td>
<td>Pedagogy/Content Chart</td>
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</tbody>
</table>

Table 4.6: Topics Presented to Preservice PETE Teachers at the University Weeks 9 and 10.
Week 9

Week 9 (March 4, 2002 - March 8, 2002) began with preservice PETE teachers listening to a sport management professor from Allentown University present sport law content and its implications in the physical education classroom. Liability issues, court cases, and strategies for teachers to protect themselves and their students in the classroom were presented and discussed.

Seminar on Thursday, March 7th, 2002, was used to help curb anxiety, prepare the preservice PETE teachers for their Praxis II examination on Saturday, and to dispel any confusion about their work sample. A jeopardy style game was played to prepare for their upcoming Praxis II examination. The preservice PETE teachers were divided into six groups (partners) to create potential Praxis II examination questions using the American Master Teacher Program (AMTP) content series. One group was assigned to each of the following categories: dance, gymnastics, fundamental motor skills and movement concepts, games, fitness, and pedagogy. This gave the preservice PETE teachers an opportunity to review their content and pedagogy in preparation for their pending exam.

On Friday, March 8th, 2002, preservice PETE teachers met in a computer lab to refine their work sample. Dr. Peanut worked with each group discussing their data, and showed them how to develop charts and graphs for their formal presentation (Dr. Peanut: Interview 5, March 15, 2002). Preservice PETE teachers brought in data they had collected and proceeded to analyze and enter the data into a presentable format.
Week 10

During the 10th week (March 11, 2002 – March 15, 2002) preservice PETE teachers were in the schools teaching all day. Seminar on Thursday, March 14th, 2002 began with the preservice PETE teachers completing a technology questionnaire. The purpose of the questionnaire was to investigate the preservice PETE student's use of technology during the PETE program, to see if their skill level had improved, and to determine their perspectives on the use of technology in the classroom. The work sample project was due the following week; therefore, clarification on any final topics was discussed. The final event in seminar was a discussion about the content and pedagogy that the preservice PETE teachers had learned over the past quarter. They divided into groups of three, traced a body on a large piece of paper and split the body in half. On one side of the body they listed all the content they had learned over the quarter, on the other side the pedagogical strategies they had learned. They inspected other groups' depictions and discussed any differences. After that, a discussion occurred about how each of them had evolved as a teacher over the quarter, where they started and where they were currently, and what types of pedagogical skills and content they had gained through their 10-week experience (Dr. Peanut: Interview 5, March 15, 2002).

Summary

During the 10-week elementary experience Dr. Peanut provided opportunities for preservice PETE teachers to learn about content and pedagogy and then integrate their new content and skills knowledge into pedagogical content knowledge (PCK) to be used in the classroom. Content, pedagogy, and pedagogical content knowledge (PCK) were presented to the preservice PETE teachers in various settings: university, clinical
education site, and elementary school placements. Practicing and retired teachers, as well as guest speakers from the university and surrounding schools assisted in presenting content and pedagogical information. Opportunities were also provided for the preservice PETE teachers to practice the application of their pedagogical content knowledge.

R.Q. 2 What content/pedagogy did the preservice PETE teachers view they had learned in their preservice elementary teacher education experience?

Responses were gathered from six preservice PETE teachers through a series of five semistructured interviews that were completed every two weeks over a 10-week period. At the end of the experience, during the final interview, the preservice PETE teachers were asked how they had changed over the course of the 10-week elementary experience.

Weeks 1 and 2 (Interview 1)

During weeks one and two the preservice PETE teachers identified several content areas and pedagogical strategies learned within this timeframe. Resources provided to the preservice PETE teachers (handouts, texts) were used to supplement and clarify topics presented in class and during their interviews.

Content

Content areas emerging from the data included national, state, and local standards, and fundamental motor skills. National, state, and local standards and fundamental motor skills both became parts of the foundation used by preservice PETE teachers to create unit and lesson plans for elementary physical education. Fundamental motor skills were
standards (national, state, and local) were presented as the blueprint that the curriculum should follow.

<table>
<thead>
<tr>
<th>Weeks 1 &amp; 2</th>
<th>Patty</th>
<th>Lucy</th>
<th>Marcy</th>
<th>Linus</th>
<th>Charles</th>
<th>Sally</th>
</tr>
</thead>
<tbody>
<tr>
<td>National, State, Local Standards &amp; Physical Education Philosophy</td>
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<td>Fundamental Motor Skills</td>
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</tbody>
</table>

Table 4.6: Content Areas Identified by Preservice PETE Teachers Weeks 1 and 2.

National, State, and Local Standards

When discussing the specific components of planning a unit, Lucy was the only participant to address how national, state, and local standards influenced her planning when she stated,

We received a handout on the national standards, district standards, state standards, and what we needed to be aware of concerning those standards... how these standards drive the development of our curriculum and how everything has an effect, and how everything is intertwined. (Lucy: Interview 1, January 17, 2002, 120 – 124)

Specific information about the standards was provided in the Organizational and Planning handout (Winter, 2002). National considerations consisted of the Surgeon General’s report, Physical Activity and Health (1996), Healthy People 2010 (November, 2000), definitions of a physically educated person as described in the National Association for Sport and Physical Education text, Moving into the Future: National Standards for Physical Education (1995). Each resource provided information about
Standards for Physical Education (1995). Each resource provided information about physical activity characteristics, characteristics of America's population, and developmentally appropriate practice allowing preservice PETE teachers to knowledgeably discuss the role of physical education in society. Local considerations such as facilities available, class time, number of class meetings per week, class size, other staff members, and the community also must be weighed while developing annual, unit, and lesson plans (Written Document: Organizational & Planning Handout, Winter, 2002).

Fundamental Motor Skills and Stages

Five of the six participants (i.e. Patty, Marcy, Linus, Sally, and Charles) described that they learned about fundamental motor skills in relation to the motor development stages. These stages, occurring throughout the lifespan, from conception to death, were discussed with a specific focus on the developmental stages from birth to late childhood. Marcy explained the general concepts of the fundamental motor skills presentation when she stated, “We worked on fundamental motor skills last week. We had to practice what we would do and what stages we would be in” (Marcy: Interview 1, January 17, 2002, 160 – 161). Sally extended the discussion by first clarifying what was presented in class by stating, “We went over motor development. We went over the stages. We demonstrated each stage of throwing and striking” (Sally: Interview 1, January 17, 2002, 131 – 133). Sally continued to provide more depth and detail about what the preservice PETE teachers were asked to do when she commented, “We talked about motor development and the different stages students should be and the level each age should be at. We also discussed what we should expect with each age group” (Sally: Interview 1,
January 17, 2002, 112 – 114). A handout distributed to the preservice PETE teachers revealed different models of motor development (Seaman & DePauw, 1982; Seefeldt, 1997; and Gallahue & Ozmun, 1998) that could be used. A movement analysis framework was provided, as well as 14 principles of motor development. According to the handout contents, two domains of readiness need attention: cognitive stages and social development. Cognitive stages consist of the pre-operational stages, concrete operations, and formal operations performed by the individual. Social development theories presented were: social learning (Bandura, 1977); perceived competence and self-esteem (Harter, 1988); moral development (Kohlberg, 1984); and ecological and contextual perspectives, and social influences were also discussed (Written Document: A Motor Development Primer for Elementary Education Handout, Winter, 2002).

**Pedagogy**

Pedagogical topics such as planning, assessment, and management emerged from the data during the first two weeks. Rules, routines, and expectations and behavior management techniques all came to the forefront during the first two weeks. Planning lessons and units of instruction occupied most of the preservice PETE teachers’ attention and time during the beginning of their 10-week elementary experience.
Table 4.9: Pedagogy Areas Identified by Preservice PETE Teachers Weeks 1 and 2.

<table>
<thead>
<tr>
<th>Weeks 1 &amp; 2 Planning (Unit, Lesson)</th>
<th>Patty</th>
<th>Lucy</th>
<th>Marcy</th>
<th>Linus</th>
<th>Charles</th>
<th>Sally</th>
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<tr>
<td>Assessment Strategies</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
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<td>✓</td>
<td>✓</td>
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<td>✓</td>
</tr>
<tr>
<td>Rules, Routines, Expectations</td>
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</table>

**Planning**

The framework used to guide the planning and teaching process for the elementary methods class was work sample methodology. Work sample methodology included a unit of instruction, evidence about student learning within the unit, and use of student data for future instructional and reporting plans. The work sample format provided guidelines to be followed as the preservice PETE teachers displayed the objectives, instruction and assessment procedures, student performance data, and interpretation of the success of the unit of instruction. Work sample methodology was designed to link preservice PETE student knowledge and practice to student learning by aligning assessment with instructional achievement (Teacher work sample methodology: An introduction to connecting teacher work to P-12 student progress [Computer software], 2000). Central to the methodology was viewing the preservice PETE teachers as reflective practitioners. It was the belief of Allentown faculty, according to the elementary field experience syllabus, that being a reflective practitioner is essential to a teacher’s professional growth (Written Document: Elementary Field Experience in Physical Education for the Elementary School Child Syllabus, Winter, 2002).
Preservice PETE teachers at Allentown University were required to develop a work sample methodology to plan and reflect upon their units of instruction. The following items were incorporated into this work sample: a description of the school setting; a rationale for the unit linking the unit goals and objectives to national, state, and local standards; a unit plan, lesson plans, assessment and evaluation of the unit and lessons; documented student data; analysis of student data; and a written self reflective essay on how the preservice PETE student brought about student learning (Written Document: Elementary Field Experience in Physical Education for the Elementary School Child Syllabus, Winter, 2002).

Planning a Unit of Instruction

Planning consisted of developing a needs assessment, instructional goals, task analysis, an outline of the unit, design of activities, an array of resources, strategies for motivation of students, behavior management strategies, and strategies to monitor and evaluate the unit (Written Document: Planning a Unit Handout, Winter, 2002). Sally explained the importance of the unit plan when she stated,

The unit plan is important because you can see a goal in front of you, of what the kids should be doing and trying to get the students to that point. Or if a student or teacher comes up to you in class and asks, "What are we supposed to be doing in class" you can show them what their end result will be. (Sally: Interview 1, January 17, 2002, 169 – 172)

When discussing specific components of the planning process, all six participants targeted task analysis. It is within the task analysis component of planning that task progressions are designed with the purpose of providing a sequential range of tasks leading toward the final goals for the unit. Marcy explained,
...We are working on a unit plan. So far we have done the introduction to our school sites; we are working on our task analysis right now. We are also working on goals in the motor skill area and affective and cognitive areas. (Marcy: Interview 1, January 17, 2002, 144 - 147)

Lucy also provided a clear description of what she had learned about planning a unit when she stated,

First we learned how to write a unit, and then the parts of the unit, how the task analysis and assessments need to be in that unit, and how the assessments need to align with the objectives. The assessments need to be a continual process and should not be a summative (at the end), but should be ongoing. (Lucy: Interview 2, February 1, 2002, 5 - 9)

Linus explained the need to target all students in the class when he stated,

...The biggest thing is to know where your students are, so you can determine what to teach them. A lot of times lesson plans are not made with the students’ needs in mind. Plan on doing activities where every student can have some success. Plan where the lower skilled can be as successful as the higher skilled. (Linus: Interview 2, January 30, 2002, 104 - 109)

Planning a Lesson

Within the unit plan, individual lessons must be developed. When discussing planning, all six participants acknowledged the importance of detail when writing a lesson plan. Charles explained, “I have learned a lot about how in depth planning needs to be” (Charles: Interview 2, January 31, 2002, 41 - 42). Marcy, Lucy, and Linus all explained the different components required for development of an appropriate lesson plan. Marcy described the general components of a lesson when she stated,

...What we learned today was to figure out what activity you are going to do. Decide what your organizational and behavioral management skills are going to be, the amount of time for each activity, the cues that you would give, and then at the end of class reflect on how those cues helped. (Marcy: Interview 1, January 17, 2002, 138 - 140)
Lucy provided additional detail when describing specific types of tasks and the planning of specific strategies to present these tasks to the students,

For lesson plans you need to specifically identify entry skill level, provide demonstrations, and explain the informing, applying, sequencing of the skill progression, and exactly what to say when. Basically writing every single little thing down in the lesson plan. (Lucy: Interview 2, February 1, 2002, 14 – 17)

Linus offered some advice about planning enough for the lesson,

There is a lot of time that goes into it. Making sure that you have extensions. Making sure that you have enough planned for the lesson. Because if you go in and you have a half hour class and you do your lesson in 5 minutes, you are left standing and wondering what to do now. Always plan enough. (Linus: Interview 2, January 30, 2002, 104 – 113)

After planning their lessons the preservice PETE teachers had the opportunity to implement them in the classes they were teaching at their elementary sites. Linus and Sally gained some insight on the importance of planning and shared their experiences of how a lesson plan would help them with managing their classroom time and organization.

Sally explained the importance of having an in-depth lesson plan and how it will help her with her timing when she explained,

Today I did not have the time we were supposed to end [the class]. I definitely need a lesson plan, especially the first couple of times, I am going to need something that I can see that I can hold, lesson plans will help me with my timing. It will help me to know that, now I need to do this, now I need to look for this. (Sally: Interview 1, January 17, 2002, 174 – 178)

Linus commented that the lesson plan would help his time management as well as his organization,

Planning helps me to organize all the stuff we have to do in the classroom. In a half hour class, you probably have about 10 or 15 minutes after you get in there, warm them up, and deal with all the behavior management that you have to deal with. There is very limited time to actually get some good knowledge transfer. (Linus: Interview 1, January 17, 2002, 186 – 193)
Assessment

All six preservice PETE teachers remarked that assessment was a topic learned, though not all six identified the same items under the assessment umbrella. Marcy and Sally were the only two who articulated their thoughts on specific assessment topics. Marcy explained that she was asked to design her own assessment tools to assess students during a floor hockey unit. Marcy and Sally extended the discussion by describing specific strategies to assess cognitive, affective, and psychomotor domains. Strategies included checklists, peer and self-assessment, rubrics, task sheets, and academic learning time (ALT) as assessment techniques. Marcy described some of her thoughts while developing these assessment strategies when she stated, “We had to decide whether it is cognitive, affective, motor, the type of task sheets that we would use, or how we are going to authentically assess a student” (Marcy: Interview 1, January 17, 2002, 122 – 124). Sally concurred with Marcy, and acknowledged the difficulty of assessment. “We decided about authentic assessment, task analysis sheets, and peer and self assessment. It is going to be very hard as a teacher, an individual, to assess every student (Sally: Interview 1, January 17, 105 – 107).

Management

Rules, Routines, and Expectations

Charles, Marcy, Sally, and Patty indicated they learned about rules, routines, and expectations in the classroom. Rules, routines, and expectations are predetermined expectations of the student behavior developed by the teacher, and sometimes the students. These expectations explain courtesies to be extended to each other and the expected behavior of the students in the classroom (Graham, 1992). Rules, routines, and
expectations are typically posted on the gymnasium wall and are usually positive in nature. Protocols usually addressed the rules, routines, and expectations of entering and leaving the gymnasium, starting and stopping signals from the teacher, how to gather equipment at the beginning and end of an activity, and partner and team selection (Graham, 1992). Upon beginning his student teaching, Charles explained the role that rules, routines, and expectations took in his teaching and planning when he stated, “I picked rules, routines, and expectations out at our sight and discussed how you need to address them in the classroom, and also address them in planning. You have to know the importance of them” (Charles: Interview 1, January 17, 2002, 201-203). Marcy extended the discussion, as she commented that she felt confident in her ability to create rules, routines, and expectations, “I've seen the rules. I can create my own rules. I can create my own routines. Warm up, getting out equipment, things like that. I can do myself” (Marcy: Interview 1, January 17, 2002, 205–207). Patty explained how rules were not posted at her school site and she also discussed how the rules, routines, and expectations were enforced at her school site,

There's nothing posted, which we've been taught or advised to do. They are not always positive. They're presented in a positive way, but there might be times when they come across sort of negative. Those are the times where I look at my cooperating teacher and I go, “hmm, I'm not sure I would do it that way”. (Patty: Interview 1, January 17, 2002, 280–286)

Behavior Management

When discussing behavior management strategies as part of the planning of a unit, Linus, who was at an urban elementary site, was the only participant to identify specific behavior management issues he observed at his school site. Topics such as how to decrease management time by defining appropriate behavior, learning student names, and
providing students with choices about their actions were presented on the *Unit Planning* handout (Winter, 2002). Linus described in detail some specific behavior management issues he faced at his school placement, "I am learning how to deal with the students [who] are overly active. Trying to get students who aren't doing what they're supposed to, to do it. Trying to get students who just won't participate, to participate" (Linus: Interview 1, January 17, 2002, 169 - 176).

**Professional Growth and Development**

Preservice PETE teachers identified resume writing, interviewing techniques, and discussion about current educational issues as topics that would support and help them grow professionally. Progress toward professionalism is an important goal of a preservice teacher education program. Knowledge informs practice and all individuals need to be aware of current issues in education. By exposing the preservice PETE teachers to current issues in education, an effort is made to make sure that education is not based on past experiences, intuition, or opinions. Study of current educational issues aids the professional growth and development of the preservice PETE teachers by providing them with a knowledge base.
Table 4.9: Professional Growth and Development Areas Identified by Preservice PETE Teachers Weeks 1 and 2.

<table>
<thead>
<tr>
<th>Weeks 1 &amp; 2</th>
<th>Patty</th>
<th>Lucy</th>
<th>Marcy</th>
<th>Linus</th>
<th>Charles</th>
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Patty was the only participant who did not mention learning to write a resume or learning specific interviewing techniques. Lucy provided an overview of what was learned in the professional development course taken concurrently with student teaching, “In the professional development class we’re learning how to do resumes, interviews, and for a little while we discussed what’s going on in newspapers and some educational issues” (Lucy: Interview 1, January 17, 2002, 117 – 120). Marcy gave a brief description of what she had learned, “We have learned about developing resumes. We also have learned interviewing techniques” (Marcy: Interview 1, January 17, 2002, 130). Sally talked about the importance of learning specific interviewing techniques. “We talked about interviewing, which is very helpful. Topics such as ‘what we need to do to prepare for interviewing’ or ‘techniques to get a job’” (Sally: Interview 1, January 17, 2002, 101 – 103). Linus expanded the discussion when he mentioned they discussed current educational issues, “…they told us how to write and distribute your resume, and how to interview well. They asked us each class if there’s anything that’s on our mind professionally or any issues we have” (Linus: Interview 1, January 17, 2002, 211 – 214).

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Charles explained in detail how the process of learning how to write a resume was conducted when he stated,

"When developing our resumes, they'd (instructors) come around with a question and we'd talk to each other about it. This week we set up the rubrics to grade our resumes. We traded resumes to get input from our classmates, and that was beneficial. Learning some of the professional preparation issues as far as interviewing process." (Charles: Interview 1, January 17, 2002, 175 – 181)

Weeks 3 and 4 (Interview 2)

Content

Content areas emerging from the data included movement concepts, fundamental motor skills, and stages of development. Discussion about gymnastics, juggling, jumping rope, diversity and multicultural awareness as well as children with disabilities and dance also occurred.

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<tr>
<th>Weeks 3 &amp; 4</th>
<th>Patty</th>
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<th>Marcy</th>
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Table 4.10: Content Areas Identified by Preservice PETE Teachers Weeks 3 and 4.
Movement Concepts

Movement concepts can be used to help children modify the movement sequence in order to address the specific needs of each child, depending upon the task and the developmental level of the child. Many movements are performed in conjunction with another movement, such as: catching and throwing; running, jumping, and landing; time and force; and directions and pathways. Movements such as those listed may not necessarily be performed in an isolated incident, but rather within a game or sport. The *Teaching Children Movement Concepts and Skills* (1994) American Master Teacher Program text suggests that children develop through three stages: movement concepts and motor skills (Stage I); movement contexts (Stage II); and complex movements (Stage III). Marcy was the only participant to mention learning movement concepts, “We learned about movement concepts and the elementary student and what to with them during a movement concepts unit” (Marcy: Interview 2, January 31, 2002, 33 – 35). She extended her discussion about movement concepts by describing in more detail what she had learned,

…That was the day that we talked about effort, relationship, force. We used hula-hoops to see where personal space or general space was. She [Dr. Peanut] then put us through a couple different exercises like moving in straight lines, curved pathways, things like that. That was interesting. I realized it is important for the overall development of the child. (Marcy: Interview 3, February 18, 2002, 21 – 29)

Lucy connected her thoughts on movement concepts with fundamental motor skills when she explained,

I believe you have to understand motor concepts. You must understand motor concepts for students and how they relate to the skills the students perform. You, as the teacher, cannot be more specific and technical in your teaching until
students understand their spatial and body awareness. (Lucy: Interview 3, February 15, 2002, 12 – 15)

**Fundamental Motor Skills**

When discussing movement concepts, all six preservice PETE teachers identified learning fundamental motor skills. The presentation by Dr. Peanut linked these two topics together. Marcy briefly explained what she learned about fundamental motor skills, “we went over motor development and the different stages that students might be in (Marcy: Interview 2, January 31, 2002, 31 – 32). Charles was more thorough in his description about what he learned about fundamental motor skills when he explained,

...We learned progressions and cues and how to teach fundamental motor skills. We learned how to progress from a stage three throw to a stage four throw by using the cues. I need methods to use with these stages. I can pick out stages, it is the progressing from one level to the next that I need to work on. (Charles: Interview 3, February 13, 2002, 32 – 35)

Lucy first explained what she had learned when she reported, “we went over fundamental motor skills last week and the progressions of motor development. We then went over the developmental stages of throwing, catching...” (Lucy: Interview 2, February 1, 2002, 20 – 23). Lucy continued by recounting that she practiced identifying the stages and providing verbal cues to a kindergarten class,

...It was a kindergarten class. We could relate to what we went over in the classroom by identifying the developmental stages with our specific students and recognizing what stages they were at. We had to think about how we would progress and help them get to the next stage or what we would do as teachers in the classroom...different tasks we would have them do according to what stage they were at. (Lucy: Interview 2, February 1, 2002, 45 – 51)

**Gymnastics**

All six participants indicated they learned gymnastics, though Marcy and Lucy described more detail of what they had learned. Marcy explained, “We talked about the
different elements of a gymnastics class that you can use in a gymnastics unit” (Marcy: Interview 2, January 31, 2002, 36 –37). When discussing why a person should teach gymnastics, what is gymnastics, and how gymnastics should be taught correctly (Written Document: Gymnastics Handout, Winter, 2002), Lucy paid particular attention to how to teach gymnastics. Lucy explained, “Last week we did gymnastics. That’s content I have never been exposed to, so that was good to get a general feeling of how I could teach gymnastics to students” (Lucy: Interview 2, February 1, 2002, 22 – 24). Charles described the topics he learned about when discussing gymnastics when he commented, “We’ve taken time to work on and learn curriculum, safety, all the issues that involve teaching gymnastics. We have learned progressions and a lot of the cues, verbal cues” (Charles: Interview 2, January 31, 2002, 87 – 90). Sally described what she learned about when discussing gymnastics, “We learned how to do different skills, we learned about safety, then we learned handstands and cartwheels … how to perform them, how to teach them, and how to spot them” (Sally: Interview 2, February, 1, 2002, 30 –32). Sally, Charles, and Lucy all agreed that progressions were learned. Charles explained how he learned about progressions, “She (Dr. Peanut) showed us a lot of progressions, a continuum type progression. That was really good. That’s the stuff that if I were teaching gymnastics, I definitely would want to be aware of” (Charles: Interview 3, February 13, 2002, 52 – 54). Lucy expanded the conversation when she focused on the importance of knowing how to teach skills in a progressive manner in order to prevent any injuries from occurring, “We learned about progressions and the need to prevent injury because of the liability that goes along with gymnastics. We learned how to break
the different tasks down for students. That was very important” (Lucy: Interview 3, February 15, 2002, 67 – 69).

According to content of the gymnastics handout provided, safety rules and U.S.A. Gymnastics the national governing body guidelines were also discussed (http://www.usa-gymnastics.org/). Educational gymnastics themes consist of traveling actions, static work, rotational activities, and process variables comprised of body and space awareness, effort, and relationships. According to the handout, gymnastics for intermediate grades involved rhythmic gymnastics, acrosport, and artistic gymnastics. While teaching a gymnastics unit, considerations of the aesthetics of the sport: sequence, flow, and proper execution of the skills should be included in the focus. Different falling and landing drills were also described in the handout (Written Document: Gymnastics Handout, Winter, 2002).

**Juggling and Jump Rope**

All six preservice PETE teachers acknowledged learning the skills of juggling and jumping rope, though the reasons for learning differed. Lucy noted that she learned both juggling and jumping rope at her school site as she began her student teaching during those units, “I learned specifically how to teach jumping rope and how to teach juggling. I learned how to explain the skills to the different grade levels and how to demonstrate the skills to the different grade levels” (Lucy: Interview 2, February 1, 2002, 54 – 57). Linus observed a Jump Rope for Heart (http://www.americanheart.org/presenter.jhtml?identifier=2360) lesson at the clinical education site, “I had never seen Jump Rope for Heart so that was good to see how
someone would present that information” (Linus: Interview 3, February 19, 2002, 104 – 105).

**Diversity/Multicultural Awareness**

All six of the preservice PETE teachers commented on learning about multiculturalism and diversity issues. Lucy explained what was learned when she stated, “We talk about diversity and in particular multiculturalism in depth” (Lucy: Interview 3, February 15, 2002, 57 – 58). Charles described in more detail, “We saw a video, *Eye of the Beholder* (1987). We talked about diversity issues in school and how you address them” (Charles: Interview 2, January 31, 2002, 95 – 97). All participants mentioned watching the video, and Sally recounted the details of the video, “We watched a video on brown-eyed and blue-eyed people and the segregation of the blue-eyed people. We learned about how those people in the video felt when they were segregated” (Sally: Interview 2, January 31, 2002, 24 – 26). Patty explained how the message from the video could be applied in the classroom, “The diversity information is kind of a mindset anyway. It is important to be aware of diversity and how to not discriminate, and how to be equitable” (Patty: Interview 2, January 31, 2002, 58 - 61). Lucy also gave details about the discussion after viewing the video and how the video’s message could be applied from a more broadly-based perspective, “We talked about what we could do as teachers to meet diverse students needs. Diversity is not just ethnicity, but also people with disabilities and gender differences” (Lucy: Interview 2, February 1, 2002, 36 – 38).

**Children with Disabilities**

Patty, Linus, and Sally were the only three participants to acknowledge learning about diversity issues as it related to working with children with disabilities within the
classroom during this timeframe. Sally was the only participant to articulate exactly what was learned. She explained the discussion about disabilities when she stated, "We learned about disabilities, the different types of disabilities. We learned information on how to treat individuals with different disabilities within your class" (Sally: Interview 2, January 31, 2002, 26 – 27). She clarified her statement when she commented, "... with the disabilities we learned how to treat a student with a certain disability in our classroom, how to adapt the activities to fit their needs" (Sally: Interview 2, January 31, 2002, 53 – 55).

Pedagogy

Pedagogical content areas emerging from the data again were planning, assessment, and management. A new topic that emerged during weeks three and four was discussion of different teaching styles. Different teaching styles were integrated with the teaching of skills to aid preservice PETE teachers in their development of PCK.

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<th>Weeks 3 &amp; 4</th>
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Table 4.11: Pedagogy Areas Identified by Preservice PETE Teachers Weeks 3 and 4.

Planning

During weeks three and four there was a renewed focus on planning. Five out of the six participants recognized planning as a topic learned during this timeframe. Charles
commented on learning the importance of detailed planning, “I have learned a lot about how in depth planning needs to be” (Charles: Interview 2, January 31, 2002, 41 – 42). Discussion about specific components of a unit plan were described by Patty when she recounted, “... all the pieces that go into a unit plan are a block plan, outcomes or instructional goals, and a task analysis” (Patty: Interview 2, January 31, 2002, 18 – 20). Marcy added several more components to be included in a unit plan, “... a unit plan consists of assessment pieces and lesson plans, what your objectives are, and what resources you are going to use” (Marcy: Interview 3, February 18, 2002, 75 – 77). Linus elaborated on Patty and Marcy’s remarks by including components that they overlooked and clarified the topics they identified when describing how to create a unit plan.

In unit plans you have to put in all your goals (social, cognitive, affective goals). Your task analysis is how you are going to go about achieving the goals. Your block plan is how each class should go, an overview of each class. Your assessment tools, and rules and routines should be included in the unit plan. (Linus: Interview 2, January 30, 2002, 177 – 181)

During the discussion of the components of a unit plan both Sally and Charles commented on the usefulness of the task analysis. Sally commented, “The task analysis helps with the progression. It helps me learn the progressions” (Sally: Interview 3, February 14, 2002, 41 – 43). Charles had a similar response when he remarked, “It is good to go through it because it helps us write our block plan and learn the progressions. It basically makes the progressions for you. It assists you in developing your lesson and unit” (Charles: Interview 3, February 13, 2002, 17 – 20). Charles continued to explain why he felt planning was so important,

Unit planning is training us to look everything that could possibly go on. This is important because there have been lessons that I have already written that I thought prepared me to teach. Then certain things happened that I hadn’t even
thought of when I planned the lesson. The unit plan forces us to look at everything that could possibly happen and hopefully prepare for it. (Charles: Interview 2, January 31, 2002, 43 – 48)

Another component of planning mentioned was the lesson plan. When describing a lesson plan, Linus commented,

You need to include everything, your transition times, activity time, drills, and how long you are going to spend reviewing or debriefing what you went over. Also you have to include how long you want to spend on game play, if you are working on that kind of activity. (Linus: Interview 2, January 30, 2002, 172 – 176)

Linus continued on to explain how even though a lesson plan is created the teacher must remain flexible. He also noted the necessity to focus on student needs,

I realize that you have to have plans. But, you have to be flexible with those plans. Because I can't say that I want to do this, this, and this today, and do the first step and the kids don't get it, but I have to go on. You can't do that. So you have to plan, but you also have to be flexible. And you have to work to your students’ needs. (Linus: Interview 2, January 30, 2002, 196 – 200)

Sally echoed Linus’ comment on teacher flexibility and described in detail what should be incorporated into a lesson plan,

First of all you have to write the time you want to spend on each activity. A lot of times, if you see something going wrong in your lesson plan you don't necessarily have to stick to the time. If they are not getting it, you need to go away from the time schedule and be flexible. You have to do an introduction; you have to be very specific on the lesson plans. Write them as if a substitute teacher was coming in so that they would be able to teach your planned lesson. Introduction, conclusion, and whatever your activity is and how long you are going to do it. (Sally: Interview 2, January 31, 2002, 39 – 45)

Assessment

An additional component of planning identified by all six preservice PETE teachers was assessment. Charles mentioned what he had been focusing on in regards to assessment,
We have been going over assessment for our unit plans. We have been looking at how we will assess everything. If you had asked me four weeks ago I might have said that I assess their skills, there is a lot more to assess. There are a lot more ways of assessment and types of assessment that we do when we don't even realize we are doing assessment. (Charles: Interview 2, January 31, 2002, 48 – 53)

Marcy also explained that she had learned about assessment. Her comment mirrored Charles’ statement, but also expanded on it, “I have learned a lot about assessment this year that I did not even know. I think it is important to assess in all three domains” (Marcy: Interview 3, February 18, 2002, 85 – 87). Charles also commented on using different assessment strategies to assess cognitive, psychomotor, and affective domains,

You can’t just do a skills test. Assessment can be performed by the teacher, a peer, or have the student perform a self-test. There is verbal self-assessment, such as asking questions at the end of class. The teacher can do this to check levels of affective behavior. There are different rules and tactics tests that can be used during class. (Charles: Interview 2, January 31, 2002, 57 – 64)

Charles continued about different strategies of cognitive assessment, specifically mentioning the needs of his students:

Assessment can consist of cognitive assessment covering rules and tactics. We have decided to give some classes group testing, while others are doing individual testing. We are trying to think of what will be better for each grade depending on what and how much we are trying to teach and assess in those units. (Charles: Interview 2, January 31, 2002, 72 – 76)

All preservice PETE teachers stated they learned an assessment continuum. This strategy allowed the students in the schools to work at their own pace and was relatively simple to implement. Linus remarked how he liked the assessment continuum,

I think Mr. Martin (clinical educator) does the assessment continuum well. The way he set it up was good because the students are able to progress on their own. It is individualized, so not everyone is watching you and no one gets embarrassed if they cannot perform the skill. You could clearly see the progressions from the bottom to the top. (Linus: Interview 3, February 19, 2002, 107 – 110)
Behavior Management

By weeks three and four the preservice PETE teachers had been in the schools for half days and through experience learned about behavior management. Sally discussed how she learned about behavior management strategies, "I learned a lot about behavior management: what steps to take when someone is misbehaving, when to speak with the student and when to sit the student out" (Sally: Interview 2, January 31, 2002, 15 – 17).

Linus learned the importance of gaining classroom control,

I have learned how incredibly important it is to have control of your classroom. I have had quite a few classes these past couple of weeks that have been going bad, just because I tend to goof around with kids a little bit and because I think they don't take me as serious as they should. I know that is my fault; I did not get enough control of the class at the beginning. (Linus: Interview 2, January 30, 2002, 129 – 134)

Marcy, who was placed at the same school as Linus, explained a strategy for gaining control in the classroom when she expressed her thoughts when she reported, "We learned to have clear start and stop signals so everyone is listening or hearing what you are saying" (Marcy: Interview 2, January 31, 2002, 42 – 43). Linus and Marcy were placed at an urban elementary school and struggled with behavior management for the majority of their 10-week experience.

Teaching Styles

All six participants noted learning different teaching styles. Lucy was the only participant who articulated how she related the different teaching styles to other information learned in the PETE program. Lucy had a good understanding of the different teaching styles and how they related to the multiple intelligences,

... Teaching styles relate to the different multiple intelligences. If you really know your student, if you're student centered, you can adjust your teaching to
meet the students' needs. So the student can learn more effectively and understand what is being taught. (Lucy: Interview 3, February 15, 2002, 26 – 30)

A handout provided to the preservice PETE teachers explained the different styles: command; practice; reciprocal; divergent; self-check; inclusion; guided discovery; and exploration (Written Document: Teaching Styles Handout, Winter, 2002).

Professional Growth and Development

Preservice PETE teachers identified learning about the Praxis II examination required to acquire a teaching license. Praxis II is an examination that measures candidates' knowledge of the subjects they will teach, as well as general and subject-specific pedagogical skills and knowledge.

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Table 4.12: Professional Growth and Development Areas Identified by Preservice PETE Teachers Weeks 3 and 4.

Praxis II

Praxis II is an examination that measures candidates' knowledge of the subject-matter they will teach, as well as general and subject-specific pedagogical skills and knowledge. Five of the six preservice PETE teachers commented on learning about the registration process for the Praxis II examination (http://www.ets.org/Praxis/index.html). Linus reported,

[A professor] came into our classroom and talked to us about our Praxis test. That was very good because we have not really been exposed much. We had heard a
little here and there, but to talk about it for an extended period of time was helpful. (Linus: Interview 2, January 30, 2002, 145 – 148)

Marcy provided more detail in her recounting of what occurred,

[A professor] came in and talked to us about what we needed to do for registering for the Praxis test and explained the test to us. She had a booklet and gave each of us a copy. We also talked about some workshops coming up. (Marcy: Interview 3, February 18, 2002, 119 – 124)

**Weeks 5 and 6 (Interview 3)**

**Content**

Content areas recurring during weeks five and six were fundamental motor skills, gymnastics, juggling, and jumping rope. Dance was a content area that newly emerged during these two weeks. Many of the students found the content reviews helpful, particularly when the content was part of a unit being taught in their school placement.

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Table 4.13: Content Areas Identified by Preservice PETE Teachers Weeks 5 and 6.

**Fundamental Motor Skills**

Sally and Charles were the only two participants to identify learning how to teach different fundamental motor skills such as throwing, catching, and kicking. Charles' comment, "We did teaching skills with the kids where we taught the punt, the kick, and the underhand roll" (Charles: Interview 3, February 13, 2002, 122 – 123) typifies Sally's
remarks as well. Sally commented, “We taught one person how to kick a ball” (Sally: Interview 3, February 14, 2002, 113).

Gymnastics

Charles was the only participant to mention learning about gymnastics. Charles learned about the purpose of gymnastics, how to present gymnastics, and how the presentation format could be adapted to fit any number of sports or skills when he stated, [Mr. Martin] did a progression in gymnastics. It was really interesting...if I were doing a gymnastics unit that I planned I would want to use a lot of his materials. It was really interesting how he did it. You can do that with a lot of skills and sports. (Charles: Interview 3, February 13, 2002, 105 – 109)

Juggling and Jump Rope

Juggling was a content area identified by all six preservice PETE teachers as being learned. Sally’s comment, “We saw juggling” (Sally: Interview 3, February 14, 2002, 112 – 113) is representative of all six participants. Charles expanded on Sally’s comment slightly when he stated, “That day we worked on a juggling continuum” (Charles: Interview 3, February 13, 2002, 121 – 122). Marcy explained the importance of learning juggling and how it related to content knowledge already acquired when she stated, “I had never done juggling before. So I learned how to juggle. It was kind of like the Jump Rope for Heart” (Marcy: Interview 3, February 14, 2002, 149 – 151). Similar to Marcy, Linus acknowledged having limited knowledge about juggling when he explained, “… juggling was a different skill. I had never seen juggling done before and I did not know how to approach it to present in the classroom. I liked the way he [Mr. Martin] does the skill continuum” (Linus: Interview 3, February 19, 2002, 174 – 176).
Dance

Four of the six participants commented they learned how to teach dance. Preservice PETE teachers did not have much content knowledge or pedagogical content knowledge is the area of dance, therefore dance content was important. Charles was the only participant to articulate what was actually taught about dance content and why it was important.

They (professors) instructed dance to where you could relate it to teaching elementary school children, which was good. I know some of my peer teachers are doing dance and that was helpful for them. It was helpful for anybody, if you are going to do elementary or high school. They taught some of the progressions, how to start them, and how to have them stand. We probably did six or seven varieties of dances. (Charles: Interview 3, February 13, 2002, 145 – 151)

Pedagogy

Pedagogical concepts identified by the preservice PETE teachers consisted of a continued focus on assessment and behavior management. While new concepts of with-it-ness and the tactical approach to games emerged during weeks five and six, the major focus was on the work sample methodology and assessment strategies.

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Table 4.14: Pedagogy Areas Identified by Preservice PETE Teachers Weeks 5 and 6.
Work Sample Methodology

Though all six preservice PETE teachers mentioned learning about the work sample methodology, only Linus and Patty went into detail, expressing differing viewpoints. Linus conveyed the importance of the work sample methodology, "I understand the work sample is important for the university. That is why I feel so much time is dedicated to the work sample" (Linus: Interview 3, February 19, 2002, 50 – 52).

Patty explained that even though a great deal of time was spent on discussing the work sample methodology she was not sure how the discussions helped her when she commented, "Mostly we talked about work sample. I did not find it extremely helpful, however, I have thought about some of the discussion today. So I guess in an indirect way it was helpful" (Patty: Interview 3, February 16, 2002, 134 – 137).

Assessment

All six participants acknowledged learning different skill assessment strategies. Lucy explained that assessment was a topic of great concern,

Assessment has been a big issue. How to do assessment effectively and efficiently while we teach has been discussed. We only have half hour lessons, it doesn't seem like enough time to teach and assess at the same time. We have been trying to think of different ways to do assessment. (Lucy: Interview 3, February 15, 2002, 93 – 97)

As stated in previous weeks, the preservice PETE teachers were aware of assessing cognitive, affective, and psychomotor domains. Lucy provided an example of what the preservice PETE teachers had discussed when they focused on the affective domain,

We listened to each other about how we are assessing and the different techniques that we are using to assess the affective domain. We discussed Hellison's model of social responsibility and implement it in the classroom. We discussed different ideas that we had tried with each other. (Lucy: Interview 3, February 15, 2002, 108 – 112)
Preservice PETE teachers identified a skill assessment continuum as being learned during this timeframe. Marcy explained how the preservice PETE teachers observed a teacher using an assessment continuum during a jump rope unit and how they then practiced using the assessment continuum during a juggling unit, “The continuum and how to assess was kind of the same concept as the jumping rope assessment” (Marcy: Interview 3, February 14, 2002, 151 – 152). Linus expressed that he enjoyed observing different teachers and how they assess, “… we got to see how different teachers do their assessment. It is good to see a variety of teachers and their assessment strategies” (Linus: Interview 3, February 19, 2002, 178 – 181). Lucy concurred with Linus about the importance of viewing other teachers assess,

I got some new ideas on how to assess students as they progress to different skill levels. They face towards the wall when they are practicing and face inward when they wanted to be assessed. So that was really helpful and practical. (Lucy: Interview 3, February 15, 2002, 76 – 79)

Patty described the continuum in more detail and expressed her enthusiasm about using the assessment continuum when she stated,

The whole concept of class was learning the continuum for assessment and teaching. It’s great! It's the best way to go! When the students are practicing the skill they face either in or face out and have different levels. When they are ready to be tested the face they opposite directions. The levels of the skill are clearly defined. The student starts out with one scarf and has to juggle certain ways with that one scarf. When they can show that they can do that the teacher passes them on to the next level to juggle with two scarves. The levels are clearly defined and they have plenty of time to practice and perfect that level. (Patty: Interview 3, February 14, 2002, 122 – 129)

Behavior Management

Marcy and Linus again were the only two preservice PETE teachers to recognize learning about behavior management during weeks five and six. Marcy explained, “I
have learned a lot about how to help students who have behavioral problems. I have learned different strategies to use for that” (Marcy: Interview 3, February 14, 2002, 141 – 143). Marcy’s statement is representative of Linus’ comments on behavior management.

**With-it-ness**

Three of the six participants acknowledged discussing a pedagogical term “with-it-ness”. Kounin (1970) described a teacher who was aware of what was going on in the classroom, communicated this awareness to students, and was able to attend to two or more events at the same time as a teacher who possessed with-it-ness. Lucy and Marcy identified with-it-ness as a topic learned, but Linus provided a specific example of why with-it-ness is important,

> I think you have to be aware of what is happening, you have to have with-it-ness. Especially for us, as new teachers, because I know if a kid is doing a skill wrong our first instinct is to go and spend however much time is needed with this one student making sure that they get this skill down. While everybody else could be leaving the gym or doing anything. I have experienced it. I’ve spent too much time with one or two students and had my other students go and do whatever. With-it-ness is important. You absolutely have to have with-it-ness. You have to know what is going on otherwise you can get yourself in trouble. (Linus: Interview 3, February 19, 2002, 218 – 227)

**Tactical Approach**

When discussing the tactical approach to games and teaching Charles and Lucy were the only preservice PETE teachers to identify learning this concept during weeks five and six. Charles briefly explained what he learned about the tactical approach, “We did a lesson on tactical teaching and sport tactics. We learned how to teach through tactics using criteria sheets” (Charles: Interview 3, February 13, 2002, 112 – 113). Lucy commented that she saw a presentation on the tactical approach to teaching games (Lucy: Interview 3: February 15, 2002).
Professional Growth and Development

Interviewing Techniques

Interviewing techniques was the only topic identified by preservice PETE teachers as assisting them in their professional growth and development during weeks five and six. It was during these two weeks that all preservice PETE teachers participated in mock interviews. Superintendents, principals, and teachers from local elementary, middle, and high schools volunteered to interview the preservice PETE teachers. Charles explained the concept of the mock interviews,

Mock interviews were to work on interviewing skills. It was mock, yet we took it very seriously. We tried to be as professional as we could. It was very helpful to me in the sense that I figured the interviews would be a breeze. They were a little tougher than I thought. At the end of one of the interviews, I had a chance to chat about interviewing and the interviewer gave me some good tips. It was very helpful to me. (Charles: Interview 3, February 13, 2002, 94 – 101)

Patty simply remarked, “Interviewing was good. It was good practice” (Patty: Interview 3, February 16, 2002, 106). Sally reported having a different experience during the mock interview process,

I had two high school interviews. I knew nothing about a high school. It did not prepare me, however, if we had to interview in the spring, I would know more about it. But it was still helpful. It will help me decide if I ever want to apply for high school and I'll already know what questions will be asked. (Sally: Interview 3, February 14, 2002, 124 – 128)

Weeks 7 and 8 (Interview 4)

Effective teaching characteristics and individualized education plans (IEP) for children with disabilities were discussed in relation to instructing effectively and planning appropriately for children with disabilities. No new content areas emerged during weeks seven and eight.
Pedagogy

Weeks seven and eight brought a renewed focus on the work sample methodology and management strategies. New pedagogy areas that emerged during this timeframe included management strategies focused on grouping and time management, effective teaching characteristics, and children with disabilities and IEP development.

Table 4.15: Pedagogy Areas Identified by Preservice PETE Teachers Weeks 7 and 8.

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<tr>
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<th>Linus</th>
<th>Charles</th>
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Work Sample

During weeks seven and eight all six of the preservice PETE teachers identified learning work sample methodology. Patty explained how work sample methodology was discussed; “We talked a time about work sample, which seems to be the big focus.” (Patty: Interview 4, February 28, 2002, 25 – 27). Charles concurred with Patty, and also voiced some concern when he commented, “We were just clearing up some work sample stuff. Finding where people were at, where we were at with ours. I hope I'm on the right track and going in the right direction” (Charles: Interview 4, March 4, 2002, 31 – 33). Sally reported in more detail what had occurred, “We saw a few sample presentations for the work sample. That was helpful. They also told us how to do a bar graph of all the
results that we were collecting” (Sally: Interview 4, March 1, 2002 73 – 75). Marcy also commented on being able to see work samples that previous PETE cohorts had developed and how it relieved some anxiety,

He (a professor) showed us what the M.Ed. students did last year. They were from the secondary students - their work samples. We went over charts and then I saw it was easier than I had anticipated. It shouldn't be too bad! (Marcy: Interview 4, March 1, 2002, 64 – 68)

Patty furthered the conversation about seeing work sample methodology examples,

He (a professor) gave us some examples of some work samples done by M.Ed. students last year. It was good to see an example of an actual PowerPoint presentation, which is what we are going to have to put together. I'm a visual person, so I was able to see it and kind of get a better idea of what I'm going to put together. He walked us through taking our data and transferring it into something that will be pleasing in our presentation, which included making graphs. They showed us how you actually make graphs and how you take your raw data and make it work for you. (Patty: Interview 4, February 28, 2002, 39 – 48)

Charles expressed some concern about the presentation of the work sample methodology,

We all know what direction we are going in for the work sample, but we are not to the point...or at least I am not...at that point of presenting my data. I was questioning how am I going to put this into a presentation, how do I translate my data into the presentation, and is this the best way to give this to other people and show the data. He (a professor) showed us a lot of different ways to do that. He questioned us about things we were doing and how we would do it. (Charles: Interview 4, March 4, 2002, 51 – 58)

Overall, Lucy commented on how helpful the discussion on work sample methodology,

The work sample methodology discussion was very helpful. This was a very thorough way of going over our work sample... what it is going to look like. He had two examples of previous students work samples. He explained how they presented their PowerPoint presentations and how they organized their data. (Lucy: Interview 4, March 1, 2002, 76 – 81)

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Management Strategies

Behavior Management

Behavior management strategies were again identified as being learned by all six participants. It is important to note that weeks seven and eight were the second and third weeks of full-time student teaching, therefore behavior management may have become more of an issue for the preservice PETE teachers. Marcy reported, “We have discussed different behavior management strategies, ways to get a students attention, and how to get the children to listen” (Marcy: Interview 4, March 1, 2002, 12 – 13). Linus expanded by explaining how they have been focusing on behavior management strategies, “We discussed what has been going on in our schools and some of the problems that we have been having, just trying to get some suggestions. It was good to talk about. It was good to hear other people’s suggestions” (Linus: Interview 4, March 1, 2002, 7 – 13). Charles extended the discussion about what behavioral management topics were discussed, “We did some scenarios, people wrote down some behavior management issues they have had with their students. We talked about those. They gave us different scenarios and we gave what we thought would be good strategies to use” (Charles: Interview 4, March 4, 2002, 23 – 27). Sally provided more in depth with the topics discussed,

We talked about consequences, why your students were not behaving the way you wanted them to, and then what you should do if they are not following directions. We discussed the choice you have as a teacher, if you just sit the student out, send them to the office, talk to them, or call their parents. (Sally: Interview 4, March 1, 2002, 8 – 11)

Lucy and Patty both acknowledged it was good to discuss these scenarios with each other. Patty commented on the importance of these sessions, “There were a couple of ideas that came up that I might not have thought of on my own” (Patty: Interview 4,
February 28, 2002, 29 – 34). Patty’s comment about how these behavior management sessions were helpful reflected Lucy’s thoughts as well.

**Grouping Strategies**

When discussing different strategies of effective use of classroom time, the component of student grouping strategies was identified by four of the six participants. Linus explained, “We also did some work on how to select a partner…like getting kids in groups” (Linus: Interview 4, March 1, 2002, 15 – 16). Lucy also commented, “We learned about different ways to organize students. The discussion mainly focused on lower elementary students, how to pair them up and how to move the students from one place to another” (Lucy: Interview 4, March 1, 2002, 12 – 14). Charles voiced his opinion on the use of grouping strategies when he commented, “Grouping strategies cut down on time used and makes things run smoothly. We discussed how to switch partners and how to choose partners for activities. They are definitely quick techniques, very effective” (Charles: Interview 4, March 4, 2002, 125 – 129).

**Opportunities to Practice/Time Management**

Sally was the only preservice PETE student to identify learning the importance of providing opportunities to practice for her students when she briefly stated, “We talked about opportunities to practice. Giving the students opportunities to practice” (Sally: Interview 4, March 1, 2002, 6 – 8). Linus linked planning to time management when he mentioned that there is actually very limited time while teaching to get good knowledge transfer (Linus: Interview 4, March 1, 2002). Sally commented that she felt time to practice was important and creating good lesson plans would help her with her timing (Sally: Interview 4, March 1, 2002).
Effective Teaching Characteristics

Characteristics of an effective teacher were discussed by all six of the preservice PETE teachers. Sally was the only participant who did not provide a definition or list of characteristics of an effective teacher. Linus explained the discussion in class turned into a list of characteristics when he commented, "...there was just a long list...the main ones being: planning, organization, getting to know your students and how they learn, making instruction meaningful, flexibility" (Linus: Interview 4, March 1, 2002, 44 - 46). Patty also commented on the formation of a list of characteristics

I felt it became the characteristics of an all around good teacher. They included being flexible with administration and staff and having good communication skills. It wasn't necessarily what makes effective teaching. Like planning...we brought up some of those things. But the discussion leaders focused on things that were not necessarily going to make me a better teacher for my students. (Patty: Interview 4, February 28, 2002, 87 – 93)

Marcy recounted, "We've had classes on how to be an effective teacher. In those classes we learned things such as managing your time wisely, using time for instruction, things of that nature" (Marcy: Interview 4, March 1, 2002, 3 – 7). She continued to identify effective teacher characteristics as,

...Having a positive classroom, providing positive feedback, being organized, being flexible in our teaching, having good relationships with your co-workers, and having good relationships with your students, that are respectful, so that they can respect you and you can respect them. (Marcy: Interview 4, March 1, 2002, 19 – 23)

Lucy expressed her beliefs when she stated, "...an effective teacher is someone who is confident and fulfills their self-efficacy, has good time management, organizational skills, focuses their attention on the student and is student centered" (Lucy: Interview 4,
March 1, 2002, 10 - 12). When Charles explained what he believed to be an effective teacher he quite confidently stated,

It's a given, if you're effective learning is taking place. The kids are well behaved and they want to learn, no matter how strict you are or anything. When an effective teacher is teaching, it is almost fun to learn. You walk out class and say "WOW! I learned something today. That was amazing what we did today!". Effective teachers are flexible. You have to be able to relate to every style of learning there is. You need to be flexible. They need to be able to communicate with every student and with every student in different ways. With some students it takes a look, some it takes a yell, some it takes a smile, whatever. And of course you must be equitable. (Charles: Interview 4, March 4, 2002)

IEP and Children with Disabilities

When discussing how to approach individuals' with disabilities in the classroom all six participants identified learning about IEP’s and the teacher’s role and responsibilities during that process. Before creating an IEP, the student first needs to be assessed to see if they qualify for special education. Lucy learned about assessing student needs when she commented,

We talked about the Test of Gross Motor Development (TGMD) and how to administer that. We also discussed briefly if a student performed low on a certain area what would be good expectations for whatever developmental level they were at and how to write that in the IEP’s. (Lucy: Interview 4, March 1, 2002, 127 - 131)

Marcy linked the assessment of the student to the adaptation of activities when she stated,

We talked about disabilities. That was very informative! We talked a lot about the whole process of seeing if the student has a disability and what to do with them. We talked about how to adapt different activities for the students depending upon their disability. They showed us how to fill out the IEP forms and stressed the importance of the physical education teacher attending the IEP meeting. (Marcy: Interview 4, March 1, 2002, 41 - 47)

Sally discussed the importance of the physical education teacher's role in the IEP process,
As a physical education teacher if you are not involved in the IEP process they could set an inappropriate goal for the student to achieve. That goal could be inappropriate for them and would not help them improve. (Sally: Interview 4, March 1, 2002, 136 – 139)

Patty re-iterated the importance of the physical educator's role in the IEP process and extended the discussion to include parental involvement,

We did talk more about the parent's involvement ... the role they play in the IEP meeting, what role we would play, and how important it is that we as physical educators be involved in that process. We talked a lot about making goals for students with disabilities, functional goals that would help the student. (Patty: Interview 4, February 28, 2002, 15 – 20)

Charles extended the disability discussion back to the classroom when he stated,

The disability discussion was more about how you handle it as a teacher. The second part of the discussion was on the modification of activities. Those ideas are very useful not just with special populations. (Charles: Interview 4, March 4, 2002, 11 – 14)

Professional Growth and Development

Two topics that emerged as professional growth and development during weeks seven and eight included information on the peer assistance and review (PAR) program and strategies to search for employment. PAR is a support system created to assist beginning teachers transition into the teaching profession. The preservice PETE teachers appreciated the mock interviews and the information that was provided to them about gaining employment within the local school system.
Table 4.16: Professional Growth and Development Areas Identified by Preservice PETE Teachers Weeks 7 and 8.

Peer Assistance and Review (PAR)

All preservice PETE teachers identified learning about the peer assistance and review (PAR) program run in the local school district. Charles provided a description of the PAR program,

PAR is a very good idea. It seems that they (mentors) are going to be a little stricter with you during your first year. I imagine they are still going to watch lesson plans; you are not going to be on your own. You are going to get a little bit more personal care. It’s good. It will be helpful for those struggling with controlling behavior. (Charles: Interview 4, March 4, 2002, 80 – 85)

Sally offered more detail when she commented, “We discussed PAR. I think that program sounds like a good program. For my first year I would like to have that person to help me out and give me feedback on what I am doing” (Sally: Interview 4, March 1, 2002, 30 – 33). She continued when she reported, “... they (mentors) said that they came in and checked your lesson plans out, they helped you if you were having trouble with something, and they would help you figure out a solution to your problem” (Sally: Interview 4, March 1, 2002, 42 – 44). Lucy stated, “the mentors see you 10 times and have five meetings before the fall and in the spring” (Lucy: Interview 4, March 1, 2002, 58 – 59). Patty finished the details of the PAR program by reporting, “… all first year
teachers are put into that program, as well as some veteran teachers that are struggling who might be requested or forced to enter the program, which I thought was good” (Patty: Interview 4, February 28, 2002, 101 – 103). Linus and Lucy commented on the support system provided in the local school district. Linus explained, “it is good to know that there is someone there with you, to support you in your first year” (Linus: Interview 4, March 1, 2002, 31 – 33). Lucy’s thoughts mirrored Linus’ comment. It is obvious that Patty also like the idea of having knowledge of a support system,

The system of having a mentor also can support you in your first year or if you are struggling in a subsequent year is something that all teachers should have. I would advocate this for anyone, even if they were not connected with a specific school district. I would seek someone for help even if this system were not in place. The idea is good. I feel that is needs to be available as an assist for any teacher who needs it. (Patty, Interview 4, February 28, 2002, 57-64).

Employment Search Strategies

While discussing topics that would assist them to develop professionally, five of the preservice PETE teachers identified learning about how to search for employment in the local school district. Linus reported a guest speaker came in and discussed where to look for employment in the local school district, “She [guest speaker] discussed the posting for jobs for the local school district and when they were going to post the openings. ” (Linus: Interview 4, March 1, 2002, 63 – 65). Patty explained whom their guest speaker was and what she spoke about when she commented,

The director of physical education for the local school district spoke with us. She went over when the postings were going to be out and how the hiring process works. She went over how we would go about applying for a job. (Patty: Interview 4, February 28, 2002, 110 – 113)

Charles extended this discussion when he stated,
She [guest speaker] went into how physical education is overseen by her. How she relates and coordinates with people as far as helping them out, getting them equipment. She also reviews you as a teacher. She then went over the application and hiring process...very in-depth. (Charles: Interview 4, March 4, 2002, 101 – 105)

Lucy explained that she learned about the actual hiring process and about professional courtesy,

[The guest speaker] talked about the whole process of how we find a job. She talked about how to go through the different stages of the interview process...there is a first stage, a second stage, and third stage. One of the questions that I had was, how do you keep your options open? What is the time frame that one can expect before a decision is made? Once you have been offered a job, what is the appropriate and professional way to ask how long you can wait before making a decision? I think it is important to keep your options open and not feel obligated to take the first job that comes along. (Lucy: Interview 4, March 1, 2002, 63 – 71)

After finding out where job openings were, Sally explained the best way in which to distribute her application when she commented, “...she [guest speaker] told us that if we really wanted to go to local cities we should go to each school and drop off an application or you can do an application on-line” (Sally: Interview 4, March 1, 2002, 37 – 39).

Charles noted that he found the discussion overall to be quite informative when he reported, “Her [guest speaker] presentation was very beneficial. It opened up my eyes as to see that there is more to filling out applications and getting a job than what you think” (Charles: Interview 4, March 4, 2002, 97 – 99).

**Weeks 9 and 10 (Interview 5)**

**Content**

**Sport Law**

Content that emerged during the final weeks of the elementary experience was information pertaining to legal issues. All six participants identified learning about sport
law. Participants noted the importance of the content, though their reasons differed.

Patty recounted a basic review of the presentation and rationale of the importance to her by stating,

[A professor] came in and spoke on sport law. I had never had that class, whereas most of my classmates were required to take it. So it was all new information for me. It was useful and important. We need to be aware of what we will be held accountable to and what we should be held accountable to. I need to know how to protect my students and myself while I am teaching. (Patty: Interview 5, March 18, 2002, 7 - 15)

Lucy also had not discussed sport law prior to entering the PETE program and reported, “It was good to hear the definition of what negligence is and the different kinds of negligence. It just re-iterated how careful we have to be in the school settings and what kinds of preventative strategies we can use” (Lucy: Interview 5, March 18, 2002, 3 - 14). Marcy was the third preservice PETE student who had not completed a course in sport law prior to entering the PETE program. She found the content to be relevant to her unit she was teaching, “It pertained to what we were doing with gymnastics. There was so much that I learned. That was extremely helpful, especially the liability part” (Marcy: Interview 5, March 14, 2002, 4 - 8). Linus, Charles, and Sally had all completed a sport law course in their undergraduate coursework at Allentown University. Their comments indicated that they found the review helpful.

**Pedagogy**

**Work Sample**

During the final weeks of the elementary experience work sample again emerged as a pedagogical topic. All six preservice PETE teachers recognized they learned about the work sample methodology during the final weeks of their elementary placement.
Charles explained about the work sample methodology session when he reported, “We were in [Calvin] Hall in the computer lab. It was basically a working seminar, where we worked on our work sample and tried to get our data onto our spreadsheets” (Charles: Interview 5, March 14, 2002, 66 – 70). Lucy remarked that she appreciated having the time in the computer lab when she commented,

We just were supposed to be using it as a work session and if we had any questions for [Dr. Peanut] to answer, which was good. She walked around and spoke to us individually about our particular questions. I summarized some data that I had from that day, and [Dr. Peanut] showed me how to do some graphs, so it was helpful for me...for my presentation. People worked on organizing their graphs. (Lucy: Interview 5, March 18, 2002, 71 – 86)

Linus also stated that he valued the time in the computer lab when he reported,

We worked on developing a work sample. We got to go to the computer lab in [Calvin] Hall. That was good work time as people could work at their own pace, picking up wherever they were at in the work sample methodology. (Linus: Interview 5, March 18, 2002, 59 – 63)

Patty learned about presenting her data,

It was a good time to pull some data together, have her come look at it, make sure that I got the chart created the right way and the review of how to do that in the program and which I was using. It gave me the confidence that right now I can do this. (Patty: Interview 5, March 18, 2002, 99 – 109)

Professional Growth and Development

During the final weeks of the elementary experience there was a concentrated focus on professional growth and development. Preservice PETE teachers identified learning about the Praxis II examination, reviewed the content and pedagogy presented at the university, learned how to write a grant, and reflected upon how they had changed throughout the 10-week elementary experience.
Praxis II Review

All six participants recalled playing a jeopardy style Praxis II game to review for the upcoming examination. Marcy provided information about how the questions were developed when she reported, “We spent about an hour going over Praxis. We had to make up questions that would be on Praxis and then we played a jeopardy type game (Marcy: Interview 5, March 14, 2002, 8 – 11). Patty described how the content for the questions were developed when she explained; “Dr. Peanut took it from the AMTP series (See Table 4.17). She took those five different books and we created questions from those books. The AMTP content books cover fundamental motor skills, movement concepts, game, fitness and dance” (Patty: Interview 5, March 18, 2002, 44– 56). Topics of the AMPT content books are presented in table 4.18.

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<tr>
<th>Weeks 9 &amp; 10</th>
<th>Patty</th>
<th>Lucy</th>
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Table 4.17: Professional Growth and Development Areas Identified by Preservice PETE Teachers.
Table 4.18: AMTP Content Series Textbooks.

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<td>Teaching Children Movement Concepts and Skills</td>
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<td>Purcell, T.M.</td>
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<td>Werner, P.H.</td>
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Content and Pedagogy Chart

At the end of the 10-week elementary experience Dr. Peanut asked the preservice PETE teachers to form groups of three and create a chart listing all the content and pedagogy they had learned over the 10-week experience. All six participants commented that it was a nice way to complete the experience. Lucy explained what exactly happened,

Someone lay down and we traced them and split them in half. On one side we wrote pedagogy and on the other side we wrote content. Basically we wrote everything that we had learned since the beginning of the quarter. (Lucy: Interview 5, March 18, 2002, 146 – 155)

Lucy continued and discussed the importance of this activity when she commented, “I think it is important to try and see what you can write down on the spur of the moment and compare what others wrote down to yours and realize, ‘I did not think of that’” (Lucy: Interview 5, March 18, 2002, 157 – 161). Patty also agreed this activity was important,
[Dr. Peanut] had everyone share a few things that they had learned though the course of the quarter. That made it useful to me. Making a list and a chart brought all the things to mind, things that you had not really consciously thought about. After hearing my classmates talking about things they had learned, other things came to my mind. (Patty: Interview 5, March 18, 2002, 148 – 159)

See Appendix F for the complete content and pedagogy charts.

Grant Writing

When discussing topics that would support the preservice PETE teachers upon their entrance into the education field all six participants identified learning about grant writing. Charles explained what he learned during the grant writing presentation, “It was very informative. It was helpful to me because I would never have thought about writing a grant for anything. The how’s, the when’s, the where’s of grant writing were on her agenda” (Charles: Interview 5, March 14, 2002, 22 – 26). Patty described in more detail what she learned when she recounted,

It was awesome! That was good because I probably would have never thought about or considered writing a grant for something before. To hear her (guest speaker) present how many opportunities there are and how you can get a grant for $1000 or $2000 sounded pretty simple. You start by following the criteria and pay attention to what you have to write. It was good to have someone simplify the process. (Patty: Interview 5, March 18, 2002, 130 – 140)

Lucy discussed how the professor gave them an example and had them practice writing a mini grant when she commented, “We had some practice on how to write a grant, what should be a grant, how you should state it” (Lucy: Interview 5, March 5, 2002, 109 – 112).
How I Changed

During the last interview the question of “how have you developed over the past 10-weeks” was posed. All six preservice PETE teachers answered, with some requesting time to reflect and provide a written document, while others immediately responded.

Patty chose not to answer during the interview because she wanted to ponder the question. Patty reflected and wrote a short essay for her answer. She encapsulated her development into five themes: (a) the right way, (b) seeing the student, (c) contextual relevance, (d) student motivation; and (e) the value of physical education. During her explanation of “the right way” Patty stated, “I have been challenged to think less singularly and have realized that teaching does not have a right way.... Effective teaching requires a willingness to change. It is a dynamic process that must continually be adjusted and modified ” (Patty: Written Document, Winter, 2002). She continued stating that “… teaching is flexible and in constant change and fully dependent on what is appropriate for the setting” (Patty: Written Document, Winter, 2002). In her second theme, “seeing the student”, she described how a student should be viewed if the learning environment is to be student centered. The student should be seen for the person they are, not the label applied, and should be recognized for their efforts and accomplishments. Contextual relevance was her third theme. This was explained by, “… challenging students to a new level and taking what they already know and using it to connect them to … new experiences” (Patty: Written Document, Winter, 2002). Patty mentioned that “student motivation”, her fourth theme, is developed through the learning environment that is created by the instructor. Patty explained in her final theme, “the value of physical education”, that it is up to her to create a value for physical education in
the school and community in which she teaches (Patty: Written Document, Winter, 2002).

Lucy responded to the question of “how did she change” during the interview, after a short moment of reflection, she replied,

I would say first and foremost, I have developed confidence because I have never taught before. That was a big issue coming in, being nervous, teaching, standing up in front of the class, and being articulate and precise. I feel like I have become articulate and confident in giving directions. (Lucy: Interview 5, March 18, 2002, 188 – 196)

She continued, “Learning content (juggling, jumping rope) to teach to younger children has been helpful ... because I did not have a clue how to teach that content to such a young group” (Lucy: Interview 5, March 18, 2002, 199 - 204). Lucy also “… learned how to manage students, both in preventing behavioral situations and in transitions” (Lucy: Interview 5, March 18, 2002, 206 – 209). Lucy developed confidence in her ability to learn new content, plan, teach, and manage student behavior.

Marcy chose to respond to the question after the interview by providing a written paragraph. She stated that she learned behavior management strategies and how to be firm with enforcing the rules and routines of the classroom. Marcy also mentioned that she learned to provide feedback, how to write a unit and lesson plan, and how to implement her plans. Her final comments were, “I am much more confident than I was at first because of this experience. I also feel that I can probably teach almost anywhere due to the experience that I had” (Marcy: Written Document, Winter, 2002). Marcy gained confidence in her ability to teach over her 10-week experience.

Linus provided a brief answer during the interview, and then he reflected and supplied a written statement about how he developed over the 10-week experience.
Linus discovered that he learned five major lessons throughout his experience. He learned that as a teacher he must be flexible. Being flexible will allow the teacher to teach to the needs of the students. Linus also noted that, “... not every student learns at the same rate or by the same style of instruction” (Linus: Written Document, Winter, 2002). His third lesson was that a teacher must remain positive. His focus changed over the course of the 10-weeks by trying to “catch his students being good”, rather than scolding them for inappropriate behavior. Linus’ fourth lesson was to seek help from others. “The people who will lose out by not seeking help are you, and your students” (Linus: Written Document, Winter, 2002). Finally, he stressed that he learned that it is essential to plan and be prepared at all times. “I used to think that I could go into a classroom and just teach without having a lesson plan ready. I was dead wrong” (Linus: Written Document, Winter, 2002). Linus concluded that he thought physical education was not viewed as an important subject. When asked if he thought that could change he replied,

I think it will change when more effective teachers make sure that others understand the importance of physical education for all students. It is up to the people within the physical education profession to make that change. It is going to take a lot of work on the part of physical education teachers. I think it can change. (Linus: Interview 5, March 18, 2002, 229 – 235)

Linus is optimistic. Fortunately, he is also determined to help make that change!

Charles briefly explained how he changed after he reflected and supplied a written statement about how he developed over the 10-week experience. “I gained an overwhelming amount of knowledge and experience. I now understand where I am at in my professional development…” (Charles: Written Document, Winter, 2002). He continued on by explaining that over the course of his elementary experience his, “...
teaching changed from behavior management focused into focusing on the content development. This change occurred when I became more comfortable and had established my teaching..." (Charles: Written Document, Winter, 2002).

Sally supplied a written statement about how she developed over the 10-week experience. Sally explained how she learned how to deal with behavior management issues as well as to provide effective feedback. Sally gained confidence in her ability over the 10-week elementary teaching experience “I have changed tremendously since the beginning of the quarter. I now have more confidence in my teaching, which allows me to be more comfortable with giving instruction” (Sally: Written Document, Winter, 2002).

R.Q. 3 How did the preservice PETE teachers view they had learned the content/pedagogy?

Participants identified three venues where learning occurred: the university, the clinical education site, and the elementary school placement. While at the university the preservice PETE teachers acknowledged learning from receiving handouts and using texts, listening to lectures and participating in discussion, and by participating in activities in the gymnasium. The clinical education site was where the preservice PETE teachers had the opportunity to practice what they had learning through observation and activities. It was at the clinical education site, Sage Elementary School, where preservice PETE teachers observed Mr. Martin, the clinical educator, teach a class and then assisted in teaching the following classes. The elementary school placements differed for the preservice PETE teachers; some were placed in an urban setting, while others were in a 179
suburban setting. Preservice PETE teachers learned through observation and then by reflecting upon those observations and teaching.

Professional Resources

During the elementary experience, all preservice PETE teachers were expected to use a variety of resources, including required texts and handouts. The required texts, according to the course syllabus, consisted of: *Teaching Children's Physical Education: Becoming a Master Teacher* (Graham, 1992); *Case Studies in Physical Education* (Stroot, 2000); *Moving into the Future: National Standards for Physical Education* (NASPE, 1995); *Including Students with Disabilities in Regular Physical Education* (Block, 1994); *AMTP Pedagogy Course Study Guide* (Graham, 1992); and the AMTP content series consisting of: *Teaching Children Games: Becoming a Master Teacher* (Belka, 1994); *Teaching Children Movement Concepts and Skills: Becoming a Master Teacher* (Buschner, 1994); *Teaching Dance to Children: Becoming a Master Teacher* (Purcell, 1994); *Teaching Children Fitness: Becoming a Master Teacher* (Ratliffe & Ratliffe, 1994); and *Teaching Children Gymnastics: Becoming a Master Teacher* (Werner, 1994). Patty identified using the AMTP text series to study for the Praxis II exam when she stated,

[Dr. Peanut] took Praxis study topics from the AMPT series (Graham series). She took those five different books and we created questions from those books. Those AMTP content books cover fundamental motor skills and movement concepts, games, fitness, dance, and gymnastics. (Patty: Interview 5, March 18, 2002, 44 – 50)

Lucy commented that she found the AMTP texts to be useful as resources (Lucy: Stimulated Recall Chart, Winter, 2002).
Five of the six preservice PETE teachers recognized they learned from reading sources and required texts (listed previously) used at the university. Handouts received by the preservice PETE teachers presenting content topics included: national, state, and local standards, gymnastics; inclusion and meeting the needs of a diverse student body; TGMD; movement concepts; dance; grant writing; and sport law. Pedagogical topics presented in handouts were: organization and planning, unit planning; instructing and demonstrating; motor development primer; teaching styles; authentic assessment; developmental games; and work sample methodology. Whenever Marcy received a resource packet she commented, "[Dr. Peanut] gave us a really good resource packet (Marcy: Interview 3, February 18, 2002, 67), that she noted, could be used later. Lucy stated, "we had been given the handouts for the national standards, she gave us a main listing so we could be aware of..." (Lucy: Interview 1, January 17, 2002, 141 – 143). The list of standards was provided so Lucy could create her unit plan according to necessary standards. Patty explained that during their discussion on physical disabilities she was provided with a resource packet when she reported, "She [Dr. Peanut] gave us a resource, a handout, a very good handout. I'll certainly use that in the future. It explains the disability and related ideas you need to consider" (Patty: Interview 3, February 16, 2002, 48 – 51). Patty, as well as her peer preservice PETE teachers, noted that these resources were helpful during the elementary experience, but also would be quite useful to refer to in the future.
University

Lecture

While at the university teaching and learning occurred in two settings, in the
classroom and in the gymnasium. While in the classroom, lecture format and small group
work were the teaching strategies used most often. During the lecture format, class began
with a lecture from Dr. Peanut and then progressed into a discussion between the
preservice PETE teachers or into an activity. Preservice PETE teachers identified
content, pedagogy, and professional growth and development as information learned in
this context. Content areas recognized were: elementary internship requirements and
course syllabus; elementary school placement; goals, mission, and philosophy of
elementary physical education; diversity and multiculturalism; Test of Gross Motor
Development (TGMD) (Ulrich, 2000); fundamental motor skills; movement concepts;
gymnastics; dance; aerobics; and grant writing.

On the first day of the winter quarter, at Allentown University, the preservice
PETE teachers learned about the requirements of their elementary experience as well as
what elementary school placement they had received. Preservice PETE teachers also
participated in a discussion about the goals, mission, and philosophy of elementary
physical education. Lectures about diversity and multiculturalism regarding the
responsibilities of a teacher to provide an accepting classroom environment, what the
teacher must do to create this desired environment, and about Test of Gross Motor
Development (TGMD) and its’ administration occurred in the classroom at the university.
Fundamental motor skills, movement concepts, dance, aerobics, and games were
identified as being learned through presentation by Dr. Peanut, which were then practiced in the gymnasium.

Pedagogy topics acknowledged as being learned consisted of: developmentally and instructionally appropriate strategies and practices of elementary physical education; different teaching styles; current in-school experiences; student learning; assessment strategies; effective teaching characteristics; games and tactical approach; and work sample methodology.

Preservice PETE teachers commented they discussed different teaching styles (guided discovery, command, reciprocal, etc) and student learning, reflection on current teaching experiences (behavior management, planning, assessment). Assessment was discussed in terms of different strategies (authentic, skill continuum, self, peer, affective, cognitive, and psychomotor), the ease or difficulty of executing each strategy, and how the assessment tools could be adapted once implemented. The final lecture topics identified by the preservice PETE teachers were effective teaching characteristics and work sample methodology data analysis.

Activities

At the university many of the lecture topics on content, pedagogy, and professional growth and development progressed into activities involving small group work. Group work occurred in the classroom and the gymnasium. Group work in the classroom consisted of discussion and reflection on topics occurring in the elementary settings and solving real or simulated problems. Group work in the gymnasium provided preservice PETE teachers opportunities to practice the skills that are targeted for elementary physical education. Content areas identified by preservice PETE teachers as
turning from lecture into activity were: mission and philosophy of physical education; developmentally appropriate practice, fundamental motor skills, and movement concepts; gymnastics; and dance.

<table>
<thead>
<tr>
<th>Mission/Philosophy of Physical Education</th>
<th>Patty</th>
<th>Lucy</th>
<th>Marcy</th>
<th>Linus</th>
<th>Charles</th>
<th>Sally</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gymnastics</td>
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<td>✓</td>
<td>✓</td>
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<td>✓</td>
</tr>
<tr>
<td>Fundamental Motor Skills/Movement Concepts</td>
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<tr>
<td>Games and Tactical Approach</td>
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<td>✓</td>
<td>✓</td>
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</tr>
</tbody>
</table>

Table 4.19: University Activities for Content Topics Identified by Preservice PETE Teachers.

Classroom Activities

According to Marcy, on the first day of the 10-week elementary experience the preservice PETE teachers were asked to devise a five-minute speech to present to school board members who had decided to cut funding for physical education from the budget. This scenario was developed to allow Marcy and her cohort to explain the purpose, value, and worth of physical education and present this rationale to help save physical education.

Gymnasium Activities

Marcy declared she learned about developmentally appropriate practice, fundamental movement skills, and movement concepts through participating in small
group work and activities. When she learned movement concepts, Dr. Peanut had her perform movements in curved and straight pathways and at different levels. Linus and Marcy both mentioned learning fundamental motor skills by performing the stages and then developing a series of drills that identified the stage of the skill, cue words to use while teaching, and three developmentally appropriate tasks for a low and a high performing student. Marcy explained, “We worked on fundamental motor skills last week. We had to practice what we would do to perform the skill and identify what stages we would be in” (Marcy: Interview 1, January 17, 2002 159 – 161).

All six participants agreed they learned the content of gymnastics while participating in activities at the university. Sally’s comment about how she learned gymnastics typifies the other preservice PETE teachers’ answers when she discussed how she learned to perform, spot, and how to teach gymnastics. Comments made by Marcy specifically identified skills the preservice PETE teachers performed during the activity. The skills of forward/backward roll, handstand, headstand, cartwheel, round off, jumps, balance, partner and trio balances were modeled while the critical elements were noted, cue words were discussed, and lead-up games presented. Also, during gymnastics the preservice PETE teachers identified learning how to individualize instruction and how to spot individuals while performing the skills.

All six of the preservice PETE teachers commented that they learned dance through a group activity at the university. All participants partook in activities at the university to learn about a variety of dances including tinikling and floor aerobics that helped them learn techniques and strategies to teach these content areas. Preservice PETE teachers articulated they learned patterns and the basic step to tinikling. It was also
stated by all preservice PETE teachers that folk, creative, and social dance steps and patterns were learned (Interview 2, Winter 2002).

Pedagogy topics that progressed from lecture to activity consisted of: developmentally and instructionally appropriate practice; different teaching styles; reflection on teaching experiences; and games and the tactical approach to teaching.

<table>
<thead>
<tr>
<th>Developmentally Appropriate Practice</th>
<th>Patty</th>
<th>Lucy</th>
<th>Marcy</th>
<th>Linus</th>
<th>Charles</th>
<th>Sally</th>
</tr>
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<tbody>
<tr>
<td>Teaching Styles</td>
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</tbody>
</table>

Table 4.20: University Activities Pedagogy Topics Identified by Preservice PETE Teachers.

Classroom Activities for Pedagogy

All six of the preservice PETE teachers indicated they learned through reflection sessions held at the university. Reflection about assessment strategies, developing with-it-ness, and occurrences in the schools were reported. Linus, Lucy, and Sally’s comments resemble comments of the other three preservice PETE teachers. Linus recalled that he learned most from reflection times at the university with his preservice PETE student cohort when he stated,

"We did a reflection type seminar. We discussed what has been going on in our schools. It was pretty good. We talked about some of the problems that we have been having and trying to get some suggestions. ... It was good to talk about; it..."
was good to hear other people's suggestions. (Linus: Interview 4, March 1, 2002, 7-13)

Lucy commented that she and her preservice PETE student cohort formally met twice per week on the university campus to discuss the different school experiences occurring when she explained, "[we met] just to listen to our peers and hear what they are going through at their school sites" (Lucy: Interview 4, March 1, 2002, 21-22). Sally indicated that the reflection sessions at the university were helpful to her when she commented, "hearing other people's problems ... helps me" (Sally: Interview 4, March 1, 2002, 96-97). Lucy and Marcy stated they reflected upon assessment strategies while working in small groups at the university. Lucy mentioned they studied the assessment strategies developed, "We listened to each other talk about how we were evaluating the different techniques that we were using to assess the affective domain" (Lucy: Interview 3, February 15, 2002, 108-110). Lucy was the only participant to mention developing with-it-ness while participating in activities at the university. After her student teaching became full-time Lucy mentioned how she and her cohort formally met at the university and discussed school related issues when she stated, "we frequently talked about developing with-it-ness" (Lucy: Interview 3, February 15, 2002, 108-109).

Patty, Lucy, and Charles mentioned they learned behavior management strategies at the university while participating in a variety of activities. Lucy described an activity where the preservice PETE cohort joined together in small groups to solve problems presented to them when she stated, "... [We] discussed different behavior management issues again. They [Dr. Peanut and Mr. Martin] gave us different scenarios that people had written down. We sat down in groups of three and discussed how to solve the
problem presented” (Lucy: Interview 4, March 1, 2002, 88 – 91). Charles’ comment mirrors Lucy’s statement. Patty described the group work that occurred at the university and its’ importance to her when she commented, “we got in small groups and discussed a couple of the behavior management issues…. There were ideas that came up that I might not have thought of before on my own” (Patty: Interview 4, February 28, 2002, 31-34).

All six participants remembered participating in small group work to design their unit plans. Planning activities allowed the preservice PETE teachers to begin unit and lesson plans for their school sites. Marcy worked with Linus, Sally worked with Charles, and both Lucy and Patty worked with their peer student teacher and began designing their units by creating unit goals in all three domains (cognitive, psychomotor, and affective), creating a task analysis for each unit goal developed, and then planning a 10-minute activity. Sally mentioned that she worked with Charles, “Most of it is group work, like [Charles] and I work together because we are at the same school” (Sally: Interview 1, January 17, 2002, 128 – 129). The preservice PETE teachers worked together with their peer PETE student who was placed at the same school for all lesson and unit plan sessions.

**Gymnasium Activities for Pedagogy**

All six of the participants indicated they participated in an activity that enabled them to learn about developmentally appropriate practice. The preservice PETE teachers were provided handouts and texts, assigned an object control skill, and an age group. In small groups, the participants were asked to demonstrate and discuss the stages that they would expect to see with that age group, identify cognitive, psychomotor, and affective characteristics of the age group, and how they would instruct to this age group.
Lucy and Charles were in agreement that they learned about the different teaching styles while completing an activity at the university. Lucy stated she learned about the different teaching styles when she reported,

Last week we covered teaching styles. ... We actually had to get into groups and teach the class according to what style we were given. Our group was given guided discovery. We had to explain and teach how we would teach that in a lesson. (Lucy: Interview 2, February 1, 2002, 25-29)

Charles' comment supports Lucy's statement. Charles reported group work was used to learn different teaching styles at the university when he recounted,

We did a lab...or we acted the teaching styles out in a group setting. Each group would show a different teaching style. It was kind of worthwhile to see the different styles. It is one of those things where you recognized the teaching styles but you didn't know what they were called. And then once you see them, you realize "oh yeah, I know how to do that". (Charles: Interview 3, February 13, 2002, 78-83)

Both Lucy and Charles identified learning about the tactical approach to games when they participated in an activity at a clinical education site. Lucy's comment about the content of the activity mirrors Charles' comments when she stated, "We went over lead up games and the tactical approach. We went over how we would design lead up games and when we would teach tactics to the different grade level" (Lucy: Interview 3, February 15, 2002, written in comments).
Table 4.21: University Activities for Professional Development and Growth Topics Identified by Preservice PETE Teachers.

<table>
<thead>
<tr>
<th>Professional Development Topics</th>
<th>Patty</th>
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<th>Marcy</th>
<th>Linus</th>
<th>Charles</th>
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</tbody>
</table>

Classroom Activities

Professional growth and development topics identified by the preservice PETE teachers were: resume writing, interviewing, review for the Praxis II examination, and how to write a grant. When learning how to write a resume, Charles commented on how a peer reviewed and provided suggestions to improve the resume (Charles: Interview 1, January 17, 2002). All six of the preservice PETE teachers identified learning about interviewing techniques through participating in mock interviews. Marcy explained why she felt the mock interviewing was a good activity: “Mock interviews were good. I liked them because I got a feel for what I was supposed to do... what I should be doing” (Marcy: Interview 4, February 18, 2002, 112 – 113). Marcy’s comment was representative of the other five preservice PETE teachers.

While preparing for the Praxis II examination in small groups, both content and pedagogy were mentioned as being learned by Patty, Lucy, and Marcy. Marcy explained how she and her cohort developed questions and then played a “jeopardy” style game to
help prepare for their upcoming examination. Praxis II examination questions were
developed from the AMTP content series and pedagogy information.

Patty, Marcy, and Charles mentioned they learned how to write a grant by
completing a group assignment. Charles’ comment succinctly presents how the
preservice PETE teachers participated in the grant writing activity when he reported,
“She [guest speaker] put us through a little grant writing workshop where we worked in a
group and had 10 minutes to write up a small grant idea” (Charles: Interview 5, March

Clinical Education

During the elementary experience, Mr. Martin, a clinical educator, worked with
the preservice PETE teachers at his school site, Sage Elementary School. Learning
occurred both through observation and activities. Once a lecture or reading about the
topic occurred, the preservice PETE teachers went to their clinical educator’s school site
to observe. While at Sage Elementary School, preservice PETE teachers observed a
lesson by Mr. Martin, then worked in either pairs or groups of three to assist teaching the
next class, thus allowing the preservice PETE teachers to apply the content and pedagogy
they had learned to an elementary population. Linus was the only participant who did not
mention learning content or pedagogy by visiting a clinical education site.
Table 4.22: Clinical Education Site Activities for Topics Identified by Preservice PETE Teachers.

<table>
<thead>
<tr>
<th>Rules, Routines, and Expectations Developmentally Appropriate Practice</th>
<th>Patty</th>
<th>Lucy</th>
<th>Marcy</th>
<th>Linus</th>
<th>Charles</th>
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</table>

Patty, Lucy, Marcy, Charles, and Sally all identified activities to learn content and pedagogy at the clinical education site. Patty noted that she had the opportunity, at Sage Elementary School, to observe content and pedagogy that she learned in the university classroom. “We really have gone over all of the things that we’ve talked about in the clinical setting ... (Patty: Interview 1, January 17, 2002, 184 – 185). Marcy also mentioned that she observed pedagogy and content learned in the classroom being demonstrated through practice when she visited Sage Elementary School. Marcy saw the rules, routines, and expectations that Mr. Martin (clinical educator) had implemented. She stated, “We’ve seen him do rules, routines, and expectations, and grouping activities with his students” (Sally: Interview 4, March 1, 2002, 17 – 20).

Charles, Lucy, Marcy, and Sally agreed they learned about pedagogical skills and progressions at the clinical education site. Charles mentioned that at Sage Elementary School he had the opportunity to teach when he stated, “We taught a skill at [Sage Elementary School]. Not many people were sure about cues and progressions. Once we
went over that I think it cleared a lot of it up” (Charles: Interview 3, February 13, 2002, 35-38). A statement by Marcy represents what tasks she, Lucy, Sally, and Charles completed when she recounted, “…We assisted. They told us what we needed to do. The students were in stations and then we helped with those stations” (Marcy: Interview 1, January 17, 2002, 24–25). As the 10-week elementary experience progressed Marcy continued to explain that the preservice PETE teachers were asked to plan and teach skills when she stated, “At [Sage Elementary School] we actually had to teach skills …” (Marcy: Interview 1, January, 17, 2002, 164-165). Charles extended the discussion when he commented, “Tuesday we were at [Mr. Martin’s]. That day we worked on a juggling continuum and we practiced our teaching skills with the kids when we taught the punt, the kick, and the underhand roll (Charles: Interview 3, February, 13, 2002, 121-123). Sally explained how every Tuesday she and her preservice PETE student cohort met at a clinical education site (Sage Elementary School) when she reported:

Tuesday we went to [Mr. Martin's] and we learned pretty much the same things—assessment and progressions. We saw juggling. Whenever they were juggling we had to test them and assess them as they were juggling. (Sally: Interview 3, February 14, 2002, 111-116)

Skills that Marcy, Lucy, Sally, and Charles identified teaching and assessing were floor hockey, juggling, jump rope, throwing, catching, kicking, and punting. Sally and Charles were the only participants who specifically mentioned they learned the content of juggling and jumping rope while visiting the clinical education site. Juggling and jumping rope were the sessions where preservice PETE teachers practiced assessment strategies.

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Lucy indicated she learned fundamental motor skills at Sage Elementary School. By participating at Sage Elementary School, Lucy had the opportunity to put her university classroom experiences to practice. Lucy had the opportunity to teach a kindergarten class the different skills of throwing, kicking, and catching by first identifying what stage the kindergartner was at, and then developing activities with logical progressions to help the kindergartner acquire the skills (Lucy: Interview 2, February 1, 2002).

At the clinical education site, four of the six preservice PETE teachers indicated they learned about assessment strategies. Neither Lucy nor Linus mentioned they learned assessment strategies at the clinical education site. At the clinical education site [Sage Elementary School] and while working with the clinical educator, Mr. Martin, Charles had many opportunities to learn assessment strategies. At Sage Elementary School Charles was given the opportunity to work with material that he had learned in the classroom. He discussed how a topic was presented at the university and then the preservice PETE teachers had the opportunity to practice it with Mr. Martin at his school. Charles explained how an assessment activity was performed when he stated, “Sometimes we get prompted to do an assessment for the student …” (Charles: Interview 3, February 13, 2002, 128). Patty noted that small group work occurred when she visited Sage Elementary School (clinical education site),

In one of our clinical visits to [Sage Elementary School] we were working with the students in a floor hockey unit. We came up with a couple of different types of assessment. My group did a checklist using criteria that we identified to be assessed during the performance of the game. We did a checklist for 6th graders so we came up with a four-question test about rules and how they would handle being called for a penalty…affective type questions. (Patty: Interview 2, January 31, 2002. 6-12)
Marcy explained she learned about creating and implementing assessment tools, “We have practiced using assessment tools. We had to make up our own assessment tools” (Marcy: Interview 1, January 17, 2002, 126 – 127). At Sage Elementary School Marcy was asked to create and implement assessment tools for a floor hockey unit, kicking, punting, throwing, catching, jumping rope, and juggling. Marcy was then asked to teach floor hockey, kicking, punting, throwing, catching, jumping rope, and juggling to a variety of grade and skill levels while using the assessment tools she created. Marcy developed assessment tools to identify entry behaviors and exit behaviors. She learned and used the concept of a skill continuum to teach and assess juggling and jumping rope while at Sage Elementary School.

Elementary School Placement

The preservice PETE teachers were placed in an elementary school site for a 10-week field experience. The first five weeks the preservice PETE teachers attended the elementary school site for half days. During the last five weeks, the sixth through the tenth weeks, preservice PETE teachers spent the entire days at the school site. Preservice PETE teachers learned in the elementary school placement through observation and teaching.

Observation

Observation occurred both at the clinical education site and at the elementary school placement. Several of the preservice PETE teachers commented on how they learned through observing, their peer student teacher or their cooperating teacher, at their
elementary school site. When asked how he learned, Linus spoke of how he learned prior
to entering the PETE program when he stated,

> I think you pick up a lot of things from the teachers you have had in the past. Not specific information from a class, but ideas and materials from a previously taken class. Mostly, I am thinking about things that my [instructors] did. The way it was presented to us. (Linus: Interview 1, January 17, 2002, 30 – 33)

Linus also learned through observing his cooperating teacher throughout his 10-week elementary experience. He stated he learned when he observed how his cooperating teacher implemented specific behavior management strategies in her classroom,

> Seeing how she (cooperating teacher) deals with it. Now that I have had the opportunity to take over her classes and to learn from her, I have learned that there are certain students who are more of a handful than others. I have observed how she deals with those students using different strategies; it has been helpful. (Linus: Interview 2, January 30, 2002, 117 – 122)

Linus continued to describe how he learned from his cooperating teacher, but this time he identified learning how to plan when he stated, “I have learned how she does her lesson plans. Instead of just sitting around in class talking about them, ... actually seeing the teacher getting her plans organized and units organized” (Linus: Interview 2, January 30, 2002, 122 – 125). Charles also stated he learned from observing his cooperating teacher, “By watching the cooperating teacher in action. Things that she noticed, that I would have never thought of. Three to four weeks later I am more aware of what is going on in the gymnasium” (Charles: Interview 2, January 31, 2002, 29 – 32) and “we get to see how she handles different situations” (Charles: Interview 2, January, 31, 2002, 35- 36).

Sally too commented she learned from her cooperating teacher,

> I have learned how to do assessments from observing my cooperating teacher. She does assessment at the end of her lesson by asking her students to raise one finger for yes, and two fingers for no in response to her question. I have learned

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how to do a quick affective assessment. (Sally: Interview 2, January 31, 2002, 15 –22)

Activities

It is important to note that all participants, throughout their 10-week elementary experience, mentioned they worked with their peer preservice PETE teacher at their school site. The peers worked together in planning their lessons, unit, and assessments. They also discussed behavior management strategies before and after their classes. All six of the participants found that they learned from working with their peer (group work) at the elementary school site, whether it was from discussions, reflections, or observations they found they learned from each other.

Having concern about their ability to teach, both Marcy and Lucy identified that opportunities to practice teaching were instrumental in their development as a teacher. It is important to note that neither Marcy nor Lucy had majored in physical education nor completed their undergraduate program at Allentown University. Marcy and Lucy both expressed a concern about their ability to perform in front of a group of students. At her school site Marcy indicated she had plenty of opportunity for hands-on learning. Marcy stated she felt confident with learning the content, however she was worried about her pedagogical skills when she reported,

I like being out there so much better. One of my biggest concerns was, would I be able to teach? I had never done it before. I like taking the theory that we have learned and applying it. (Marcy: Interview 3, February 18, 2002, 171 – 174)

Marcy clarified why practicing teaching was helpful to her; “A lot of what I see is helpful, because I've never had it before. Being out in the schools and being able to teach and get feedback helped me. Practicing everyday has been extremely helpful for me”
Marcy continued to explain that she would rather learn from doing, rather than do simulated practice by teaching her peers, “Just get me out into the school and let me do it. You know what I mean. I am not a big practice person” (Marcy: Interview 3, February 18, 2002, 115-116). Marcy provided an example of why learning at her school setting was thought to be more beneficial when she commented,

I see how it applies more and how you have to be realistic about what to expect out in the real world. In the classroom you learn about how the perfect world could be, but when you are out there, and I'm in a really urban setting, you have to adjust. I have some real behavioral issues and some time constraints. For example, I think that my first graders are going to be at the same level as my fifth graders when we do our assessment, it's not supposed to be that way, but unfortunately it is. So you learn about how to actually work in these settings. (Marcy: Interview 1, January 17, 2002, 186 - 194)

Lucy explained how theory and content were used when she reported, “The content and theory has definitely helped me, less at the university, and more out in schools. I need practical, authentic experience” (Lucy: Interview 1, January 17, 2002, 173 - 175). Lucy thought being out in the school practicing teaching was extremely relevant during the first two weeks when she stated,

I think that the most important thing is actually doing it. It is being in front of the class and leading it. Up until now we haven't had that and I think we should have had that autumn quarter definitely. For me, personally, it was a good experience. (Lucy: Interview 1, January 17, 2002, 160 - 163).

Linus found that he too learned better by actually being at the school site when he commented, “personally I learn better that way, by actually getting in and doing it” (Interview 1, Jan. 17, 2002, 73 – 74). He mentioned that he learned from his cooperating teacher when he reported,
A lot of what I've learned so far has come from my cooperating teacher. She's been very, very hands-on from the first time we went in there. The very first class we were in there we got to jump in a little bit. I mean she's got us in, she's shown us lot of things that she does as a teacher that are very helpful. That's where I'd say I've learned the most. (Linus: Interview 1, January 17, 2002, 196 –201)

Reflecting upon his student teaching Linus stated, “I am a practical kind of person. Those were real experiences working with students” (Linus: Interview 2, January 30, 2002, 35 – 36). Linus summed up his thoughts on the best way of learning,

There are just some things that we have to learn by going through it...for you. You can only get so much advice. It's something you have to experience. To have the experience out there has been great to this point and I would not change anything about it. (Linus: Interview 4, March 1, 2002, 190 – 194)

Linus continually learned from interacting with his cooperating teacher and his peer student teacher. Patty explained how she learned the best when she recounted,

I probably have learned more at my school site, and that's because I learn by doing. Not that what we are doing here in lectures and handouts is not useful, it certainly is. And I use it; I just use it more as resources. (Patty: Interview 2, January 31, 2002, 44 – 47)

When explaining where she learned the most, Sally stated: “I learn more through experience. In student teaching, I am learning every day. A different occurrence happens everyday so you learn from those” (Sally: Interview 2, February 30, 2002, 50 – 52). Sally realized that she learned the most while practicing teaching.

Another area where preservice PETE teachers learned from group work at the elementary school site was when they received feedback on their teaching skills from their peer student teacher and cooperating teacher. Charles commented that he liked working with his peer and cohort, “We've been working together a lot with our partners and our cohorts on things. You know that's been really good for us” (Charles: Interview 1, January 17, 2002, 208 – 210). Marcy mentioned that she received written comments

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and data collected on her teaching from her peer student teacher, university supervisor, and cooperating teacher that helped her with her pedagogical content knowledge (Goals and Reflections Assignment, February 15, 2002). Marcy’s final comment about how she learned at her school site involved her cooperating teacher, “She [cooperating teacher] has been really good. She has given us ideas and given us feedback” (Marcy: Interview 3, February 18, 2002, 176 – 177). Lucy also mentioned that working with others at her school site was also very helpful when she reported, “Having different supervisors has helped a lot. My cooperating teacher, university supervisor, and Dr. [Peanut] are all helpful because they have all given me different types of feedback. That has helped a lot” (Lucy: Interview 3, February 15, 2002, 90 – 93). By interacting with others Lucy felt that her learning was enhanced. Linus also commented on his learning from feedback once he began instructing the classes himself, “I have learned some things from my cooperating teacher that are helpful. As far as performing skills, I’ve got a lot of good feedback from my cooperating teacher” (Linus: Interview 3, February 19, 2002, 235 – 237). Lucy commented on developing with-it-ness from working with her peer at her school site when she reported,

This week being in the schools and teaching is the most important. How to develop with-it-ness by watching my peer and seeing what is going on, seeing what she hasn’t noticed and then why she is not noticing it, and knowing that I am probably doing the same thing. [And realizing] next time I am teaching I need to do this. [We are] helping each other to see something [we are not seeing] and understand why we are not seeing it. (Lucy: Interview 3, February 15, 2002, 79 – 85)

Sally was quick to state that she learned behavior management strategies while completing group work at her site. Linus learned the importance of gaining classroom control. He indicated that he had several classes in the beginning of his student teaching
experience were he lacked classroom control. Marcy, who was placed at the same elementary school as Linus, also acknowledged she had difficulty with gaining classroom control. She decided that both her and Linus needed to have clear starting and stopping signals in their classroom. The school site appeared to be the location where Sally leaned an abundance of material through experiences and observing,

Within the school I learned a lot about behavior management, what steps to take, when to sit them out. I learned a lot through doing notes on each other...[Charles] takes notes on me. For example, to be clear and specific, he will write it down if I am not clear. (Sally: Interview 2, January 31, 2002, 15 -18)

Patty indicated she learned how to apply skills and reflect upon her teaching while participating in group work at her site. When she explained,

I have learned an incredible amount of information in the school about teaching techniques and trying different things. If they don't work we [cooperating teacher, peer student teacher, and self] talk about it. We talk about what might work better. Anything that has to do with teaching I am learning it. (Patty: Interview 2, January 31, 2002, 26-30)

Sally commented that she learned from having her peer observe her while she was teaching and then discussing it with him when she stated, “I learned a lot through...we do notes on each other” (Sally: Interview 2, January 31, 2002, 17 – 19).

Summary

Preservice PETE teachers noted learning content, pedagogy, and professional growth and development knowledge in three different venues: the university, clinical education site, and their elementary school placements. Five of the six participants identified learning from listening to lecture and receiving resource packets or handouts at the university. The participants also learned from performing observations on a variety of people: cooperating teacher, peer student teacher, self, or their previous teachers
(apprenticeship of observation). Overall, the participants identified learning at their elementary school placement had the largest influence upon them. All six participants viewed they learned the most while interacting in the field and practicing teaching.

**R.Q.4 To what extent did preservice PETE teachers view the content/pedagogy to be relevant in their ability to teach elementary physical education?**

Through the interview process, five themes emerged as preservice PETE teachers discussed when content and/or pedagogy became relevant to their teaching. These themes related to whether content or pedagogy had immediate relevance or future relevance, and whether material was presented numerous times or not thoroughly enough. In addition, these preservice PETE teachers provided suggestions that they thought would make the content and/or pedagogy more relevant. Table 4.23 summarizes the responses of the individual preservice PETE teachers as they responded to the question of relevance based on their elementary placements.

<table>
<thead>
<tr>
<th>Immediate Relevance</th>
<th>Patty</th>
<th>Lucy</th>
<th>Marcy</th>
<th>Linus</th>
<th>Charles</th>
<th>Sally</th>
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Table 4.23: Themes that Emerged.
Immediate Relevance

Preservice PETE teachers displayed positive behaviors whenever they identified content or pedagogy that they could make immediately relevant. Table 4.24 identifies topics that preservice PETE teachers identified as having immediate relevance. Content topics became relevant to students when they could immediately use or visualize the content being used in a classroom setting.

<table>
<thead>
<tr>
<th>Fundamental Motor Skills</th>
<th>Patty</th>
<th>Lucy</th>
<th>Marcy</th>
<th>Linus</th>
<th>Charles</th>
<th>Sally</th>
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Table 4.24: Topics of Immediate Relevance Identified by Preservice PETE Teachers.

Charles quite openly and clearly stated why some content areas were more important to others to preservice teachers, “Materials that dealt with certain units: dance, gymnastics, motor, movement concepts...impact you because those are units that you are going to do. They helped us learn how to transfer knowledge into teaching methods. That was helpful” (Charles: Interview 3, February 13, 2002, 156 – 160). He extended the conversation “... You worry about your own situation right now” (Charles: Interview 3,
February 13, 2002, 179 – 180). Something that helped one preservice PETE student did not necessarily help another during their elementary experience. Patty commented, “All content and pedagogy is important, just some items have more relevance than others due to present circumstances” (Patty: Stimulated Recall Chart, Winter, 2002).

**Fundamental Motor Skills**

Patty and Marcy identified an understanding of fundamental motor skills as necessary for any elementary physical education teacher. Marcy stated that fundamental motor skills were important. “We need to know the motor development stages that our students are in when we are trying to assess what we need to teach them. The way to do that is to look at the motor skills” (Marcy: Interview 3, February 18, 2002, 7 – 10).

Patty’s rationale for why fundamental motor skills were important differed from Marcy’s. Patty assisted and taught several units while at her school, one of them being fundamental motor skills.

I happen to be teaching a fundamental motor skills unit so it is more practically useful right now. Plus, I had taken motor development a few years ago so it was good to review, even though we did it at a quick pace. It brought things back to my memory. I am able to apply it right now. (Patty: Interview 3, February 16, 2002, 18 – 23)

**Children with Disabilities**

Patty was the only preservice PETE teacher to mention the children with disabilities information was relevant. While teaching Patty had several students with disabilities in her classes, therefore Patty found the discussion about IEP’s and inclusion to be helpful. “I have students with disabilities that are included in my physical education class now. She [guest speaker] talked about modifying tasks to still involve those students” (Patty: Interview 4, February 28, 2002, 11 – 13).
Gymnastics

Marcy, Linus, and Charles stated that gymnastics were relevant to their teaching. Three preservice PETE teachers were teaching a gymnastics unit during their elementary experience and all agreed that gymnastics was relevant to their teaching. Linus and Marcy were teaching a gymnastics unit at their school. Linus commented he was teaching gymnastics, but Marcy was more descriptive when she noted gymnastics was a new and important content to her. “Gymnastics was very helpful for me because we are teaching gymnastics and I did not know that much about it” (Marcy: Interview 2, January 31, 2002, 61 – 62). Because Marcy had not completed a course in gymnastics during her undergraduate program Mary continually noted the significance of gymnastics. “It was meaningful for me because I needed to understand what I was teaching” (Marcy: Interview 3, February 18, 2002, 36 – 37). Charles began his student teaching experience in the middle of his cooperating teacher’s gymnastics unit.

Even though I have had gymnastics in undergraduate school and understood things very well, I found the gymnastic unit helpful. I was teaching it at my site at the time. I had a decent background as far as knowledge of skills and a lot of the critical elements. But, she [Dr. Peanut] showed a lot of progressions and connections that made sense. (Charles: Interview 3, February 13, 2002, 48 – 52).

Each of the three areas (content and pedagogy) of sport law, behavior management strategies, and with-it-ness (teaching) were identified by only one of the preservice PETE teachers. Marcy was the only participant to acknowledge the content of sport law as being relevant to her ability to teach. Marcy tied the sport law content to her gymnastics unit in relation to safety when she stated, “It pertained to what we were doing with gymnastics” (Marcy: Interview 5, March 14, 2002, 4 – 6). Linus mentioned that learning different behavior management strategies was relevant to his ability to teach; it
was a big issue for Linus at his school site. Linus listened intently and participated often in the discussions about behavior management strategies. “A lot of behavior management issues have come up quite frequently at the school where I am practice teaching” (Linus: Interview 1, January 17, 2002, 168 – 169). Linus also identified “with-it-ness” as being important to his teaching experience. Several behavior management discussions with his preservice PETE student cohort dealt with the development of with-it-ness.

Planning

Five of the six participants listed planning as being relevant to their ability to teach. The reasons why planning became relevant differed between the five participants, yet had a similar undertone. Planning helped the preservice PETE teachers to be organized, set goals and objectives, and design activities to achieve success.

Lucy expressed the importance of planning. “I realized that it is very important and that it needs to be well done in order to have a good program” (Lucy: Interview 3, February 15, 2002, 46 – 48). Along the same lines, Charles stated that planning was important when he commented, “Planning is very important to me...very important to any teacher. It is important to have proper lesson plans because you always need to know where you are going” (Charles: Interview 3, February 13, 2002, 6 – 7). Patty discussed how planning lessons and units were helpful to her. “Planning is going to make me more organized and be able to do more with what I am actually trying to accomplish with this unit” (Patty: Interview 1, January 17, 2002, 194 – 198). Marcy mentioned that planning her unit, block, and lessons helped her while she was teaching. Sally specifically mentioned how planning a lesson helped her timing. Without planning Sally realized that...
her teaching would not be as efficient or effective. Sally continued to differentiate
between how planning a lesson and a unit were helpful.

The lesson plans are helpful because they help me plan what I am going to do that
day. The unit plan is a lot. I'm sure I probably won't do the task analysis as a
teacher. But that helps with the progressions, helps me learn them. So it is
helpful for now. (Sally: Interview 3, February 14, 2002, 39 – 43)

Linus had a different slant on the relevance of lesson and unit planning and the impact on
his ability to teach.

It was good experience writing lesson plans. I mean with not ever teaching before
I am finding myself having to adapt my lesson. For example, I'll be in class going
along with my lesson plan and I see something that would work better than what I
have and I do that. The lesson plans give me a place to start ... I know that I will
continue to change them. (Linus: Interview 3, February 19, 2002, 31 – 38)

Assessment and Evaluation

Five of the six preservice PETE teachers identified assessment as having an
influence on their ability to teach. Students began to realize that the only way to
accurately identify if their teaching was effective was to continually do assessment and
evaluation of student learning. Patty indicated that she found assessment and evaluation
to be particularly relevant when she commented, “…assessment has become clear now
that I have my own unit that I can apply it to. It is more real” (Patty: Interview 2, January
31, 2002, 18 – 20). Throughout the 10-week elementary experience Patty continued to
remark on how important assessment and evaluation was to her teaching. After
completing several sessions of learning different assessment strategies, Patty made sense
of some things that have been confusing to her before.

Maybe it's just because I am in the midst of teaching now and so.... I literally
went home and created some things and applied some things that I learned that
evening. It wasn't necessarily anything new. I just could apply it immediately.
(Patty: Interview 3, February 16, 2002, 111 – 116)
Assessment was important to Marcy because it allowed her to identify at what level her students were performing and to identify areas in need of improvement so she could help her students make progress. Development of three assessment domains (cognitive, psychomotor, and affective) and authentic assessment strategies were indicated by Marcy to be helpful (Marcy: February 18, 2002). “I will use these assessments when I teach” (Marcy: Stimulated Recall Chart, Winter, 2002). Linus stated that assessment was immediately relevant to his teaching when he commented, “I am trying to do assessment right now, even as I am writing my unit. Once I decide what is important, then I need to develop a way to see if I meet my objectives” (Linus: Interview 3, February 19, 2002, 46 – 47). Assessment was also an important issue for Charles. Charles explained why assessment was important to him.

Assessment is important because you need to find ways to evaluate your students. You can't bring students in and not have a way to assess them. It's not fair to give them a grade without holding them accountable for and relating it to what you expected them to accomplish in the class. (Charles: Interview 3, February 13, 2002, 24 – 28)

He prolonged the conversation by explaining why a continued focus on assessment was welcomed. “Assessment work was helpful because I think a lot of us are botching the assessment right now, and maybe even are a little behind. We are having a tough time with it” (Charles: Interview 3, February 13, 2002, 161 – 163). According to the course syllabus assessment was a huge portion of the work sample assignment that Charles and his cohort needed to complete for their culminating project for the elementary experience.

Sally was the only preservice PETE student who did not record assessment as relevant to her ability to teach.
Future Relevance

Patty, Marcy, Lucy and Sally believed that learning content or pedagogy for future relevance was important. They realized that not everything can have immediate relevance and considered their university knowledge as important for classes or situations they would encounter at some other time. Of the identified areas, no more than two of the preservice PETE teachers agreed on the importance of the future relevance of any of the topics discussed.

<table>
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<th>Grant Writing</th>
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<th>Marcy</th>
<th>Linus</th>
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Table 4.25: Topics of Future Relevance Identified by Preservice PETE Teachers.

There were two preservice PETE teachers, Marcy and Sally, that felt grant writing would be relevant when they procured jobs. Though Sally realized that grant writing could be relevant to her in the future, she noted grant writing did not have much meaning to her at this time. “The timing of the lecture was not all that great, because, at the current time we are worried about getting a job. Without a job we cannot write a grant” (Sally: Interview 5, March 15, 2002, 128 – 130) and “grant writing is not high on my
priority list right now” (Sally: Interview 5, March 15, 2002, 144 –145). Sally continued on to state, “grant writing will be more important in a couple years” (Sally: Stimulated Recall Chart, Winter, 2002). Marcy agreed that grant writing, “… will be useful for the future!” (Marcy: Stimulated Recall Chart, Winter, 2002). They both realized that grant writing would be relevant after they procured jobs when they could write grants to apply for monetary or equipment assistance.

All other categories that were earmarked for future relevance were only identified by one of the preservice PETE teachers. Patty indicated that gymnastics would be relevant if she were employed at an elementary school. Even though Patty did not find gymnastics to be relevant at the current time, she could see how it would help her in the future. Gymnastics was not taught at her school during her elementary experience, however Patty reflected, “… it is one of those situations when next year when I am teaching and I am required to teach a gymnastics unit, that it will become very helpful” (Patty: Interview 3, February 16, 2002, 10–12). Sally was the only preservice PETE teacher to mention that fundamental motor skills (FMS) were not relevant in the present, but would be in the future. She discussed a FMS session she attended when she commented, “…we were doing different levels, and it was definitely helpful. But I am not currently teaching this material” (Sally: Interview 3, February 14, 2002, 59 – 60).

Patty realized that the sport law content would be extremely important to her in the future. She explained the sport law presentation prepared her to be an informed teacher. “The sport law discussion gave me information to be aware of what we will be held accountable for and what we should be held accountable to. The information explained how to protect myself and my students” (Patty: Interview 5, March 18, 2002, 11 – 15).
Lucy was the only preservice PETE student to acknowledge planning would continue to be relevant in her future while teaching. Lucy indicated that writing objectives and aligning them to the national, state, and local school district’s standards was important at the current time and would be in the future. “When I begin teaching, knowing how to write objectives will allow me to write my curriculum with developmentally appropriate objectives” (Lucy: Interview 2, February 1, 2002, 64 – 68). Lucy’s understanding of the importance of planning demonstrates she was thinking of transferring her knowledge past her elementary internship experience.

Sally identified the different teaching styles and explained why she did not find them relevant when she stated, “It is was interesting learning the different styles, however right now that is over my head. I can’t think of that right now. I need to think about what I am actually doing” (Sally: Interview 3, February 14, 2002, 48 – 50). However, Sally did understand the importance of reflecting on behavior management strategies that could be used in the school sites. She admitted she could not, at this time, apply these techniques. She did however mention that listening to her peers helped her when she reported,

...Some issues that people have at their schools are helpful. But right now we are thinking about our schools. What [Linus and Marcy] go through at a city school is very different than what is happening at my school site. (Sally: Interview 4, March 1, 2002, 20 – 23)

Suggestions to Make Relevant

In this section preservice PETE teachers gave suggestions on how to make the content and pedagogy that they learned have more relevance for them. Table 4.26 summarizes areas where the preservice teachers made suggestions for changes.
<table>
<thead>
<tr>
<th>Planning</th>
<th>Patty</th>
<th>Lucy</th>
<th>Marcy</th>
<th>Linus</th>
<th>Charles</th>
<th>Sally</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
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<td></td>
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</tr>
<tr>
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</tr>
<tr>
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<td>✓</td>
<td></td>
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<tr>
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<td></td>
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</tbody>
</table>

Table 4.26: Suggestions by Preservice PETE Teachers to Make Content and Pedagogy More Relevant.

In some cases the suggestions were a change in how the content and pedagogy were presented and in other cases it was the timing of the content and pedagogy presentation. Sally suggested that planning be approached in a slightly different manner. She suggested planning should be mastered before moving on to use class time to learn dance and other content knowledge. Sally felt that she was still working on her unit plan when she had to start teaching the students. “It would be more helpful to spend time actually getting plans correct instead of rushing in to teach the activity. I’m sure that would help me!” (Sally: Interview 3, February 14, 2002, 95 – 98). Sally continued, “...or if we got the unit plan out of the way and had everything corrected by starting that earlier. Then teaching the dances wouldn't seem so pointless” (Sally: Interview 3, February 14, 2002, 105 – 107). Sally suggested that the presentation of material to the preservice PETE teachers be re-thought and additional time be given to the planning of lessons and units.
Marcy and Charles felt modification could be made with the presentation of the assessment activities completed at the clinical education sites. Marcy discussed how difficult it was to observe and practice assessment strategies at the clinical education site because of the large number of preservice PETE teachers at the site. Marcy suggested making a change in how opportunities to practice assessment occurred. “Maybe break the assessment into two sessions, or divide us into groups where we are teaching or helping. Then during the next two classes, we could take turns instructing the students” (Marcy: Interview 3, February 18, 2002, 159 – 162). Charles requested more time to develop and practice using assessment tools. At times he felt rushed through his learning and did not have adequate time to develop, implement, and improve the instrument that he developed. He gave a rationale and suggestions on how to supplement the already presented material when he stated,

Sometimes we get prompted to do an assessment for the student and we may only get to run through it one time. I would like to have multiple classes were I could adjust my assessment instrument; where I could teach a skill or tactic to one class and then follow up with the next class and maybe improve upon what I am doing. Trying to adjust and adapt the assessment instrument would be helpful. Instead, we rush on to something completely different. (Charles: Interview 3, February 13, 2002, 128 – 134)

Charles realized that his first attempt at assessment may not be successful, and he wanted more time to adjust the tool to better meet the needs of the skills, student, and task.

Linus and Sally suggested that learning through peer teaching was less meaningful than learning by practicing with the intended population. Linus discussed his belief on practice teaching with his peers when he stated, “Often peer work lacks meaning” (Linus: Stimulated Recall Chart, Winter, 2002). He felt that in order to become proficient at a skill one should practice with the population with which it would
be used. Sally commented about practicing strategies of grouping and pairing with her peers. She noted it was not as important to practice grouping and pairing strategies with her peers, as it was to practice these strategies at the clinical site with the intended population (Sally: Interview 4, March 1, 2002, 18 – 19).

Lucy and Linus suggested a more hands on approach to learn how to adapt activities for students with disabilities was needed. Lucy wanted more practice in writing individual education plans (IEP’s) for students with disabilities. She provided a suggestion about how to learn about IEP’s. “Writing IEP’s or seeing examples of actual IEP’s for students with disabilities would be helpful.” (Lucy: Stimulated Recall Chart, Winter, 2002). Lucy extended the discussion on modifying tasks for students with disabilities. “The disability information was way too general! We need more specific information on how to design tasks” (Lucy: Stimulated Recall Chart, Winter, 2002).

When learning about disabilities Linus suggested that it would be beneficial to see an adapted physical education class and to see how to adapt and implement activities for populations with disabilities. “What would be more beneficial is see some classes with the adapted physical education (APE) students and to see how the teachers include those students in their classes” (Linus: Interview 3, February 19, 2002, 122 – 127). Linus made a similar suggestion about how to present information about specific disabilities so that the content would be more relevant and beneficial to the preservice PETE teacher. “Again, for the disabilities work, I think it would be beneficial to visit places. Repetition in class does help you, but until you actually experience it, you really don’t understand it” (Linus: Interview 4, March 1, 2002, 136 – 139). Linus and Lucy realized that disabilities
occur in many contexts, and with the knowledge that people learn differently they suggested visiting and seeing real examples of IEP's in action.

Patty indicated she needed a more explicit link between the different teaching styles and the different learning styles. During the interview Patty participated in a discussion about the different teaching styles and how they were presented to her. She expressed some ambivalence about learning a number of different teaching styles. She indicated that when she recognized a particular teaching style she said, “that’s me!” And now I know what is called. However, it might be good to see the different teaching styles being used so that we can be aware of them” (Patty: Interview 3. February 16, 2002, 76 – 85). Patty was asked that since she now had greater knowledge of teaching styles could she use this knowledge during her teaching when a student was not being receptive to her style. After a moment of thought, she replied,

I don't even think that taking these different teaching styles and applying it to the different styles of learning of the students was mentioned. To me those two were not connected. I felt like we just talked about different teaching styles but we did not connect the piece about whether a student learns better with a particular style. I think that would be helpful. (Patty: Interview 3, February 16, 2002, 76 –100)

Being able to connect the pieces of the PETE experience appeared to be important to Patty. Patty suggested that a more concrete and overt attempt to link these two topics would assist her in her development.

Linus suggested that the format used for behavior management reflection be changed. He suggested that each pair of teachers should have an allotted time to discuss their issues. “Learning more about behavior management issues would have been helpful. I think that 20-30 minutes set up with each pair of teachers would help” (Linus: Interview 4, March 1, 2002, 92 – 94). Linus mentioned that he and his peer student teacher had
many behavioral issues at their school and they needed time to discuss and receive suggestions on how to deal with inappropriate behaviors.

Linus also suggested having different clinical education sites that the cohort could visit. He commented that at their clinical education site they always saw the “perfect” setting and it was difficult to translate that information into an “imperfect” setting.

We all have said that everything we see is perfect, the perfect situation. It is good to see, because it is effective. How do I deal with an imperfect situation? For example, how do I teach gymnastics unit with many children and only four mats? (Linus: Interview 3, February 19, 2002, 203 – 207)

His suggestion was to go and see how effective teachers deal with less than perfect settings.

**Redundant Material**

Though every preservice PETE student noted topics that they felt had been redundant, they all stated that the information was indeed important. Concern was expressed that some material was presented in excess throughout the PETE program. Students identified eight areas of concern. In all cases, at least two students identified a particular content or pedagogical practice. Table 4.27 summarizes the areas mentioned most often.
Five out of six participants mentioned they felt the information on diversity awareness was excessive in nature. Patty stated, "... We spent most of our time on diversity. That honestly seemed a little bit redundant to me" (Patty: Interview 3, February 16, 2002, 39–40). When Charles spoke of diversity issues he stated, "Of course, we did some work on diversity today. We've seen a lot of it in our undergraduate classes and again in graduate school" (Charles: Interview 2, January 31, 2002, 91–93). Later, Charles returned to the topic when he reported, "We talked about diversity issues in school and how you address them. A lot of it is repetitive to me" (Charles: Interview 2, January 31, 2002, 96–97). Sally mentioned that diversity was an important topic to discuss, however, she indicated she had tired of the topic.

This time I did not think that we needed to go over it again. We have gone over it a lot just within the graduate program. I think it is important to talk about, but you can go over it only so many times. (Sally: Interview 3, February 14, 2002, 6–9)
Lucy’s remarks about disabilities (creating an inclusive environment and being cultural sensitive) mirror Sally’s and also represent Patty’s opinions. When discussing disabilities Lucy mentioned, “… we had gone over that before” (Lucy: Interview 4, March 1, 2002, 113). “We’ve had too much in the program overall” (Lucy: Stimulated Recall Chart, Winter, 2002). Marcy commented on diversity, “I’ve talked about diversity before, over and over” (Marcy: Stimulated Recall Chart, Winter, 2002). Marcy also believed multicultural awareness was re-iterated too often throughout the PETE program when she reported,

I don't know if the emphasis on multicultural awareness was all that important. I feel like they are just telling us over and over and over again. I know that diversity is one of the foci of the program, but at the same time we've seen this stuff a lot, so when we talk about it is, ‘here we are talking about it again’. (Marcy: Interview 3, February 18, 2002, 52 – 56)

Linus was the only participant that did not agree that diversity was over represented throughout the PETE program. He thought it was important to discuss diversity because preservice PETE teachers were a group that was comprised of little diversity (Linus: Interview 3, February 19, 2002).

Reflections on behavioral management issues became a topic of frequent discussions, and four of the six participants found this point belabored. Charles indicated that attending the reflection sessions on what was occurring in the schools had become quite tedious. “I do a weekly reflection. I reflect with my cooperating teacher everyday. I have been blessed to have a very supportive cooperating teacher that is very knowledgeable. Sometimes I get too much reflection” (Charles: Interview 3, February 13, 2002, 162 – 165). Charles and his cohort were required to do weekly goals and
reflections assignments, as well as reflect daily with their cooperating teacher and peer student teacher, and reflect during class meetings at the university.

Sally consistently mentioned that reflection on behavior management issues that occurred at the different school sites became repetitive when she reported, "...everyone keeps coming to seminar with the same problem. I think that's a good idea to discuss them, but only if people would have different problems. Right now I think everyone has solved their problem" (Sally: Interview 4, March 1, 2002, 89 – 92). This begged the question of "were the problems really solved?" "Listening to other student's problems AGAIN is not going to help at this late date in the quarter" (Sally: Stimulated Recall Chart, Winter, 2002).

Linus and Lucy felt reflection on behavior management issues occurred too often. Lucy's comment succinctly sums up what the majority of preservice PETE teachers appeared to feel when she stated, "... going over behavior management 1,000 times won't help unless you have the opportunity to teach or practice in a class environment" (Lucy: Interview 1, January, 17, 2002, written in comment).

Patty and Marcy were the two participants that did not find these repeated discussions troublesome. They felt that new issues that presented themselves in the classroom and what might be successful strategies to resolve them were good discussion topics. Strategies used in one situation often have applicability in other situations.

Three participants (Sally, Charles, & Linus) found the presentations and discussion on children with disabilities to be excessive. Linus indicated the excessive nature of the disability discussions was disconcerting to him when he recounted, "We'd had it before" (Linus: Interview 3, February 19, 2002, 121), and he continued by stating,
"It was information that we’ve heard before. We’ve had her (guest speaker) for that exact same presentation… I mean same PowerPoint and everything (Linus: Interview 4, March 1, 2002, 128 – 130). Sally indicated she had been inundated with disabilities classes.

She realized the importance, but agreed with Linus when she reported,

We’ve gone through so many disabilities classes. I think right now we’re all thinking about applications for this material. We’ve gone through a lot of disability lectures. I think that everyone pretty much knew the information that she [guest speaker] was presenting. (Sally: Interview 4, March 1, 2002, 124 – 128)

Charles concurred with Linus and Sally, when he spoke of information about children with disabilities he stated, “Our undergraduate program stresses this information so I have seen it a lot” (Charles: Interview 3, February 13, 2002, 63 – 64). Charles mentioned the importance of discussing disability issues despite his feeling the topic was frequented too often. “…Hitting on disability is always helpful, it is always good to know” (Charles: Interview 3, February 13, 2002, 163 – 164). He continued by stating,

…I appreciated reviewing the ways of modifying activities, even though I’ve seen that before. Those adaptations are very useful in any situation, not just with special populations. They can be used anytime. But I have heard a lot of that throughout my classes at [Allentown University]. (Charles: Interview 3, February 13, 2002, 13 – 15)

Both Patty and Marcy found discussions about rules, routines and expectations to be excessive. Throughout her interviews Patty mentioned that rules, routines, and expectations were repeatedly taught (Patty: Stimulated Recall Chart, Winter, 2002). She understood the importance of the concepts, but felt they were repeated too often. Marcy concurred with Patty about her concerns of reviewing rules, routines, and expectations on a daily basis (Marcy: Stimulated Recall Chart, Winter, 2002).
While Patty and Marcy both indicated that learning different assessment strategies had a tendency to be over-emphasized at the clinical education site, they understood the importance of assessment as a tool to be used to identify levels of performance. After watching Mr. Martin impart information on strategies to use an assessment continuum, students were expected to implement these strategies. Both Marcy and Patty agree with the importance of assessment but they felt that they were given too many strategies without the time to determine which were appropriate for the specific situation.

Lucy and Marcy found the repeated focus on the different teaching styles to be quite wearisome. When discussing the different teaching styles Marcy stated, “We had covered [different teaching styles] last quarter. So it was an overlap” (Marcy: Interview 3, February 18, 2002, 98 – 99). Lucy commented that the different teaching styles had been presented continually throughout the PETE program. However, Lucy explained that though the teaching styles material was covered many times, each time had a different focus. “The different teaching styles are all pertinent depending on what is the focus of our teaching.” (Lucy: Interview 3, February 15, 2001, 33-40). Lucy conveyed a good understanding of the different teaching styles and how they related to the multiple intelligences. It is apparent that Lucy learned from the continued focus on the different teaching styles despite feeling the content was unnecessarily time consuming. Lucy’s statements indicate that redundancy should not connote negativity.

Marcy and Linus remarked they felt effective teaching characteristics were given too much emphasis. Linus commented on the effective teacher discussions when he remarked, “We have talked about that before” (Linus: Interview 4, March 1, 2002, 48). These discussions happened several times, and at one point the preservice PETE teachers 221

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identified discussing it twice in one week. Marcy concurred that the effective teaching information had been presented too often when she reported, “Everything possible about being an effective teacher was talked about again. We went over it again in last nights seminar” (Marcy: Interview 4, March 1, 2002, 24-31), and finally she mentioned she, “had reviewed effective teaching characteristics over and over” (Marcy: Stimulated Recall Chart, Winter, 2002). She noted that this was important information, however she “felt the information was presented too often” (Marcy: Interview 4, March 1, 2002, 24-31).

Charles mentioned he felt an over emphasis was put on the tactical approach to teaching. Based on review, the syllabus of the PETE program only mentioned teaching through tactics on one occasion. Charles’s reflection was based upon his entire educational experience at Allentown University and he noted that it was the combination of both his undergraduate and graduate studies that made this pedagogical strategy seem redundant.

We did several things on tactical teaching, sport tactics. Teaching through tactics with criteria sheets. Using your students to do it. I have seen a lot of that in the undergrad in 521 and the classes [that] use those [tactics] to where you grade each other. We used this approach frequently. (Charles: Interview 3, February 13, 2002, 112-115)

More Time Needed

Some preservice PETE teachers commented on topics they wished Dr. Peanut had provided more time to discuss, observe, and practice. Results were scattered, with the category of specific disability information being the most prominently mentioned.
Learning about the specific characteristics of certain disabilities was an area where four of the six participants requested more in depth information. However, only three of the four did not feel fully prepared, and these were the three who had not completed their undergraduate degree at Allentown nor earned a bachelor’s degree in physical education. Patty, with an undergraduate degree in natural resources, indicated that she did not feel prepared to deal with specific disabilities. “The disabilities material we referred to in class today, at least I don’t feel prepared at all. I don’t have a clue of what the disabilities are” (Patty: Interview 2, January 31, 2002, 60 – 62). Patty extended her conversation, “I do not know specifics of disabilities or know what kind of structural considerations that I need to make if I have students with certain disabilities” (Patty: Interview 3, February 16, 2002, 41 – 44). This appeared to be a huge concern for Patty as she felt she missed some of this content because she had not completed the undergraduate feeder program at Allentown University for the PETE program. Lucy requested more time be devoted to learning about specific disabilities.

Table 4.28: More Time Needed on Topics Identified by Preservice PETE Teachers.

<table>
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<tr>
<th>Specific Disability Information</th>
<th>Patty</th>
<th>Lucy</th>
<th>Marcy</th>
<th>Linus</th>
<th>Charles</th>
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I think disabilities need to be gone over in more depth, and more specifically, how do we deal with different disabilities... rather than talking in general terms, and how we would teach to those specific students. We need to go more in depth! (Lucy: Interview 3, February 15, 2002, 54 – 61; Lucy: Stimulated Recall Chart, Winter, 2002)

Lucy continued her discussion about specific disabilities when she commented,

We need more specific information on disabilities. Whatever the disability, what are the symptoms, what are the different progressions can we use for the basic fundamental motor skills or (relative to teaching fitness, dance, gymnastics or teaching sport). I mean I know that everything has to be individualized, but we have not had anything related to that. (Lucy: Interview 4, March 1, 2002, 113 – 119)

Lucy, a psychology major, did not complete her undergraduate degree at Allentown University. Marcy also stated she felt uninformed on the different types of disabilities when she explained, “We have not talked a lot about physical disabilities. I have not taken that in my undergraduate program. It was not a requirement to get into the graduate program, so I am a bit behind in that” (Marcy: Interview 3, February 18, 2002, 57 – 60). In a later interview she returned to the topic and stated, “I would have liked to gone over more specific disabilities and what I could do with activities for those disabilities. I haven't taken a class on that. That is why I feel inadequate in this area” (Marcy: Interview 4, March 1, 2002, 51 - 54). Marcy identified that one reason why she had limited knowledge about specific disabilities was due to completing her undergraduate degree in business. Discussion of specific disabilities and how to adapt to them was not a part of the business curriculum.

Charles was the only participant who completed the feeder program at Allentown University who requested that more time be allotted to specific disabilities discussions;
specifically he requested more time be spent on legal definitions and characteristics of specific disabilities.

I would like to know more about the definitions of certain disabilities, the legal definition and conditions that a teacher should be responsible for.... We did not spend too much time on these ideas...I also do not feel totally prepared to adapt activities for students with specific disabilities. (Charles: Interview 3, February 13, 2002, 66 – 67)

Linus and Sally were the two that did not agree that more time was needed on this topic. Four of the six preservice PETE teachers (Lucy, Sally, Linus and Charles) had previously commented that discussions about specific disabilities and children with disabilities to be excessive. This appears to be a contradiction, but upon further questioning it was clarified that material about including and accepting students with disabilities was considered excessive. The areas in which preservice PETE teachers wished to spend more time were on ways to adapt activities, how to assess, and how to set goals for students with disabilities.

Lucy explored the discussion about disability more in depth and wanted to know more about the Test of Gross Motor Development (TGMD) when she stated,

We need to go over TGMD in more depth, how to administer that.... and how if a student performed low on a certain area what would be reasonable expectations for the developmental level of that student. We need to know how to write the IEP's. We need more specific, rather than more general information. (Lucy: Interview 4, March 1, 2002, 127 – 132)

The TGMD is an assessment tool used to assess where students are developmentally, thus assisting in setting realistic goals for the student to achieve. Again, it is important to note that Lucy mentioned she had not completed any courses dealing with these issues in her undergraduate program, as she neither completed her undergraduate at Allentown University, nor majored in physical education.
Linus was the only participant petitioning for more time on diversity and multicultural awareness. Linus explained that it is difficult to discuss and understand diversity between cultures when you are not in or from a diverse population. He recalled multicultural conversations as being watered down discussions that lacked depth and meaning (Linus: Stimulated Recall Chart, Winter, 2002). He continued when he commented, “I don’t think you can talk too much about it. A lot of people say ‘we’ve already talked about that’ but I don’t think our discussions have been as nearly in depth as they could have been” (Linus: Interview 3, February 19, 2002, 114 – 117). Linus provided a reason for feeling the discussions lacked depth and meaning when he explained, “…we are not that diverse of a group” (Linus: Interview 3, February 19, 2002, 118). Linus noted that it is difficult to discuss diversity in depth if you are not, or are not in contact with diverse populations.

The only preservice PETE teacher requesting more time be spent on grant writing was Lucy when she stated, “…more information should be in the program about how to write grants” (Lucy: Interview 5, March 18, 2002, 105 – 106). She noted that this was the first time she had heard about grant writing and that she realized there is a lot of money and equipment out there for which she could apply.

Patty requested more time be devoted to planning. Patty explained that she thought student teachers should receive this instruction and ample opportunity to practice these skills. Patty understood that unit, block, and lesson plans are adaptable and will change during classes and from class to class. “It would be good to talk more about how planning is never finished and what is written in plans is not necessarily what students
need- and plans should always be changing/evolving’ (Patty: Stimulated Recall Chart, Winter, 2002).

Summary

Content and pedagogy were found to be relevant only if preservice PETE teachers could immediately apply them in their classroom. Fundamental motor skills, information on children with disabilities, gymnastics, and sport law were the content areas that the participants found relevant. Pedagogical skills that were found to be relevant by the preservice PETE teachers were planning, assessment strategies, behavior management strategies, and developing with-it-ness (teaching).

Pedagogical topics of planning and behavior management strategies were both thought to be of immediate and future relevance. In addition, the PETE participants surmised that they would find different teaching styles more useful once they had found a style that worked for them. They believed that they then would try to use other teaching styles in different situations. Content knowledge in the areas of grant writing, gymnastics, fundamental motor skills, sport law also was identified as areas that the PETE participants deemed would have future relevance.

Even when the topic did not appear to be relevant, the preservice PETE teachers thought of ways that it could be adapted so it would become relevant to them. Preservice PETE teachers suggested strategies to present content knowledge on specific disabilities and environments in which to learn all pedagogical and content knowledge. Preservice PETE teachers also provided suggestions on how to make sessions on planning, assessment, peer teaching, adapting activities for children with disabilities, information...
on specific disabilities and writing IEP's, teaching styles, and behavior management reflections more relevant to them.

Preservice PETE teachers noted that although information presented was important, at times, the amount of time devoted to specific topics diminished the impact of the message. Preservice PETE teachers indicated they stopped listening after hearing it too often. Content knowledge areas preservice PETE teachers found relevant were: (a) diversity and multiculturalism, (b) general disability information, (c) effective teaching characteristics, and (d) rules, routines, and expectations. Pedagogical knowledge found to be presented too often included general diversity information, behavior management strategies, assessment strategies, different teaching styles; and the tactical approach to teaching.

Findings suggest that preservice PETE teachers requested more time be spent on content knowledge acquisition. These content knowledge topics consisted of specific disability information, TGMD, diversity and multiculturalism, and grant wiring. Planning was the only pedagogical knowledge that preservice PETE teachers wished more time was spent.

R.Q. 5 At what point in a 10-week elementary experience did preservice PETE teachers find content/pedagogy to be relevant to their ability to teach elementary physical education?

Findings from interviews with preservice PETE teachers revealed a variety of topics that they felt became useful and helpful (relevant) in their ability to teach elementary physical education. In an effort to determine what material became relevant,
preservice PETE teachers were asked to identify when both content and pedagogy had become helpful or useful to them during their elementary teaching internship. Once the preservice PETE teachers identified topics that they found useful, the preservice PETE teachers were asked to explain why. Before continuing with the findings of specific topics found to be relevant, a few comments made by the preservice PETE teachers suggest why there are differences in the answers between preservice PETE teachers.

Marcy stated,

_"I think that everything that we have learned is important; we kind of just go back to it. I mean if somebody brings up a topic, I'm like "oh yeah I learned that". I mean, it is in your brain, it's just whether or not it is triggered._ (Marcy: Interview 4, March 1, 2002, 104 – 107)

Lucy concurred when she explained, “_...it all matters. But what's makes something more important than something else? What I may need may be different than what someone else may need to learn_” (Lucy: Interview 1, January 17, 2002, 154 – 156). Keeping in mind that contextual factors can influence what preservice PETE teachers found relevant the participants in this study identified the following as impacting their ability to teach elementary physical education.

**Weeks 1 and 2**

During weeks one and two, preservice PETE teachers identified several topics that became relevant to them during their elementary placement: planning, assessment, ability to teach, and management. There were no content topics identified during weeks one and two of the elementary experience.
Weeks 1 & 2
Planning                               Patty  Lucy  Marcy  Linus  Charles  Sally
Assessment                             ✓       ✓       ✓       ✓       ✓       ✓
Pedagogical Skills                     ✓       ✓       ✓       ✓       ✓       ✓
Management Behavior and Time           ✓       ✓       ✓       ✓       ✓       ✓

Table 4.29: Topics Identified by Preservice PETE Teachers as Being Relevant to Teaching Elementary Physical Education Weeks 1 and 2.

Planning

Patty, Charles, and Sally identified the concept of planning to be relevant to their development as a teacher during the first two-weeks of the 10-week experience. Charles explained how planning had changed his view of teaching,

If I had to look at what I thought teaching was 3 years ago, compared to what I think it is right now. I mean, I thought it was cake. You know a cake job, and now I'm realizing, that there are lesson plans. It's not cake, it's hard work.
(Charles: Interview 1, January 17, 2002, 229 – 232)

Charles continued to discuss why planning was relevant to him,

The lesson plans and the unit plans are beneficial to us this quarter. I know that we talked about them in our curriculum class. But now we're really diving into it and it's really important to us now because we are going to be teaching in a few weeks. (Charles: Interview 1, January 17, 2002, 188 – 193)

Patty mentioned the first thing that became relevant to her during the initial two weeks was planning, “[Planning is] going to make me more organized and do more with what I am actually trying to accomplish with this unit” (Patty: Interview 1, January 17, 2002, 196 – 198). Patty commented that she would set goals for the students and she now understood what steps to take to meet those goals. Sally, too, identified planning as
relevant because she needed a solid lesson plan to look at while she was teaching to keep her on time and on task.

Assessment

Patty and Marcy identified learning assessment strategies as being helpful to them during the first two weeks of the elementary experience. Marcy simply stated, “The assessment tools that we have learned will influence and help me teach” (Marcy: Interview 1, January 17, 2002, 173 – 175). Patty extended the assessment discussion when she explained how assessment was becoming less of a mystery to her.

I have attempted, but have not been completely successful, it’s still real foggy. I think that with each day assessment seems to become clearer. I think that it helps to understand the whole thing, just to be able to set a terminal objective for the students and then breaking down what that entails…. (Patty: Interview 1, January 17, 2002, 222 – 227)

Patty continued on to explain the reason why assessment was unclear,

The whole planning thing has to happen before I can understand what I’m trying to assess. If I don’t plan, I’m kind of clueless. So, if I don’t know what I’m working on, why do it? Assessment just doesn’t make sense until you have a plan. (Patty: Interview 1, January 17, 2002, 240 – 244)

Management

Linus commented about having disruptive students that did not view him as an authority figure. Behavior management was an issue that Linus dealt with everyday at his school site. “I have dealt with a lot of behavior management. I’ve definitely learned some strategies that would be helpful. And I’d say that is the biggest thing so far that will impact me as a teacher” (Linus: Interview 1, January 17, 2002, 223 – 226). Discussion about these issues with his cooperating teacher, peer student teacher, and his cohort helped Linus find new strategies to try in his classroom.
Another topic Linus found important was the use of time. He determined that time management was crucial if everything that he planned was to get accomplished. Linus realized the difficulty of trying to fit everything that he planned into the time constraints of the classroom. Linus commented that after getting the students into the gymnasium and calmed down; a 30-minute class was cut to approximately 15-20 minutes.

**Weeks 3 and 4**

**Content**

Preservice PETE teachers identified content and pedagogy topics during weeks three and four. The only content topics identified during weeks three and four were juggling and jumping rope and fundamental motor skills. Lucy was the only preservice PETE student to acknowledge learning the skills of juggling and jumping rope. These skills were beneficial to Lucy's development as a teacher. While teaching from her cooperating teachers' lessons, Lucy learned how to teach juggling and jumping rope. Lucy realized the importance of learning this information since she was going to teach it to her students. It is interesting to note that Lucy learned this at her elementary school placement before this material was presented at the university. Marcy indicated that knowledge of fundamental motor skills and the developmental stages were important. Possessing knowledge in these two areas would allow her to assess her students and plan to better meet their needs (Marcy: Interview 2, January 31, 2002).

**Pedagogy**

Pedagogy knowledge identified by the preservice PETE teachers during weeks three and four consisted of: planning, management, teaching, and providing feedback.
Students began writing their own lesson plans during this timeframe and they quickly grasped the importance of planning, time management, and behavior management skills. They made the difference between whether or not the preservice PETE teachers’ classes were successful.

<table>
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<tr>
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<th>Patty</th>
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<th>Marcy</th>
<th>Linus</th>
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Table 4.30: Pedagogy Identified by Preservice PETE Teachers as Being Relevant to Teaching Elementary Physical Education Weeks 3 and 4.

Planning

During weeks three and four Lucy discussed how she continued to work on lesson and unit planning. She had been using her cooperating teachers lessons, now she began to write her own. “So we will begin writing our own lessons within the next week for ... our unit” (Lucy: Interview 2, February 1, 2002, 12 – 14). Sally explained how everything came together for her, “I finally realized how your unit goals aligns with everything within the lesson or the unit plan” (Sally: Interview 2, January 31, 2002, 14 – 15). Linus found that planning was a critical element in his development of becoming a teacher. While planning Linus noted the importance of knowing the entrance skill level of the
student and what exit skill level you want them to achieve. At the same time of knowing the students’ skill level, the teacher must be aware of how long each lesson is and how much time is needed to accomplish the lessons’ goals. Linus commented on the importance of planning enough. He continued to explain that there were many facets of planning, and all of them were relevant to his teaching. Marcy concurred with Linus when she stated, “I think planning helps you to keep everything in perspective. It helps you know what you need so that you can reach your objectives for the unit” (Marcy: Interview 3, February 18, 2002, 73 – 75). Marcy believed that having a better lesson plan would assist her in controlling her classroom. While teaching in her afternoon classes Marcy noticed that many of her students did not follow her directions. Therefore, she set a goal to present clear directions for her students to follow and hold her students accountable to those directions,

It really helps to have a lesson plan to know exactly what is going to happen, when, and how. That helped me give clearer directions to the students. At first, I was worried I would take up too much time talking. ... By taking the time to teach them exactly how I wanted the task to be done, the students were much more productive and on task. (Marcy: Goals and Reflections Assignment, January 21, 2002 – January 25, 2002)

Patty noted while working on her unit plan, the task analysis component was becoming clear, “We talked about the task analysis, which made much more sense this time than the last time” (Patty: Interview 2, January 31, 2002, 19 – 20). Even though Patty realized she was becoming more comfortable with creating her task analysis, she also realized that she was having some difficulty writing other parts of her lesson plans. This became apparent when she realized she was running out of time at the end of class. Consequently she

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noted the need to allot time for closure of her lesson (Patty: Goals and Reflection Assignment, January 28, 2002- February 1, 2002).

**Assessment**

Charles discussed the different forms of assessment that he and Sally were using at their school site. They were going to do some individual and group assessments, as well as cognitive, affective, and psychomotor assessments (Charles: Interview 2, January 31, 2002). At her school site Patty learned that the majority of the students were already proficient at the skills she had planned and taught. To increase her instructional effectiveness she worked toward gaining a clearer understanding of her task analysis and she focused on her need to spend more time assessing student abilities to determine their needs (Patty: Goals and Reflections Assignment, January 14, 2002 - January 18, 2002).

**Management**

All six participants identified learning behavior management strategies as helpful to their ability to teach elementary physical education. At her school, site Patty identified at times her “students had more control over the class than she did”; therefore, she identified “student control accountability” as a relevant topic to her teaching (Patty: Goals and Reflections Assignment, January 21, 2002 – January 25, 2002). Patty used several strategies to gain control of her classroom such as holding students accountable for the rules, routines, and expectations, and by not allowing opportunities to misbehave to occur by planning better.

During her teaching Marcy found that some of her students chose to listen to directions while others did not, thus inhibiting her control of the classroom. In order to help her class run efficiently, Marcy worked on giving her students clear start and stop...
signals: "... so everyone is listening or hearing what I am are saying" (Marcy: Interview 2, January 31, 2002, 42 – 43). Linus also worked on having the students respond to his stopping signals. While teaching, Linus realized that his students, at times, were off task. One explanation, postulated by Linus, was that his students did not understand his directions. Due to this, Linus selected a goal of providing clear and complete directions and instructions to his students. He believed that having them understand would increase the likelihood of them being on task (Linus: Goals and Reflections Assignment, January 28, 2002 – February 1, 2002). Sally and Charles also both indicated they noticed their students were a little confused by their directions, therefore they both focused on giving clear and concise directions during weeks three and four. Charles also noticed that he mumbled while giving directions. In order to rectify this, his goal was to make his instructions more understandable by using age appropriate language and slowing down his presentation of directions and instructions (Charles: Goals and Reflections Assignment, January 28, 2002 - February 1, 2002).

Charles and Sally also implemented some behavior management strategies at their school site. Charles noticed that at times he raised his voice more than necessary when handling misbehaviors. Because of this, Charles very deliberately worked on not raising his voice and finding more appropriate strategies to curb any misbehavior occurring in his classroom (Charles: Goals and Reflections Assignment, January 21, 2002 – January 25, 2002). Sally had difficulty with the students accepting her as an authority figure in the classroom; therefore she worked on being in charge of the class by holding the students accountable for their actions. Sally provided an example of how she had approached the issue in her classroom,
I had a student who was testing me, but once I put a student in time out and made his friends leave him alone this made a lot of the students get on task. I will have to continue to use time outs or give them a lunch detention to show them that when I am teaching they can’t get away with everything. (Sally: Goal and Reflections Assignment, February 11-15, 2002)

At her school site, Lucy also concentrated on behavior management strategies. Lucy commented that she believed teaching and managing the classroom would be easier if she knew her students’ names, therefore she made a concentrated effort on learning their names. A second area that Lucy focused on was control of the students upon entrance of the gymnasium, as she realized that each class entered the gymnasium from a different place (art, music, lunch, recess, etc.) (Lucy: Goals and Reflections Assignment, January 21, 2002 – January 25, 2002). Linus noticed was that his classroom was not as safe as he wished so he worked on different strategies such as: having students line up in phases at the end of class, walking during transitions, and decreasing the number of students putting away equipment to improve the safety of his classroom (Linus: Goals and Reflections Assignment, January 21, 2002 – January 25, 2002).

Teaching

Lucy, Marcy, and Linus all identified they were concerned about their ability to present information to their students during weeks three and four. Lucy expressed a concern about her ability to adapt pedagogical strategies according to the grade and skill level of her students when she stated, “What I feel I need most as a beginning teacher is to learn how to explain and demonstrate the different areas and skills to different grade levels and how to make progressions” (Lucy: Interview 2, February 1, 2002, 57 – 59). Linus and Patty had thoughts along a similar line as Lucy, when they noticed they were not spending enough time on the development of skill techniques. Linus and Patty
decided to focus on individualizing instruction to aid in skill development when necessary (Linus: Goals and Reflections Assignment, January 21, 2002 – January 25, 2002; Patty Goals and Reflections Assignments, January 21, 2002 – January 25, 2002). Marcy also thought about how to present material to her students, though her concerns were contextual in nature. When thinking about how to provide tasks Marcy noted that she was concerned about her gymnastics unit because she did not have a lot of equipment or time.

...My biggest thing right now, with gymnastics, is how I am going to set my gymnastics unit up at my school because I don't have that much equipment. So how am I going to teach it? I only have 5 lessons and we have half-hour lessons. We have to accomplish a lot because of the whole assessment thing. So those are my biggest fears because we just don't have a lot of time. (Marcy: Interview 2, January 31, 2002, 67 – 73)

During reflection Sally realized that she had a tendency to only visit one side of the gymnasium during her instruction. Therefore, if students were on the other side of the gymnasium than her, they tended not to receive any feedback. She worked to correct this by moving around the entire gymnasium during class (Sally: Goal and Reflections Assignment, February 4, 2002 – February 8, 2002).

Providing Feedback

Charles and Sally both found they were giving too general of feedback statements such as: “good job” or “way to go”; therefore, they focused on giving more specific and corrective feedback to the students while using their names (Charles: Goals and Reflections Assignment, January 21, 2002 – January 25, 2002; Sally: Goals and Reflections Assignment, January 21, 2002 – January 25, 2002). Sally provided an
explanation as to how content knowledge is directly related to specific feedback when she stated,

I believe that giving students positive, specific, and corrective feedback is so important that I will always make a conscious effort to do so. I believe that I am doing a much better job at giving these types of feedback. This made me realize that it is much easier to give specific and corrective feedback if you are knowledgeable and know the critical elements of the skill. (Sally: Goals and Reflections Assignment, January 21, 2002 – January 25, 2002)

Lucy noted that content knowledge allowed her to provide better feedback, “Learning more about juggling as the week went on enabled me to provide better, more effective feedback” (Lucy: Goals and Reflections Assignment, January 28, 2002 – February 1, 2002). Lucy explained how knowledge of student names would assist her in providing specific feedback; therefore she focused on learning student names and providing feedback statements to her students. She first identified the types of feedback she was providing and then set goals to increase specific and corrective feedback, while decreasing general feedback statements (Lucy: Goals and Reflections Assignment, January 28, 2002 - February 1, 2002). Patty realized she was not interacting or giving feedback to her students during their warm-up time. Her focus became to concentrate on providing feedback during the beginning of the class. Marcy realized a strategy she could use to have students perform the assigned task was to provide feedback. Marcy worked on providing positive reinforcement/feedback, rather than negative desists, to encourage her students to follow rules, routines, and stay on task (Marcy: Goals and Reflections Assignment, January 28, 2002 - February 1, 2002).
Effective Use of Time

Linus wished to improve his starting and stopping instructions in order to reduce his students’ transition time from one activity to another (Linus: Goals and Reflections Assignment, January 21, 2002 – January 25, 2002). Linus focused on using his class time effectively in the classroom.

Weeks 5 and 6

Content

Week five ended the half-day experiences of the preservice PETE teachers and they began attending their elementary placements for full-days beginning in week six. During weeks five and six content areas of gymnastics and fundamental motor skills were identified as becoming useful during the preservice PETE teachers elementary physical education teaching. Marcy was teaching a gymnastics unit at this time and when a presentation was given on gymnastics progressions she found it to be quite pertinent: “…just because we are doing a gymnastics unit. … She showed us the cues and how you can extend the tasks to make them harder. That was the most beneficial class that we had…from my perspective ” (Marcy: Interview 3, February 18, 2002, 36 – 42). Fundamental motor skills were presented at the university and this proved to be important to Patty, as she, “was teaching a fundamental motor skills unit so it became useful right now” (Patty: Interview 3, February 16, 2002, 18 – 19).

Pedagogy

These preservice PETE teachers identified planning, assessment, management, teaching, providing feedback, and effective use of time as pedagogy topics during weeks five and six. When the student teachers began teaching full time, ideas gained relevance.
They could see why things needed to be done and what would happen if they did not do these things. The relationship between planning, assessment and behavior management became clear.

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<th>Marcy</th>
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Table 4.31: Pedagogy Identified by Preservice PETE Teachers as Being Relevant to Teaching Elementary Physical Education.

Planning

All six participants identified planning as being an important concept in their development of becoming a teacher. In attempting to design the unit that she would teach at her elementary placement, Patty struggled with a few parts of the unit plan; however, she noted that things were starting to come together,

It seems every time that we talk about unit planning a little piece comes together better than it had the previous time. There is no way that I can sit and identify when exact pieces fell into place. The more we talk about things, I get to bring out the things that are confusing to me, the things that I have issues with. Then when we talk about them, things become more clear as to what I need to be doing and why, and the overall process. (Patty: Interview 3, February 16, 2002, 29 – 36)

Sally found that planning became important to her when she stated, “... learning how to do our unit plans correctly was the most important thing to me” (Sally: Interview 3, 241...
February 14, 2002, 10 - 12). She continued to discuss why, when she commented that lesson plans help her in her daily organization (Sally: Interview 3, February 14, 2002).

Planning continued to be extremely important to Charles. He explained why lesson plans were important to him, “It's very important to work on planning now, so I can improve to where I can think of everything, when I plan” (Charles: Interview 3, February 13, 2002, 11 - 12). Marcy stated that lesson planning helped her stay organized when she commented,

It's helpful for me to do the lesson plans. ..... I think it helps you to keep everything in perspective. It helps you know what you need to reach your objectives for the unit, such as assessment pieces and lesson plans, your objectives, and resources you are going to use. (Marcy: Interview 3, February 18, 2002, 70 - 77)

Lucy noted that she had to re-evaluate her students’ skill level and adjust her lessons objectives to meet her students’ needs when she commented, “At the present time, my unit objectives that I have for my students at the elementary school are set too low. I need to adjust those and have my lesson plans meet their needs” (Lucy: Interview 3, February 15, 2002, 48 - 50). Lucy’s unit plan was a work in progress. She continued to struggle with the concept, but it started to become clearer for her as she began to understand how a unit plan was put together. “Looking back it was very frustrating. But I realize that it is very important and that it needs to be well done in order to have a good program…. It's just a long process” (Lucy: Interview 3, February 15, 2002, 45 - 51).

Linus made an interesting comment about planning during his third interview; he mentioned that he felt more prepared to write a lesson after he taught,

I'll be in class going along with my lesson plan, and I see something that would work better than what I have and I do that. So the lesson plans are important and it is good to know how to write them. I just don't know what should go in there. I
feel like I could write a good lesson plan after my class, rather than before my class. (Linus: Interview 3, February 19, 2002, 33 – 38)

Linus became aware that lesson plans do not always go as planned, and at times need to be adapted throughout the lesson.

Assessment

Linus, Lucy, and Patty commented that knowledge of assessment strategies assisted them in their teaching. Developing efficient and effective strategies to assess her students was important to Lucy. Having an understanding of the assessment process helped Lucy set attainable goals and create strategies to meet those goals. Lucy commented that assessing her students became a relevant issue when she contemplated how to do assessment effectively and efficiently while she taught (Lucy: Interview 3, February 15, 2002). Patty commented on assessment workshops she had attended at the clinical education site “It made some sense of some things that have been confusing to me before. Maybe it's just because I am in the midst of teaching now” (Patty: Interview 3, February 16, 2002, 110 – 113). Linus commented that assessment was extremely important to him at the current time because he was trying to assess his students during their unit (Linus: Interview 3, February 19, 2002).

Management

During the fifth and sixth weeks Charles realized that during his teaching he was calling on students to answer questions who did not have their hand raised, thus not abiding by the rules, routines, and expectations that he had devised for his classroom. Charles concentrated on improving class management and enforcing the rules and routines more effectively (Charles: Goals and Reflections Assignment, February 4, 2002
Many times Charles' students were confused because he was not using appropriate language for that particular age group, therefore he decided to continue his focus on using age specific language (Charles: Goals and Reflections Assignment, February 11, 2002 – February 15, 2002). Just as Charles had, Sally realized that when she highlighted positive behavior in her classroom it was more beneficial and guided her students towards the desired behavior (Sally: Goals and Reflections Assignment: February 11, 2002- February 15, 2002).

Teaching

Patty learned that she was still not proficient at individualizing instruction, therefore she continued to work on becoming more effective in this area during week five. Patty reflected on her progress by stating,

Not much progress was made in achieving the goal of individualizing instruction this week. I was able to identify some ways to extend tasks and put those ideas in writing on the lesson plan, but often unable to apply them. (Patty: Goals and Reflections Assignment, February 4, 2002 – February 8, 2002)

When Patty reflected upon her teaching, she became aware that at times she strayed from her lessons' objectives. In order to stay true to her lessons' objective Patty worked on keeping her lesson simple and focused by only selecting one or two objectives per lesson.

Charles identified the different teaching styles as having an effect upon his teaching when he stated,

Since we are in the field right now you have the opportunity to try a little different style of teaching. Or you can ask the question, “how I can assess that?” I think of ways to question my students, and provide problem-solving opportunities. (Charles: Interview 3, February 13, 2002. 86 – 89)

Realizing that she did not seem to notice students who were not following directions while she was demonstrating or informing them of their task, Lucy worked on
increasing her with-it-ness (Lucy: Goals and Reflections Assignment, February 4, 2002 – February 8, 2002). One way she found to improve her with-it-ness was to observe herself while teaching by having her peer video tape her lessons. Lucy noticed she was comfortable at the front of the gymnasium; therefore, she worked on moving around the perimeter of the gymnasium (Lucy: Goals and Reflections Assignment, February 4, 2002 – February 8, 2002).

Providing Feedback

Sally, Lucy, and Patty identified that providing feedback continued to be an important factor in gaining student understanding and the success of their teaching. Sally noted her feedback was still quite general; therefore she worked on providing more specific and corrective feedback to her students (Sally: Goals and Reflections Assignment, February 4, 2002 – February 8, 2002). Patty understood that she needed to improve providing effective feedback to her students when she stated, “I improved as the week went on. My feedback was still often general, though positive. I still need to work on coming up with short and concise phrases that provide some specific and effective information” (Patty: Goals and Reflections Assignment, February 4, 2002 – February 8, 2002). Sally explained how she still needed work on giving clear and concise directions to her students to keep them on task. She commented, “I believe that as I get more comfortable with teaching each class, my directions will get more and more clear” (Sally: Goals and Reflections Assignment, February 4, 2002 – February 8, 2002).

Lucy mentioned the need to observe her students more thoroughly in order to assist them in improving their skills. To complete this task of helping her students improve, Lucy continued to work on providing specific and corrective feedback (Lucy: 245
Goals and Reflections Assignment, February 11, 2002 – February 15, 2002). Noticing that some students were still off task, Linus also worked on using student names and providing positive feedback to increase effective behavior management,

I did a much better job of giving positive feedback and focusing on the positive behaviors, rather than the negative ones. ... I believe now, that pointing out the students who are on task and doing as they should, will aid the other students in acting that way much sooner than if I point out the negatives. (Linus: Goals and Reflections Assignment, February 11, 2002 – February 15, 2002)

Marcy also had a continued focus on increasing positive feedback by using student names more frequently. She worked on catching the students “being good”, rather than catching them “misbehaving”. Marcy commented, “I need to continue to give positive feedback and really work on pointing out who is doing good to use them as a role model. I need to try and stay away from the negative feedback...” (Marcy: Goals and Reflections Assignment, February 4, 2002 – February 8, 2002). Marcy tried to improve on having a more positive learning environment (Marcy: Goals and Reflections Assignment, February 4, 2002 – February 8, 2002). Sally also focused on holding students, who were not following directions, accountable for their actions. Her final goal for the week was a continued effort to learn student names as she realized that it is difficult to conduct a class or give any type of feedback when she did not know their names, “I need to work on the names of those students who are quiet and doing what I tell them, so that I can thank them for following my directions” (Sally: Goals and Reflections Assignment, February 11, 2002 – February 15, 2002). Sally noticed that she spent more time reprimanding students not following directions than she praised those for following directions. Sally described a strategy she used, she focused on praising students who were following directions, rather than focusing on those not following directions,
I became better at praising students who were following my directions and not having to remind others to follow my directions. ... The students love to hear that they are doing something right and achieving the approval and praise from the teacher. The other students... want this praise.... (Sally: Goals and Reflections Assignment, February 12, 2002 – February 15, 2002)

**Effective Use of Time**

Patty, Linus, and Lucy identified they needed to more effectively use their class time. Patty and Linus both noted that their students were not as active as they wished, therefore both of them decided to attempt to increase the activity time of their students. Patty chose to work on decreasing her instruction time in order to provide the students more opportunities to practice and be active (Patty: Goals and Reflections Assignment, February 11, 2002 – February 15, 2002). Still working on behavior management during weeks five and six, Linus commented on how much time he spent on behavior management:

> My class is 75-80% behavior management... if not more than that. It's really very helpful to see because I am probably not going to be at other schools where behavior is such an issue. So I feel if I can get it down here I will be doing pretty well. (Linus: Interview 3, February 19, 2002, 229 – 233)

Linus also noticed that not all of his students were active during class, therefore he worked on increasing their activity time. He provided an explanation of how he increased his students' activity when he stated, “I felt that on the whole, activity time was higher. ... I feel that the activity time was higher due to clearer directions. I did not have to spend time repeating myself, and the students knew what to do” (Linus: Goals and Reflections Assignment, February 11, 2002 – February 15, 2002).

Learning that she needed to have her classroom run more efficiently, Lucy worked on her classroom transitions. Lucy remarked, “I am still trying to develop better
transitions" (Lucy: Interview 3, February 3, 2002, 89 – 90). In order to help with her transitions Lucy worked on giving more explicit and efficient directions and organizing her class in different patterns, by having the students near the needed equipment. Marcy noticed that she needed to have better transitions in order to have her class run smoother. Her students needed to know exactly where to go, how to get there, what equipment they would need, how to put the equipment away, and other necessary information. She noted that during transition times her students ran all over the place with no particular focus,

I still need to work on transition time. I need to find ways to make it work better for me. Maybe that is by counting and saying “you have 5 seconds to come to the circle”. Maybe it is by having partners and teams already picked out. I do know that if I teach volleyball again, I will do things a little differently. (Marcy: Goals and Reflections Assignment, February 4, 2002 – February 8, 2002)

Weeks 7 and 8

Preservice PETE teachers identified topics within pedagogy as being relevant to their ability to teach elementary physical education. Topics acknowledged were: (a) management, (b) teaching, (c) providing feedback, and (d) effective use of time. All of these areas had been noticed before, but during these two weeks, they occupied most of the time and thoughts of the preservice PETE teachers.
Table 4.32: Pedagogy Identified by Preservice PETE Teachers as Being Relevant to Teaching Elementary Physical Education.

<table>
<thead>
<tr>
<th>Weeks 7 &amp; 8</th>
<th>Patty</th>
<th>Lucy</th>
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Management

Patty commented she had been working on holding her students accountable for their actions when she explained,

I am certainly holding the students accountable to what I expect. Not all the time, but more consistently. Sometimes, I allow them to get away with something because I am [trying to] keep the lesson going. Most of the time, I will hold them to expectations because that is what needs to be done. (Patty: Interview 4, February 28, 3003, 141 - 145)

Patty had set certain goals and objectives for her lesson, but she felt that she needed to more consistently hold the students to the rules, routines, and expectations in the classroom. Sally also struggled with balancing the two concepts of holding her students accountable and teaching her lesson. She commented on how she was trying to disregard some behaviors in her class if they were not disrupting the class (Sally: Interview 4, March 1, 2002, 145 - 157). Charles mentioned that he felt he took a step backwards during last week when he became frustrated with student misbehavior. Because of this, Charles said he would focus more upon positive student behaviors, rather than
misbehaviors. He focused on catching the students being good and giving them attention in a more positive manner (Charles: Goals and Reflections Assignment, February 25, 2002 – March 1, 2002).

Teaching

Sally, Marcy, and Lucy noted some general topics about their ability to teach during weeks seven and eight. During the fourth interview, Sally commented about important issues and topics she was faced with at her school when she commented,

We are learning more what level each grade level can progress to what stage. With 5th graders we are seeing that a lot of them can't do the overhand serve and that 6th graders can or should at least try to practice that. (Sally: Interview 4, March 1, 2002, 145 - 150)

Lucy is very concerned about her students' progression through skill development. Lucy noted she methodically thought of how to provide the most opportunities to learn, while using the appropriate developmental skill level, for her students when she reported,

Basically I am trying to balance behavior management with task development and progressions... seeing where our students are at according to our objectives, and how we need to modify and adjust our lesson plans for the next class. We are writing tasks for all different skill levels; some students progress ahead of other students. I feel like we use the first 15 minutes to do fundamental motor skills then we put them in a game situation. Students will be stepping with opposition foot (contra-laterally) and then in the game situation they are going back to the lower developmental level. I am wondering if the game that we put them in to focus on developing their throwing is really not effective because they are reverting back, but then again...I am wondering if we are doing what is appropriate. I just question myself and want to design the best opportunities for my students to learn. That is what I am wondering.... if it is good physical education. (Lucy: Interview 4, March 1, 2002, 136 - 150).

Marcy and Patty were the only two to overtly identify focusing on their with-it-ness during these weeks. Marcy stated,

I think I can continue to improve in the area of with-it-ness. I really need to concentrate on observing the entire class after I help a student. Also, I need to be
certain that I am continually observing the rest of the class while I am giving
individualized instruction. (Marcy: Goals and Reflections Assignment, February
17, 2002 – February 23, 2002)

Through her reflections Patty noticed that she too, often focused on one student or a small
group of students, therefore, her goal was to correct this by improving her observation
and scanning skills to help develop with-it-ness (Patty: Goals and Reflections
Assignment, February 17, 2002 – February 23, 2002).

Marcy and Linus identified they had implemented station work at their school
site, therefore they thought about different teaching styles they could use to help
implement a new pedagogical concept of station work to their students. Upon trying the
new pedagogical strategy, Marcy found herself thinking about the different teaching and
learning styles when she stated, “I actually thought about the different teaching styles this
week. We are trying to use stations, but it is not working real well, possibly because the
students are not used to it” (Marcy: Interview 4, March 1, 2002, 110 – 113).

She continued on to discuss the different teaching styles,

I think it's Mosston's teaching styles. I think the whole effective teaching thing
was really just on my brain this week. We want to do stations really badly, but
the students did not how to do it, even though we gave them good tasks and told
them exactly what to do. They really had a hard time doing what they were
supposed to do. (Marcy: Interview 4, March 1, 2002, 116 – 122)

Linus explained how he too had experienced using different teaching styles,

I'm learning how stations can and can't work. Trial by fire, I guess...
Experiencing different things, it comes down to being flexible with the lesson and
trying new teaching strategies. I have created how the perfect setting is going to
go but, stations haven't worked that way. I have to keep trying different things. It
has gotten better. By next week it will probably start to come around. (Linus:
Interview 4, March 1, 2002 206 – 211)
Providing Feedback

All six preservice PETE teachers identified the skill of providing feedback to be beneficial in their teaching. Upon reflecting on his teaching, Charles felt he did a poor job on providing feedback in week seven, therefore he worked on improving his use of specific feedback while his students were engaged in activity (Charles: Goals and Reflections Assignment, February 25, 2002 – March 1, 2002). Lucy commented on her progress on increasing the feedback she offered her students by focusing solely on providing specific, congruent, and corrective feedback when she stated, “I am getting better at providing feedback overall. I need to increase specific and corrective feedback. I can do this by focusing only on the cues that are being presented” (Lucy: Goals and Reflections Assignment, February 18, 2002 – February 22, 2002).

At his school site Linus had a continued focus on using different strategies to manage student behavior; he attempted to be more positive with his students. Linus continued his work on providing specific positive feedback,

I felt I have come a very long way with my feedback. At first I tended to focus on the negatives, but now I feel I am doing a good job on focusing on the positive. What I am still not doing very consistently … is making the feedback specific…. (Linus: Goals and Reflections Assignment, February 25, 2002 – March 1, 2002)

Marcy provided a rationale as to why she continued to increase her positive and corrective feedback when she stated, “… I have found that positive behavioral feedback works much better and has a good effect on others. I just need to continue to use it often …” (Marcy: Goals and Reflections Assignment, February 18-22, 2002). When discussing feedback Marcy recounted,

I have been working on cross-court feedback. Making sure that my back is to the wall and just making sure that I can scan the students constantly. Making sure

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that they are on task or giving them other tasks because they have already advanced. That is the biggest thing that I am working on. (Marcy: Interview 4, March 1, 2002, 7 – 12)

While teaching Marcy noted she was successful with her goal of providing specific feedback,

I have become a lot more proficient in giving positive, corrective, and specific feedback on their skills. But I still need to work on the crosscourt feedback specifically so they know that I am really watching them. I think that I have good student relations with them. My biggest goal, for myself, is to make sure that I am comfortable in the class with the content and then can teach it in a way that is exciting for them. (Marcy: Interview 4, March 1, 2002, 90 – 96)

Patty continued to work on providing effective feedback in her classroom with her cooperating teacher through discussion and reflection. She commented on her progress,

I have been focusing on feedback. I am working on making feedback effective, and noticed in the process that I was limiting the amount of feedback that I was giving to students. This was not effective. So [my cooperating teacher] helped me to rethink that process. He asked me to go ahead and set a goal, a more practical goal. I am going to try and give feedback to every student in the class, once during the lesson. Through that process eventually the feedback, the words that I use, will be fewer and more effective or useful words. So that is a big one, and I am obviously still working on it. (Patty: Interview 4, February 28, 2002, 127 – 137)

Patty focused on using fewer words that had more meaning (Patty: Goals and Reflections Assignments, February 18-22, 2002 and February 25- March 1, 2002). On-site, at the elementary school, Patty explained her plan on becoming more proficient in providing effective feedback to her students and managing student behavior when she commented, "I need to focus on giving a lot of feedback first and then the effectiveness and wise use of it will come" (Patty: Goals and Reflections Assignment, February 25, 2002 – March 1, 2002).
Effective Use of Time

Sally, Charles, Linus, and Lucy identified that they wanted to increase their students' activity time during the class. Sally realized she needed to provide more activity time and less instructional time for her students (Sally: Goals and Reflections Assignment, February 18, 2002 – February 22, 2002). She also noticed that her transition times between instructions and activities were high. She focused on decreasing the transition time and increasing valuable activity time (Sally: Goals and Reflections Assignment, February 25, 2002 - March 1, 2002). During weeks seven and eight Charles noticed that he provided a lot of instructions using demonstrations, therefore, he needed to become more efficient in moving students from instruction/demonstration to activity. Charles strived to improve his transition and management times. He wanted to decrease these times, thus allowing for more activity time for his students (Charles: Goals and Reflections Assignment, February 18, 2002 – February 22, 2002). Linus concentrated on increasing the activity time that his students received. By providing positive specific feedback Linus felt he was making the physical education experience more meaningful for his students (Linus: Goals and Reflections Assignment, February 25, 2002 – March 1, 2002). Lucy also focused on decreasing her students’ transition time by creating a better instructional design for each class (Lucy: Goals and Reflections Assignments, February 18, 2002 – February 22, 2002). Lucy also realized that she needed to spend less time transitioning between instructions and activities in order to increase her students’ activity level (Lucy: Goals and Reflections Assignment, February 25, 2002 - March 1, 2002).
Week 9 & 10

During the final weeks of the elementary experience preservice PETE teachers identified management, providing feedback, and effective use of class time as important issues. These were not new topics and the continued emphasis on these areas was an indication that the preservice PETE teachers have developed a commitment to making their physical education classes more efficient and more effective.

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Table 4.33: Pedagogy Identified by Preservice PETE Teachers as Being Relevant to Teaching Elementary Physical Education.

Management

Charles, Sally, and Patty all identified learning behavior management strategies as helping them during their elementary teaching. Charles felt that he needed to develop strategies to motive students who routinely misbehaved. He focused on positive behaviors during class, rather than misbehaviors. He felt that he improved from last week, but he still was not proficient in curbing misbehavior, improvement was still needed (Charles: Goals and Reflections Assignment, March 4, 2002 – March 8, 2002). During his final week (week 10), Charles discussed his progress as being more positive; “I was able to gather more cooperation from some of his students who commonly
misbehaved. This may be because of a focus on trying to be more positive when interacting with these students” (Charles: Goals and Reflections Assignment. March 11, 2002 – March 15, 2002). Sally realized that the well-behaved students were paying the consequences of the disruptive students actions. To minimize the punishment of the well-behaved students, Sally concentrated on sitting disruptive students in time-out, while letting the rest of the class continue in their activity (Sally: Goals and Reflections Assignment: March 4, 2002 – March 8, 2002). Patty also worked on holding her students accountable to the rules and expectations in the classroom. She noted that consistency is the key to good management (Patty: Goals and Reflections Assignment, March 4, 2002 – March 8, 2002).

**Providing Feedback**

Charles was the only preservice PETE student not to mention feedback as being relevant to his teaching during the final weeks of the elementary experience. Sally continued to increase her feedback statements by offering them in the traditional “sandwich format” that she explained as providing a positive, corrective, and then a positive statement (Sally: Goals and Reflections Assignment, March 4, 2002 – March 8, 2002). Still wanting to improve in providing positive specific feedback, Linus continued to have this as one of his goals for his final weeks at his site. Linus commented, “It is very easy for me to give positive feedback now. The problem that still keeps arising is that my feedback lacks specificity” (Linus: Goals and Reflections Assignment, February 25, 2002 – March 1, 2002). Patty also commented that she lacked specificity in her feedback statements. She stated that the amount of her feedback and the frequency of her specific feedback still needed to be increased, and she needed to allow enough time for
that feedback to take effect before moving on to the next topic of the lesson or next individual. Patty focused on catching the students “being good” by praising them more often (Patty: Goals and Reflections Assignment, March 4, 2002 – March 8, 2002). Lucy concentrated on using feedback to assist her in behavior management. She realized that she needed to continue providing corrective feedback when she reported, “Feedback was individualized since assessment was taking place all week. I concentrated on cross-court feedback while assessing so students knew that I was still watching them” (Lucy: Goals and Reflections Assignment, March 4, 2002). Marcy also continued to improve giving specific, cross-court positive and corrective feedback, believing that this would help students stay on task and it would help her improve her with-it-ness (Marcy: Goals and Reflections Assignment, March 4, 2002 – March 8, 2002).

Effective Use of Time

Linus and Lucy focused on increasing their students’ activity time in the classroom. Lucy realized that she needed to continue increasing their activity time specifically by decreasing transition time (Lucy: Goals and Reflections Assignment, March 4, 2002 – March 8, 2002). Linus found that his students’ activity time was still low, therefore, he continued in his effort to increasing the opportunities for students to be active. One strategy he used to try to increase the activity time of his students was to use station work during the class (Linus: Goals and Reflections, March 4, 2002 – March 8, 2002).

Summary

The preservice PETE teachers identified pedagogy as being the most important help with their ability to teach elementary physical education. They clearly linked
different pedagogical concepts together. By providing clear and concise directions the preservice PETE teachers felt they could improve on their behavior management and decrease student transition times between activities. They also commented that by providing positive feedback to their students, rather than negative desists, behavior management could be more successful. Another strategy identified as assisting in behavior management was more effective planning. By having better designed lesson plans with several activities and smooth transitions planned, participants believed their students would have less opportunities to misbehave.

The preservice PETE teachers identified content knowledge as being important to their ability to teach; however, it was in relation to how the content knowledge would support the pedagogical process. Furthermore, these preservice PETE teachers noted that having content knowledge provided them the information to supply specific feedback and having content knowledge provided them with a sense of comfort in the classroom.
CHAPTER 5

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

This study examined six elementary preservice Physical Education Teacher Education (PETE) teachers as they completed a 10-week physical education student teaching experience in an elementary school site. The goals of the study were to determine how preservice PETE teachers learned content and pedagogy, what they found relevant, and if they integrated content and pedagogy into their elementary physical education teaching.

The preservice PETE teachers' practices are discussed in terms of the existing literature in general education and physical education. This section of the chapter shares some perspectives on how the study helps in our understanding of preservice PETE teachers and how they gain, and apply content and pedagogical knowledge in an elementary physical education classroom. A cross-case analysis of each research question will highlight themes that were common amongst the preservice PETE teachers. Chapter five also provides discussions about findings related to the theoretical frameworks of the model of teacher knowledge (Grossman, 1990), situated learning theory (Lave & Wenger, 1991), and contextual teaching and learning (Sears & Hersh, 1998) and how they align with key findings in the literature targeting pedagogical content.
knowledge (PCK) development. The last section presents some recommendations for the
design of teacher education programs for elementary physical education teachers.

Finally, recommendations for future research are provided.

R.Q. 1 What content/pedagogy did the professor view she taught in her preservice
elementary methods courses and internship?

After reviewing the syllabus and interviewing Dr. Peanut (pseudonym), topics of
content, pedagogical content knowledge, and pedagogy emerged as information
presented to the preservice PETE teachers during their 10-week elementary experience.
Dr. Peanut and the PETE faculty designed the *Elementary Field Experience in Physical
Education for the Elementary School Child* course to provide opportunities for the
preservice PETE teachers to observe and reflect, as well as develop their teaching and
assessment skills in a variety of contexts. Viewing the content in two-week increments
(Table 5.1) provides an opportunity to see when content, pedagogical content knowledge,
and pedagogy were presented to the preservice PETE teachers.
Table 5.1: Content, Pedagogical Content Knowledge (PCK), and Pedagogy Presented at

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This case study in which content, pedagogy and practice are integrated, aligns with findings of Even (1993) when he reported that good subject matter is necessary, but not sufficient, as pedagogical preparation is also needed. Taggart (1988) suggested that a major aspect of PETE programs should include a practice-teaching component in which preservice teachers have the opportunity to demonstrate teaching skills using a variety of strategies and techniques and a variety of ideas about effective teaching. In the current study, knowing that subject matter, pedagogical preparation, and practice are needed, the 10-week experience began with the preservice PETE teachers attending half-days at the university and half-days at their elementary school placement. While at the university, preservice PETE teachers learned different content and pedagogical knowledge that would assist them in their development of becoming a teacher. Information at the university was presented in lecture and small group work formats. Small group work occurred both in the classroom and the gymnasium and consisted of the preservice PETE teachers dividing into groups of two or three to discuss the lecture topic and devising a plan to solve a problem or scenario posed by Dr. Peanut. Dr. Peanut presented content and pedagogical strategies in a developmental progression as appropriate for elementary physical education students. Preservice PETE teachers listened to a lecture and then proceeded to complete an activity to help transition theory into practice. These activities took place either at the university or at the clinical education site, Sage Elementary School (pseudonym). Thus, the format of Allentown University's PETE program, in particular the elementary component, is consistent with Taggart's (1988) suggestion that
Preservice teachers need to practice teaching in a supportive environment and teach activities with which they are familiar.

After displaying competency, preservice teachers should enter into controlled environments and gradually be introduced into real-world situations. In the current study, preservice PETE teachers were presented with information that they implemented within a controlled environment, the clinical education site. As preservice PETE teachers increased their competency at the clinical education site, they then took their newly acquired skills and implemented them in a "real-world" situation with an elementary age population, at their elementary school site.

Dr. Peanut presented content and pedagogy by demonstrating how the information would be used in an elementary classroom setting. For example, Dr. Peanut presented the content of gymnastics through a series of progressions that she would use in the elementary classroom. By presenting in this format, Dr. Peanut modeled implementation of content with pedagogical strategies, or pedagogical content knowledge, for the preservice PETE teachers. Modeling of pedagogical strategies when presenting material to students supports findings by Barrett and Collie (1996) and Graber (1995) who found that preservice PETE teachers learned more when taught by instructors who conveyed pedagogical information in relation to activity. Infused into the elementary physical education content and pedagogy were four themes, at Allentown University (pseudonym): (a) understanding diversity (cultural, ethnic, physical, and gender) and adapting instruction based on individual needs, (b) use of technology to promote PETE and public school children learning outcomes, (c) use of work sample methodology and assessment strategies to examine the impact of PETE preservice
teacher’s instruction on student learning outcomes, and (d) use of reflection as a tool to promote professional growth.

While performing their elementary student teaching, preservice PETE teachers were supported with intense supervision provided by a university supervisor. The supervisors for the elementary experience were two retired physical education teachers and teacher education doctoral student. Preservice PETE teachers were observed teaching a minimum of one time per week. If the preservice teacher was struggling, observations occurred more frequently. University supervisors provided support for the preservice PETE teachers through providing feedback and suggestions on planning, assessment, content knowledge, and pedagogical strategies. University supervisors posed questions to the preservice PETE teachers to assist them in becoming reflective practitioners.

In the beginning of the elementary experience Dr. Peanut presented materials that would be the foundation for planning: (a) goals and characteristics for elementary physical education; (b) national, state, and local physical education standards; and (c) the mission and philosophy of elementary physical education. Pedagogical strategies were discussed with regard to developmentally appropriate practice and how to teach using skill progressions. Consistent with Doutis (1997), research in the current study found that learning progressions were a substantive part of pedagogical content knowledge development. Assessment strategies were presented to preservice PETE teachers in terms of how to authentically assess a student using a variety of assessment tools (rubrics, checklists, etc.). Discussion about rules, routines, and expectations was held and strategies on how to manage the classroom were discussed in detail.
Weeks three and four brought a continued focus on planning, assessment, and developmentally appropriate practice. Dr. Peanut integrated knowledge of content and pedagogy during her presentation of material by demonstrating pedagogical content knowledge in areas of assessment, adapting skills for different ages and skill levels, and teaching using progressions. Dr. Peanut presented content and pedagogy material to the preservice PETE teachers in the gymnasium by having them participate in activities first led by her, then led by the preservice PETE teachers. When the preservice PETE teachers led the activities, they were practicing the content and pedagogical skills they had just learned while observing Dr. Peanut model how to teach by using pedagogical content knowledge. Interactive learning also occurred at the clinical education site when the preservice PETE teachers observed Mr. Martin teaching various fundamental motor skills and a floor hockey unit.

Throughout the first five weeks of the 10-week experience Dr. Peanut presented skill content areas of fundamental motor skills, gymnastics, juggling, jump rope, games, fitness, and dance as important content areas in elementary physical education. Presentation of these skill areas occurred for several reasons, (a) they were covered in the American Master Teacher Program (AMTP) textbook series (Belka, 1994; Buschner, 1994; Purcell, 1994; Ratliffe & Ratliffe, 1994; Werner, 1994), (b) considered developmentally appropriate material for elementary physical education, and (c) many of these preservice PETE teachers were teaching units in those skill areas at their elementary placements.

During weeks five and six, these preservice PETE teachers progressed from half to full-day teaching at their elementary placements. Dr. Peanut continued to present
material in evening sessions at the university that would support preservice PETE teachers in the classroom. Topics such as how to teach and include all students, progressions for specific skills, with-it-ness, and how to teach using tactics were presented to the preservice PETE teachers. Dr. Peanut modified her planned lessons at times to meet the needs of the preservice PETE teachers. Modification of planned lessons by Dr. Peanut occurred when preservice PETE teachers requested information on certain skills they were to be teaching at their elementary school. For example, preservice PETE students requested information on gymnastics and dance. At other times, Dr. Peanut and the university supervisors noticed areas in which preservice PETE teachers were struggling, examples being the work sample methodology and behavior management strategies.

Behavior management strategies were focused upon, during weeks seven and eight as these preservice PETE teachers requested information on how to manage their students and classroom. An area of concern for several of the preservice PETE teachers was control of the classroom, as they realized that completing a planned lesson was difficult if their students were not on task and following directions. By revisiting the topic of with-it-ness, Dr. Peanut attempted to present strategies the preservice PETE teachers could use to gain control of their classroom. Dr. Peanut also invited an adapted physical education specialist to speak on modification of tasks to ensure inclusion of all students within the physical education classroom.

The final two weeks of the 10-week experience brought a concentration upon support for new teachers: (a) Praxis II examination review, (b) new teacher support systems (Peer Assistance and Review Program), (c) legal aspects of physical education
and how to protect oneself as a teacher, and (d) how to write a grant. Dr. Peanut invited guest speakers to present information pertaining to the different teacher support topics. Reviewing for the Praxis II exam helped curb some preservice PETE teachers' anxiety, as their exam was upcoming. A professor and mentor teachers entrenched in the PAR program spoke about the support system provided for beginning teachers in the local school district. A sports management professor presented legal aspects of physical education, to inform the preservice PETE teachers about their legal responsibilities as teachers. Grant writing was presented to inform the preservice PETE teachers of the potential resources they could apply for to supplement their teaching.

At the elementary placement, preservice PETE teachers began by observing and teaching from the cooperating teachers’ lesson plans. As the preservice PETE teachers became more comfortable in their new setting, they received more responsibilities. They began creating their own lesson plans and teaching whole classes. This structured teaching experience is consistent with Taggart’s (1988) suggestion about providing a progressive practice teaching format, learning in a controlled environment, and graduating to real world experiences.

Beginning in week three, these preservice PETE teachers were required to complete a goals and reflections assignment each week about their teaching. Preservice PETE teachers were asked to reflect upon their teaching and to set goals to achieve during teaching the following week. This is consistent with Graham’s (1991) suggestion that development of inquiring, reflective practitioners should be a primary goal of a PETE programs. This notion of developing reflective practitioners was stated as one of
the four themes emphasized throughout the elementary experience for the preservice PETE teachers in the current study.

Also, while completing their teaching, preservice PETE teachers were to create and implement a work sample methodology. Work sample methodology encompassed creating a unit plan, lesson plans, and collecting assessment data to show student-learning outcomes. Content and pedagogy were topics that were continually presented to the preservice PETE teachers. Much of the content was taught in conjunction with pedagogical strategies to assist these preservice PETE teachers in developing pedagogical content knowledge as the literature (Barrett & Collie, 1996; Graber, 1995) suggested that this is the most effective way to promote PCK development.

By combining learning content with pedagogical strategies and field-based experiences, Allentown University’s PETE program provides preservice PETE teachers with opportunities to develop their pedagogical content knowledge, through a series of structured teaching experiences both at the university and at field sites such as clinical education sites and elementary schools sites.

R.Q. 2 What pedagogy/content did preservice PETE teachers’ view they learned in their preservice elementary teacher education experience?

A stimulated recall strategy was used to interview the preservice PETE teachers; this strategy may have influenced these preservice teachers’ responses, therefore, they responded similarly as the professor interviewed. The stimulated recall strategy was implemented because the preservice PETE teachers struggled to identify what they had learned. Upon the discovery that the preservice PETE teachers could not identify what
was taught by Dr. Peanut, the researcher created a list of content and pedagogy presented from Dr. Peanuts’ interview to stimulate the memory of the preservice PETE teachers. The researcher presented each item from the created list and asked the preservice teacher the importance of and if they had used the presented material in their elementary experience. The difference between research question one and two is that research question one focuses on the faculty member’s perspective, while research question two focuses on the preservice PETE teacher’s perspective.

Throughout the PETE program at Allentown University, content was presented along with pedagogy. Dr. Peanut presented much of the content through activities that modeled pedagogical strategies. Because of this presentation format, these preservice PETE teachers may not have identified learning a particular content area due to focusing on the pedagogical strategy. This is supported by findings of Graber (1995) when she found that preservice PETE teachers in PETE programs that combined pedagogy and content when presenting information had difficulty in separating the two concepts. The professors of the PETE program at Allentown University concentrated on providing content and pedagogy in a sound and effective manner that supported PCK development. Discussion for research question two is grouped into two sections: (a) the first half of the elementary experience consisting of half-days at the university or clinical education site and half-days at their elementary schools, and (b) the second half of the elementary experience where the preservice PETE teachers attended their elementary schools for full-day student teaching and attended evening seminars at the university or clinical education site.
Half-Day Elementary Student Teaching Experience

Preservice PETE teachers began their elementary student teaching experience by attending the university or clinical education site for half-days and reporting to their elementary school site for the remainder of the day. Throughout the half-day experiences the preservice PETE teachers gradually acquired responsibilities of the cooperating teacher. Several content and pedagogy topics presented at the university and clinical education site were identified as relevant during their elementary teaching experience. Table 5.2 shows the content and pedagogy identified by the preservice PETE teachers during the first five weeks of the 10-week elementary student teaching experience.

<table>
<thead>
<tr>
<th>Weeks 1-5</th>
<th>Content</th>
<th>Pedagogy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mission/Philosophy of Elementary Physical Education</td>
<td>Planning (Unit, Block, Lesson)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assessment Strategies</td>
</tr>
<tr>
<td></td>
<td>Fundamental Motor Skills (FMS) and Movement Concepts</td>
<td>Rules, Routines, &amp; Expectations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Behavior Management</td>
</tr>
<tr>
<td></td>
<td>Interview Techniques</td>
<td>Work Sample Methodology</td>
</tr>
<tr>
<td></td>
<td>Resume Writing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.E. Standards (National, State, Local)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Praxis Examination</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jump Rope</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gymnastics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Juggling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Multicultural Awareness/Diversity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Children with Disabilities Info</td>
<td></td>
</tr>
</tbody>
</table>

Table 5.2: Content and Pedagogy Identified as being Learned by Preservice PETE Teachers During Half-Day Student Teaching

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During the first two weeks, the preservice PETE teachers identified all content identified by Dr. Peanut as content learned by them. All preservice PETE teachers identified learning about fundamental motor skills, gymnastics, juggling, jump rope, and diversity and multicultural awareness information. Topics identified as being learned appeared to be acknowledged because preservice PETE teachers were teaching units that involved that particular content. Throughout the 10-week elementary experience, all preservice PETE teachers, whenever they taught an individual unit, referred to the fundamental motor skills content. This content proved to be a part of the foundation of primary elementary physical education. Only Patty, Linus, and Sally identified discussion about children with disabilities during this time. Preservice PETE teachers also acknowledged learning about topics that would support their growth professionally. Topics included information about the Praxis II examination and interviewing techniques. None of the preservice PETE teachers identified all topics. For example, Marcy was the only participant to identify the discussion about movement concepts, while Lucy was the only preservice teacher to acknowledge the discussion about the mission/philosophy of elementary physical education. It was brought to the researchers attention, by Dr. Peanut, that movement concepts were presented within the fundamental motor skills lecture. This may explain why only one preservice PETE teacher identified movement concepts.

Several pedagogy topics presented during the first half of the elementary experience were identified by all six preservice PETE teachers. Topics acknowledged by all preservice teachers included planning, assessment strategies, and work sample methodology. Preservice teachers identified learning how to create unit and lesson plans. Planning involved setting goals and objectives of lesson that challenged the cognitive,
psychomotor, and affective domains of the students. A variety of activities needed to be planned, as well as assessment strategies and opening and closure to the lesson.

Preservice PETE teachers identified learning authentic assessment strategies as well as techniques to assess cognitive, psychomotor, and affective domains. The work sample methodology was presented to the preservice PETE teachers during this time. Included in the work sample methodology were the units of instruction, goals and objectives, strategies to meet those goals, and assessment tools to evaluate student learning. Planning, assessment, and work sample methodology were immediately relevant to the preservice teacher. Pedagogy topics not identified by all preservice teachers were information about rules, routines, and expectations and behavior management issues. It is interesting to note that all did not identify these topics, though through their reflections they identified classroom control as an area of concern.

It was during this time that Lucy commented that her limited content knowledge of juggling and jumping rope made her decisions on how to teach the content difficult. This comment supports findings by Graber (1995) and Hutchinson (1997) that limited content knowledge precluded preservice teachers from making informed choices about the best way to teach content. Lucy also commented that limited subject matter knowledge inhibited her ability to provide specific and corrective feedback to her students. Having limited content knowledge supports findings by Rovegno (1992a) stating that weak pedagogical content knowledge (PCK) was linked to problems observing student performance, thus providing effective corrective feedback to physical education students.

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Full-Day Elementary Student Teaching Experience

Full-day student teaching began during week six of the 10-week experience. During this time preservice PETE teachers identified a variety of content and pedagogy that they learned. This learning occurred in three sites, the university, clinical education site, and most importantly at the elementary school site.

<table>
<thead>
<tr>
<th>Weeks 6-10</th>
<th>Content</th>
<th>Pedagogy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juggling</td>
<td>Work Sample Methodology</td>
<td></td>
</tr>
<tr>
<td>Jump Rope</td>
<td>Behavior Management</td>
<td></td>
</tr>
<tr>
<td>Gymnastics</td>
<td>Assessment</td>
<td></td>
</tr>
<tr>
<td>Dance</td>
<td>With-it-ness</td>
<td></td>
</tr>
<tr>
<td>Individual Education Plans</td>
<td>Adapting teaching for children with disabilities</td>
<td></td>
</tr>
<tr>
<td>Peer Assistance and Review</td>
<td>Effective Teaching Characteristics</td>
<td></td>
</tr>
<tr>
<td>Employment Search Strategies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sport Law</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Praxis II Exam Review</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grant Writing</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.3: Content and Pedagogy Identified as being Learned by Preservice PETE Teachers During Full-Day Student Teaching

In the current study, topics identified during full-day student teaching by all six preservice PETE teachers consisted of juggling and jump rope. These topics were learned in conjunction with learning assessment strategies. This may be the reason why the preservice all preservice PETE teachers did not acknowledge learning all content topics. Dance and gymnastics were also identified as being learned, though not identified...
by all preservice PETE teachers. Again, preservice teachers involved in teaching units of
gymnastics and dance were ones most likely to identify learning the particular content.
Information on how to create individualized education plans, PAR, strategies to search
for employment, sport law, Praxis II review, and grant writing were content areas noted
as being learned by all the six of the preservice PETE teachers. These content areas all
focus on supporting the preservice teacher in securing a job and then once in the
classroom, to teach effectively.

All six preservice PETE teachers identified learning pedagogy topics consisting of
work sample methodology, management strategies, effective teaching characteristics,
with-it-ness, children with disabilities information, and effective teaching characteristics.
Pedagogical topics mentioned by these preservice PETE teachers align with the topics
presented by Dr. Peanut. These pedagogical topics were also topics for which the
preservice PETE teachers were being held accountable on their 6 and 10 week evaluation
on their teaching experience. Charles was the only preservice PETE teacher to mention
the pedagogical topic of the tactical approach to games as being learned during the 10-
week experience. Participants at one point or another throughout the 10-week experience
mentioned all other pedagogical topics. Differences in content and pedagogy topics
acknowledged by preservice PETE teachers may be because of contextual factors that
influenced them (Graber, 1995; Hargreaves, 1984; McNeil, 1986; and Rovegno, 1992) or
pre-existing knowledge brought into the program by the preservice PETE teachers.
Contextual factors that may have influenced the preservice PETE teachers were the: (a)
community in which the elementary school was placed, (b) class size, (c) importance of
physical education within the school, and (d) the cooperating teacher with whom the
A preservice teacher was placed. If these preservice PETE teachers already knew the content or pedagogy they may not have acknowledged learning it during the elementary experience.

R.Q. 3 How did the preservice PETE teachers view they had learned the content/pedagogy?

Learning occurred in three venues: the university, the clinical education school site, and the elementary school placement sites. Within these venues several themes emerged as factors on how learning occurred: (a) by receiving resources (handouts and texts), (b) listening to lecture and participating in discussion, (c) participating in activities, (d) observation, (e) reflection, and (f) teaching.

<table>
<thead>
<tr>
<th>Venue</th>
<th>Patty</th>
<th>Lucy</th>
<th>Marcy</th>
<th>Linus</th>
<th>Charles</th>
<th>Sally</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td>-Resource</td>
<td>-Resource</td>
<td>-Resource</td>
<td>-Lecture</td>
<td>-Resource</td>
<td>-Lecture</td>
</tr>
<tr>
<td></td>
<td>-Lecture</td>
<td>-Lecture</td>
<td>-Lecture</td>
<td>-Activity</td>
<td>-Lecture</td>
<td>-Activity</td>
</tr>
<tr>
<td></td>
<td>-Activity</td>
<td>-Activity</td>
<td>-Activity</td>
<td>-Activity</td>
<td>-Activity</td>
<td>-Activity</td>
</tr>
<tr>
<td>Clinical Education Site</td>
<td>-Activity</td>
<td>-Activity</td>
<td>-Activity</td>
<td>-Activity</td>
<td>-Activity</td>
<td>-Activity</td>
</tr>
<tr>
<td>Elementary Placement</td>
<td>-Activity</td>
<td>-Activity</td>
<td>-Activity</td>
<td>-Observe/Reflection -Activity</td>
<td>-Observe/Reflection -Activity</td>
<td>-Observe/Reflection -Activity</td>
</tr>
</tbody>
</table>

Table 5.4: How Content/Pedagogy Was Learned as Identified by Preservice PETE Teachers

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Neither Linus nor Sally identified learning from receiving resources (handouts and texts), though it was implied by Sally. During the interviews Sally mentioned several times that she received a resource packet, and in instances where Sally did not receive a packet she stated she wished she had so she could refer back to it in the future. Tan, Fincher, Manross, Harrington, and Schempp (1994) found that preservice teachers tended to use resources (books, handouts, resource packets) to find drills or lead up games when teaching new content, while experienced teachers tended to ask someone, rather than perform research to acquire information about new content. Most of the preservice PETE teachers in this study identified supplementing their learning with resources (handouts and texts), as consistent with findings presented by Tan, et al. (1994).

Findings from the current study also are consistent with the developmental phases through which preservice teachers navigate (Jones & Vesilind, 1994). Jones and Vesilind (1994) found the university to be the primary influence on preservice teachers’ knowledge development at the beginning of the student teaching experience. However, in the middle of student teaching, the university was no longer the most influential source of information. Rather, preservice teachers acquired knowledge through their student teaching experience. At the end of the experience, changes in preservice teacher thinking were due to continued interactions during the student teaching setting, employment opportunities, and peer interaction (Jones & Vesilind, 1994).

The preservice PETE teachers in the current study also learned from observing, reflecting upon, and discussing their teaching with their peers and their cooperating teacher. These findings are consistent with earlier work suggesting that pedagogical content knowledge is influenced by the ability and willingness to reflect upon one’s
practice (Tuan, Jeng, Whang, & Kaou, 1995; Van Driel & De Jong, 2001; Veal, 1999).

In the current study, preservice PETE teachers commented that class reflection and
discussion time of their elementary teaching experiences aided in developing their ability
to teach elementary physical education. Patty and Sally both agreed that listening to
other preservice PETE teachers' experiences provided them with new knowledge.

Field experiences provided opportunities for the preservice PETE teachers to
observe, help, teach, and ask questions of their peer preservice teacher, cooperating
teacher, or university supervisor, in a variety of grade levels and situations. Linus
commented that he would have liked to observe not only at "perfect" schools, but also at
schools that do not have all the resources, yet still have effective programs. This
comment is in agreement with findings from Curtner-Smith's (1997) research suggesting
that preservice teachers felt well prepared to enter into the "perfect" setting; however,
were disheartened when they entered the field and saw how physical education occurred
in the "real" world.

In the current study, Linus and Marcy attempted to use station work while
teaching their gymnastics unit. Their cooperating teacher mentioned that she believed
station work would prove to be difficult, but allowed Linus and Marcy to attempt this
strategy nonetheless. Graber (1995) suggested that, at times, preservice teachers learn by
trying new strategies to see if they will be successful. Graber (1995) and Rovegno (1994)
noted that preservice teachers were less likely to try new strategies when they were in
their survival mode, and making attempts to appease their cooperating teacher and
university professor. In this case, Linus and Marcy tried a new strategy and found that
their cooperating teacher was indeed correct, station work was not successful in their

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environment; however, it was important that they had an opportunity to try it for themselves.

It was unanimous, all of the preservice PETE teachers believed they learned most effectively and efficiently by participating in experiences at their school site and clinical education sites. Preservice PETE teachers cited their field experiences as the most influential factor in learning content and pedagogy, declaring they were able to practice their university learning in authentic settings. Applying teaching practices in authentic settings allowed the preservice PETE teachers to confirm, disprove, change, and strengthen their philosophies about teaching and learning acquired throughout their educational experiences in their undergraduate work.

Linus and Charles commented they had learned from watching their teachers when performing coursework for their undergraduate degree. While in their elementary placement these preservice PETE teachers observed, planned and conducted instruction, attended school meetings, and met regularly with their PETE cohort, cooperating teacher, and university supervisor to discuss their teaching at the elementary level. Importantly, these preservice PETE teachers reported the opportunity to work with elementary children and seeing first-hand how they learned was a valuable component in their elementary physical education experience. This supports earlier work that suggested that field experiences were found to be most influential on the development of the preservice PETE teacher (Curtner-Smith, 1997; Dodds, 1989; Elbaz, 1993; Graber, 1995; Grossman & Richert, 1988; Rovegno, 1992; Smith, 1999; Van Dreil & De Jong, 2001; Veal, Tippens, & Bull, 1999). In the current study, the elementary school placement allowed
the preservice PETE teachers to be exposed to authentic situations involving students, parents, faculty members, and administrators.

Throughout their elementary teaching, the preservice PETE teachers had the opportunity to experience cultural, emotional, experiential, and political conflict in addition to cognitive dissonance. Field experiences were critical in discovering what it meant to be a teacher. Charles and Linus realized that experience confirmed, or changed, their views on teaching and learning. Beliefs of the responsibilities and degree of difficulty of teaching were changed, as, prior to their teaching experience, both Linus and Charles believed that teaching was relatively easy. Charles commented that he had believed teaching to be a "cake job". After being in the schools and student teaching for less than two weeks, he realized that there was more to teaching than he once thought. He realized that teaching involved planning. Linus, too, commented on how his view of teaching changed. Linus explained how he used to think he could teach without a lesson plan, but after teaching a short time he realized his inaccurate conception about teaching. Connecting the university coursework to a field experience appeared to provide the concrete experiences that preservice PETE teachers required to test their knowledge and anchor their developing philosophies of physical education teaching and learning.

R.Q. 4 To what extent did preservice PETE teachers view the content/pedagogy to be relevant to their ability to teach elementary physical education?

Five themes emerged from the data identifying topics these preservice PETE teachers considered relevant to their ability to teach. Three of the topics related directly to relevance: immediate relevance, future relevance, or suggestions on how to make a
topic relevant. The final two themes were related to the amount of time spent on a topic, either too much or too little.

In the beginning of the 10-week experience, the preservice PETE teachers were pre-occupied with controlling the classroom, which is consistent with the findings from Gee, Boberg, and Gabel (1996), Graber (1995), Hargreaves (1984), McNeil (1986), Rovegno (1992), and Schempp, Sparkes, and Templin (1993). Pedagogical skills and strategies were thought to have the biggest influence on the ability to teach elementary physical education because of the immediate relevance. Several preservice PETE teachers concentrated on providing specific feedback, extending tasks, and providing clear directions for students in the beginning of their student teaching experience. Pedagogical skills were predominately thought to have the most impact on the preservice PETE teachers’ ability to teach during the remainder of the 10-week experience. Importance of content knowledge was specific to the preservice PETE teachers’ situation. Charles, Marcy, and Linus found that gymnastics was important, as they were all teaching a gymnastics unit at their respective school sites. Marcy related the sport law content she learned to her gymnastics unit relative to safety for her students and legal protection for herself as a teacher. Fundamental motor skills were found to be essential knowledge to both Patty and Marcy. Patty was teaching a fundamental motor skills unit and Marcy believed that knowledge of fundamental motor skills would assist her in performing student assessment. Patty identified information on children with disabilities and adapting games for all learners to be useful as she had several students with disabilities in her class. Importance of content knowledge was directly linked to its support of pedagogical strategies. It is critical to note that individualizing instruction,
extending tasks, providing specific feedback, and providing clear instructions, all point
toward development of PCK and were addressed by all preservice PETE teachers at some
point during the 10-week experience.

Tuan, Jeng, Whang, and Kaou (1995) suggested that at the end of the student
teaching experience preservice teachers began to think of pedagogy and content together
when thinking about how to teach. Findings in the current research suggest that
preservice PETE teachers at Allentown University began to link pedagogy and content in
the early weeks of their student teaching experience. Lucy linked her content and
pedagogy in the beginning of the 10-week elementary experience when she learned how
to teach juggling and jumping rope. In this situation, Lucy did not have a chance to learn
the content outside of the teaching environment, which may have had an effect upon the
way in which she approached those subjects. Patty also linked her pedagogy and content
together early in the experience when she devised ways to extend tasks and individualize
instruction. Linus, too, contemplated of ways to individualize instruction during the
beginning of his student teaching. Lastly, Sally thought of providing corrective feedback
to her students. While providing individualized, corrective feedback Sally had to rely on
her content knowledge and link it with pedagogical strategies to help her students
progress in their skill development. The early linking of pedagogy and content may be
due to the PETE program design at Allentown University as content and methods
(pedagogy) were inextricably linked together during the one-year PETE program.

Throughout their teaching, Patty and Marcy realized that their expectations of
students differed from how their students performed. Patty found that her students were
more skilled than she anticipated; therefore she had to individualize instruction. While

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Patty found her students more skilled than she anticipated, Marcy found her students to be less skilled. During her assessment of students, Marcy found that her first and fifth graders were similar in skill performance; therefore she had to adjust her thinking on how to teach her unit. Marcy had planned her unit according to her knowledge of the motor development stages and was surprised and somewhat distraught when she misjudged students’ skill performance at her school. These findings are consistent with findings by Chen and Ennis (1995) as they reported that teachers’ expectations and curricular decisions were based more on personal perceptions of student learning than student competency and ability.

The fact that preservice PETE teachers in this study found pedagogy and content that could be immediately relevant, was of no surprise. This is consistent with earlier work by Loughran (1993) who suggested surviving is most important in the individual’s development. Building on this, Graber (1995) found that differences in what is relevant could be attributed to several factors: (a) the student teaching placement, (b) the style of the cooperating teacher, and (c) the grade level of the students. Graber (1995), Hargreaves (1984), McNeil (1986), and Rovegno (1992) reported that contextual factors of the school culture were significant in the development of PCK. Contextual factors appeared to be a determining factor for what the preservice PETE teachers in the current study indicated to be relevant. Findings in this study were also consistent with those of Graber (1995), who stated that actions of preservice teachers were influenced more by the current situation, rather than what they had learned at the university. Graber (1995) also put forth that limited subject matter knowledge might inhibit the ability of preservice teachers to make informed choices about the best pedagogical strategies for their
situation. In this current study, Graber’s (1995) finding concerning limited subject matter knowledge was supported when Linus and Marcy, neither having strong backgrounds in gymnastics, attempted the pedagogical strategy of station work during their gymnastics unit. The other four preservice PETE teachers did not attempt different pedagogical strategies than what their cooperating teacher had used, thus staying with what Rovegno (1994) referred to as a curricular zone of safety. Moreover, in the current study, it was revealed that when preservice PETE teachers lacked confidence because of limited subject matter knowledge they solicited advice from their cooperating teachers and followed their suggestions. This finding is inconsistent with findings from Tan, Manross, Harrington, and Schempp (1994) in that the preservice teachers in this study, not only used resources to find activities and drills to support their teaching, but also relied on asking peers and their cooperating teachers for support. In the current study Lucy, Patty, Sally, and Charles, all at one point, mentioned learning from discussing teaching observations with peers and their cooperating teachers. Also, Linus and Marcy repeatedly discussed how to manage behavior in the classroom with their cooperating teacher.

R.Q. 5 At what point in a 10-week elementary experience did preservice PETE teachers find the content/pedagogy to be relevant to their ability to teach elementary physical education?

In the current study, topics learned at the school sites during student teaching as identified by preservice PETE teachers are detailed in Appendix G. During the first two weeks, the preservice PETE teachers were concerned with planning, assessment.
strategies, and pedagogical skills. It was during the preservice PETE teachers' time at the university that planning, pedagogy, and assessment were introduced as components to be completed for their work sample methodology. Work sample methodology was the culminating project for the elementary physical education experience for these preservice PETE teachers. According to Dr. Peanut, assessment was a huge portion of their work sample project, which was confirmed by the preservice PETE teachers. For their work sample methodology, preservice PETE teachers were to plan their unit, set goals and objectives, and provide assessment strategies used to evaluate student learning. While completing the work sample, these preservice PETE teachers were to collect student data and demonstrate how they, as teachers, brought about student learning.

Preservice PETE teachers were preoccupied with controlling the classroom and managing student behavior during week three. This finding is consistent with previous research, showing that the level of pedagogical content knowledge demonstrated by preservice teacher teachers appeared to be directly related to their ability to control the classroom and deal with classroom management issues (Gee, Boberg, & Gabel, 1996; Rovegno, 1994; Schempp, Sparkes, & Templin, 1993; Smith, 1999). In the current study, the third week of the elementary experience was when the preservice PETE teachers began receiving more responsibilities at their school site. They began creating parts of a lesson and teaching small groups of students at the school site. Some preservice PETE teachers received the opportunity to teach an entire class at this point. The amount of responsibilities the preservice PETE teachers acquired depended upon their comfort level and how their cooperating teacher chose to indoctrinate them into the physical education program at the elementary school.
Five of the preservice PETE teachers in the current study thought about the types of feedback they were providing to their students during weeks three and four. The notion of feedback continued to be a concern amongst the participants for the remainder of the 10-week experience. In the beginning of the elementary experience, preservice PETE teachers were concerned with providing any type of feedback, predominately general statements of “good job” or “way to go” were used. By the end of the elementary experience, the preservice PETE teachers focused on providing specific and corrective feedback to their students.

Two of the preservice PETE teachers identified that providing clear and concise directions and instructions was a concern for them during weeks three and four. The preservice PETE teachers, through the entire 10-week experience, concentrated on planning and making sure enough was planned for the lesson. This finding is consistent with findings by Borko and Livingston (1989) and Stroot and Morton (1989) suggesting that planning by novice teachers focused on development of strategies to present content. By the end of the 10-week experience, all preservice PETE teachers in the current investigation had focused on providing specific and corrective feedback to their students. These strategies suggested that these preservice PETE teachers were developing PCK. Findings with regard to the development of these preservice teachers is consistent with findings of Jones and Vesilind (1994) that preservice teachers have detailed information of content and pedagogy in the beginning of their student teaching experience, but lacked integration of these concepts. Rovegno (1992a, 1998) suggested that preservice teachers did not have enough differentiation between content and pedagogy, therefore developing weak pedagogical content knowledge. Graber (1995) too, commented on the inability of
preservice PETE teachers to differentiate between pedagogy and content when they attend PETE programs that link the two concepts. In the current study, weak PCK contributed to preservice teachers’ limited feedback to their students. Lucy commented that having sufficient content knowledge of juggling and jumping rope would have allowed her to provide her students with more corrective and specific feedback, thus increasing student learning. Findings in the current study suggest that preservice PETE teachers begin developing PCK earlier than preservice PETE teacher counterparts in other studies (Smith, 1999; Tuan et al., 1995; Veal et al., 1999). Due to the strong link between content and pedagogy provided by professors in the PETE program at Allentown University, early development of PCK in the preservice PETE teaching may have been enhanced.

DeRuiter (1991) suggested a four-phase developmental process for preservice teacher, noting the transformation was not sudden, but was often dramatic. The four phases were: (a) dawning awareness, (b) black and white, (c) there’s really more to it than I thought, and (d) this is hard, but I can do it. In phase one, “dawning awareness”, preservice teachers began to recognize the construction of learning exists as a theory of learning. In phase two, “black and white”, preservice teachers became more focused on the practice or craft of teaching. During phase three, “there’s really more to it than I thought”, preservice teachers began to realize that constructing knowledge requires a change in beliefs about thinking and learning. Phase four, “this is hard, but I can do it”, suggests that preservice teachers began to apply the concepts learned in the class. It was noted that at the end of the semester students displayed a higher phase of understanding than at the beginning of the semester.
In the current study, preservice PETE teachers traversed through the dawning awareness, theories of constructing knowledge, into phase two, “black and white”. During the “black and “white” phase, preservice PETE teachers focused on practice rather than theory. They believed that pedagogical skills and strategies had the largest influence on their ability to teach elementary physical education. When confronted with new content, preservice PETE teachers learned by teaching and observing at their school sites. Gaining confidence with classroom content, the preservice PETE teachers were concerned with being able to provide effective feedback and extensions throughout the lesson. Beginning in week three, five of the six preservice PETE teachers in this study were concerned about providing specific and corrective feedback, thus focusing on student learning and meeting student needs. This finding aligns with previous research, suggesting that during student teaching preservice PETE teachers’ pedagogical structures shifted toward a student focus throughout their experience (Lederman & Chang, 1994; Lederman, Gess-Newsome, & Lazt, 1994; Veal, Tippens, & Bell, 1999).

In the current research, Linus was the only participant during this timeframe that did not mention providing feedback as being relevant to his teaching, however he did mention it for the remaining six weeks. As previously mentioned, Lucy commented on how subject matter knowledge allowed her to provide specific and corrective feedback to her students. When she was unfamiliar or lacked confidence in the content, the effectiveness of her feedback suffered.

In accordance with phase three, “there’s really more to teaching than I thought”, most of the preservice PETE teachers noted, though at different times during the 10-week experience, that there was more to teaching than they initially thought. Specific
statements made by Linus and Charles indicated their thoughts on teaching were changed when they stated that teaching was more involved than they initially thought because it required planning and being prepared. Also, most of the preservice PETE teachers mentioned that teaching was harder than they thought it would be (phase four), thus completing the four-phases of transformation suggested by DeRuiter (1991).

Model of Knowledge Development

Each of the preservice PETE teachers' development in this study can best be understood by drawing on the model of teacher knowledge developed by Grossman (1990). Subject matter knowledge, general pedagogical knowledge and knowledge of context all interact with the development of pedagogical content knowledge (PCK), which is the center of the model. In this current study, throughout the 10-week elementary experience, preservice PETE teachers faced many challenges in the classroom, at the university, and at their school sites. Each knowledge area from Grossman’s model (subject matter, general pedagogic, pedagogical content, context) was broached during the preservice PETE teachers' experiences in the 10-week elementary experience for this current study.

Subject matter knowledge comprised of syntactic structures, content, and substantive structures, were presented and learned by these preservice PETE teachers. Subject matter knowledge content, according to Grossman (1990), includes the major facts and concepts within a field and the relationship among those facts and concepts. Throughout the 10-week experience the preservice PETE teachers identified learning subject matter that can be categorized in areas of content, syntactic structures, and substantive structures. Content areas acknowledged by preservice PETE teachers in the
current study were (a) dance, (b) juggling, (c) jumping rope, (d) diversity and multicultural awareness, (e) gymnastics, (f) games, (g) fundamental motor skills, movement concepts, and (h) national, state, and local standards. Skill content learned was specific to the elementary age physical education student. Preservice PETE teachers learned about the developmental stages through which a child develops and how to appropriately develop skill content to meet the needs of the elementary student. The professor taught fitness, though the preservice PETE teachers did not acknowledge it.

National, state, and local standards provide a foundation for curriculum development and they also fall under syntactic structures as defined by Grossman (1990). Syntactic structures, the second component of subject matter knowledge, are understandings of accepted principles of evidence and proof within the discipline. In other words, syntactic structures are how members of the discipline evaluate knowledge claims. Necessary knowledge identified in the national, state, and local standards by which teachers are held accountable and accreditation institution requirements for PETE programs provide frameworks from which to evaluate. The Praxis II examination falls under the umbrella of syntactic structures, as it is a tool used to evaluate teachers’ knowledge. The third component of subject matter knowledge is substantive structures. These are the various paradigms within a field that affect how the field is organized and guide inquiry for further study. Preservice PETE teachers are presented with a variety of curricula that represent different goals and values for education and physical education. Dr. Peanut presented motor development literature findings as well as moral and social development theories.
The preservice PETE teachers identified learning general pedagogical knowledge that encompassed topics such as curriculum and instruction, learners and learning, and classroom management. Curriculum and instruction is the first component of general pedagogical knowledge, as defined by Grossman (1990), and was addressed when elements of a lesson and unit plan were discussed in relation to national, state, and local standards of physical education. Preservice PETE teachers were asked to create a unit and many lesson plans throughout the 10-week experience by assessing the needs of their students and developing a plan (lesson or unit) to meet those needs. Preservice PETE teachers learned about teaching through the use of progressions and developmentally appropriate practice catering to the elementary physical education student. Appropriate pedagogical strategies were integrated with content and modeled by Dr. Peanut to aid the preservice PETE teacher in developing pedagogical content knowledge. Addressing the second component of general pedagogical knowledge, participants in the current study identified partaking in several discussions about how to assess and meet their students’ needs. The preservice PETE teachers discussed motor stages, cognitive, social, and moral development of learners, as well as the ecological or contextual influences of the learners and their environment at length. Throughout the 10-week experience the preservice PETE teachers had the opportunity to practice assessment in the university classroom through a variety of exercises, at the clinical education site with an elementary population, and at their school site when teaching the unit they designed. Authentic forms of assessment were discussed and activities to practice authentic assessment strategies were provided for the preservice PETE teachers. Classroom management, the third component of general pedagogical knowledge, such as rules, routines, and
expectations and behavior management strategies were observed and reflected upon by
the preservice PETE teachers. Classroom management proved to be an ongoing concern
for several of the preservice PETE teachers throughout their elementary experience. All
three components of general pedagogical knowledge were encompassed within the work
sample methodology required by the preservice PETE teachers. Necessary component of
the work sample methodology comprised of the (a) setting goals and objectives, (b)
assessing student needs, and (c) proof of student learning.

The acquisition of knowledge of context, the third external component that
interacts with PCK, was also approached through the work sample methodology. In
preparing the work sample methodology the preservice PETE teachers were required to
collect data and information on the setting and environment of the school and the
community in which the school was located. To assist the preservice PETE teachers in
gaining knowledge about their students, several discussions and presentations were
completed on multiculturalism and diversity.

Pedagogical content knowledge (PCK) includes conceptions of the purpose of
teaching, knowledge of student understanding, curricular knowledge, and knowledge of
instructional strategies. Many of the preservice PETE teachers’ conceptions of teaching
physical education were altered, whether it was their beliefs or their understanding of
other peoples’ beliefs of physical education, throughout their experiences. As the
preservice PETE teachers progressed through the 10-week experience they began to
focus more on students’ needs and learning, and less on classroom control. Teaching to
meet the needs of the students can be seen as development of PCK. Dr. Peanut modeled
this concept when she adapted her planned lessons to meet the needs of the preservice

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PETE teachers. When preservice PETE teachers requested information on gymnastics, dance, and information about specific disabilities Dr. Peanut made an effort to cater to their needs. She also modified her plans when she noticed the preservice PETE teachers were struggling with the unit plan. Dr. Peanut reallocated her time and devoted two days to unit planning to assist the preservice PETE teachers in completing their unit plans correctly. She also spent time helping them to understand the rationale behind the unit plan. Developing an understanding of the curriculum, making curricular decisions, and using different instructional strategies also point toward the development of PCK.

Grossman and Richert (1988) suggested that learning through practical experience allows the preservice PETE teacher to learn about students' misconceptions and prior knowledge of subject matter. The preservice PETE teachers also had the opportunity to make curricular decisions and experiment with pedagogical strategies while at their elementary placements through the planning of lessons and a unit and completing the work sample methodology.

Grossman (1990) suggested that programs where preservice PETE teachers acquired subject matter knowledge and pedagogical knowledge simultaneously might not make a clear distinction between the two concepts. Findings in this current study at Allentown University support Grossman's (1990) comment. More specifically, these preservice PETE teachers in this current study rarely identified pure content or pedagogy during the interviews. Though content and pedagogy were inextricably linked, one pedagogical topic was identified as standing alone and that was behavior management. All six preservice PETE teachers acknowledged learning behavior management techniques. At times behavior management was discussed in relation to planning. Linus,
Patty, Marcy felt better planning would result in better classroom management.

Professional development content of resume writing, interviewing techniques, support for beginning teachers, and search for employment were presented and discussed in relation to how to gain employment and how to develop as a teacher once a job was obtained. Possessing content knowledge was viewed as supporting pedagogical strategies. For example, one preservice teacher, Lucy, suggested that her content knowledge supported her pedagogical practices of providing effective feedback to her students.

**Contextual Teaching and Learning and Situated Learning Theory**

The PETE program at Allentown University was presented through the contextual teaching and learning framework (Sears & Hersh, 1998). Characteristics of this framework suggested that learning is: (a) problem based, (b) occurs in multiple contexts, (c) fosters self-regulated learning, (d) is anchored in students’ diverse life contexts, (e) employs authentic assessment and (f) uses interdependent learning groups. This study used the situated learning theory as its theoretical framework (Lave & Wenger, 1991). Situated learning theory suggests that: (a) learning is grounded in the actions of everyday situations; (b) knowledge is acquired situationally and transfers only to similar situations; (c) learning is the result of a social process encompassing ways of thinking, perceiving, problem solving and interacting in relation to declarative and procedural knowledge and (d) that learning is not separated from the world of action but exists in robust, complex, social environments made up of actors, actions, and situations. Characteristics of both the contextual teaching and learning (CT&L) framework and situated learning theory have been integrated to inform the experiences of the preservice PETE teachers in the PETE program at Allentown University.

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Problem-based learning, the first CT&L characteristic, can be linked to all four facets of situated learning theory and can also be linked to the learning that these preservice PETE teachers identified. Preservice PETE teachers were confronted with simulated or real problems where they could view the problem from a variety of vantage points and integrate the information they acquired to solve the problem. Development of a unit plan is an excellent example of problem-based learning. Participants in the current study were asked to develop a unit plan that would address the students’ needs and assess the progress of the student. This unit plan was to be comprised of lessons, task analysis, and assessment procedures to gauge student learning. These preservice PETE teachers first needed to identify the students’ skill and ability levels by using various forms of assessment strategies, analysis of the data was required in order to pinpoint the needs of the students, and then the preservice PETE teachers were asked to develop a unit plan. Different activities that preservice PETE teachers completed also could be considered problem-based learning. They were asked to use resources provided to them about developmental stages and develop three activities to aid a low and a high performing student in learning an assigned skill. Moreover, these preservice PETE teachers were asked to complete several activities using the developmental stages. At the clinical education sites the preservice teachers were given the opportunity to observe a lesson and then immediately apply the knowledge they acquired by teaching and assessing the next lesson. These opportunities at the clinical education sites occurred at least once a week for the preservice PETE teachers.

Learning that occurs in multiple contexts, the second CT&L characteristic, can be identified throughout the PETE program at Allentown University. Situated learning
theory suggests that learning is grounded in the actions of everyday situations and that learning is acquired situationally and is not separated from the real world and can be directly connected to this contextual teaching and learning characteristic. The preservice PETE teachers identified three venues in which their learning occurred; that is, the university (both in the gymnasium and the classroom), clinical education sites, and school sites. It was within these venues that the preservice PETE teachers participated in activities involving working with their cohort or instructing elementary age children. University learning provided a controlled environment in which to learn new material. The clinical education site allowed the preservice PETE teacher to interact with an elementary population, without having all the added responsibilities one would have in their own classroom. Finally, preservice PETE teachers provided instruction at their elementary school sites. Preservice PETE teachers were slowly immersed into the real world environment with carefully structured and formatted experiences.

Self-regulated learning, the third CT&L characteristic, includes an awareness of thinking, use of strategies, and sustained motivation. Becoming a self-regulated learner involves the analysis of one’s own ability to think and solve problems by self-observation and reflecting on one’s actions. Beginning during week three of their experience, the preservice PETE teachers were required to complete a goals and reflections assignment. While completing the assignment, the preservice PETE teachers were asked to reflect upon their teaching and identify areas they wished to improve. Goals for improvement areas were to be set for the following week and then progress toward the goals was addressed on at the end of the week. While planning lessons, the six preservice PETE teachers also utilized self-regulated learning strategies. They were required to think
about how to present material in the appropriate format to meet their students' needs. If their lesson did not go according to their plan, preservice PETE teachers found it necessary to modify their lesson while remaining motivated to finish the lesson in the most effective manner.

That teaching and learning is anchored in students' diverse life contexts, the fourth CT&L characteristic, is framed in the belief that cultural and social contexts are important to the preservice PETE teachers' understanding and learning of content and pedagogy and how it relates to their students. Situated learning theory notions that can easily fit into this contextual teaching and learning characteristic. Learning is grounded in everyday situations, is acquired situationally and transfers only to similar situations, and is not separated from the real world. By discussing diversity, multiculturalism, and cultural sensitivity, these preservice PETE teachers became more informed about beliefs and values of those from different cultures and backgrounds. Preservice PETE teachers identified viewing a video that presented information on bias and discrimination and then having a discussion on the responsibility of the teacher to provide a learning environment free of bias and prejudice. Also, learning about individuals with specific disabilities provided a different perspective from which the preservice PETE teacher could approach planning and instructing. During their elementary experience the preservice PETE teachers were required to create a multicultural bulletin board at their elementary school. Requirements for this assignment were that all grade levels should understand the content, there were bright colors and pictures to assist students with visual and learning disabilities, and that it was related to the goals of elementary physical education.

Preservice PETE teachers were also required to identify a child with a moderate to severe
disability and ensure that their needs were met within the preservice PETE teachers unit of instruction. Physical and emotional characteristics of the child with a disability were to be identified, as well as goals created for the child to meet, special equipment needed, and assessment strategies to show student learning were to be incorporated into the work sample methodology.

The belief that teaching and learning employs authentic assessment is the fifth contextual teaching and learning (CT&L) characteristic. Authentic assessment is derived from multiple sources and is blended within instruction. Again the characteristics of situated learning theory that can be connected to this CT&L characteristic are the facts that learning is grounded in everyday situations, acquired situationally, transfers only to similar situations, and is not separated from the real world. Preservice PETE teachers in this study identified learning about assessment that occurred in the cognitive, psychomotor and affective domains. They also identified learning authentic assessment strategies such as self and peer assessment, checklists, task sheets and an assessment continuum. The work sample methodology was an authentic form of assessment used with these preservice PETE teachers. During development and completion of the work sample methodology, the preservice PETE teachers were required to present materials that they had implemented in their classroom: unit plans, lesson plans, assessment strategies, behavior management strategies, necessary equipment, and proof of student learning.

The use of interdependent learning groups to assist in teaching and learning, the sixth CT&L characteristic, can be clearly seen in the PETE program at Allentown University. Interdependent learning groups allowed the preservice PETE teachers to
engage in cooperative learning encased within a supportive environment. The belief that learning is a result of a social process and that it is within the real world are the two situated learning characteristics that can be linked to this CT&L characteristic. Throughout the 10-week experience, six of the preservice PETE teachers noted learning from being involved in discussion and reflection sessions with their peer cohort at their elementary site and their cohort at the university. While at their elementary school, preservice PETE teachers were placed in pairs, thus providing them with a peer student teacher with whom they could work with, discuss ideas, observe, and learn. The cohort at the university was comprised of 12 preservice PETE teachers who completed the PETE program together. By discussing topics with the cohort at the university, preservice PETE teachers could share experiences from their elementary school, whether it was in an urban or suburban setting. These discussions provided some insight and ideas or potentially new viewpoints from which other preservice PETE teachers could view situations at their elementary schools. During these sessions behavior management issues, assessment strategies, and student learning were discussed. These preservice teachers also noted that they worked with their cohort at the school sites while planning the unit they were to teach at their school.

Conclusions

There are several conclusions that can be drawn from this study. Importantly, these preservice PETE teachers indicated that their subject matter knowledge, content knowledge, and ability to teach (PCK) were developed throughout their 10-week elementary experience. Because content and pedagogy were learned together it appears that PCK was developed earlier in the student teaching experience with the preservice
PETE teachers at Allentown University than reported of preservice teachers in previous studies (Smith, 1999; Tuan et al., 1995; Veal et al., 1999).

In the current study, the degree of PCK development may have been impacted by the contextual factors in each preservice PETE teachers' elementary placement. Three of the six preservice PETE teachers were placed in urban schools, while the other three in suburban schools. The contextual issues brought by students into the classroom could have had an effect upon what the preservice PETE teachers focused their attention upon to survive their elementary physical education internship (Graber, 1995; Hargreaves, 1984; McNeil, 1986; & Rovegno, 1992). Linus and Marcy reported that many of their students had a difficult home life. They came to school sometimes without having eaten or washed, and at times did not have clean clothes. This environment differed from Sally and Charles's elementary school site, which was located in an affluent neighborhood. Another contextual factor that separated Linus and Marcy's elementary school from Sally and Charles' elementary school were the resources available to the teacher. Linus and Marcy had very limited equipment, while Sally and Charles had more than sufficient equipment with which to teach. These contextual differences can affect the development of PCK, as Linus and Marcy were required to devote more time to behavior management, than instruction at times.

For these preservice PETE teachers, in the current study, development of relevant knowledge was consistent with findings of previous studies (Curtner-Smith, 1997; Dodds, 1989; Elbaz, 1993; Graber, 1995; Grossman & Richert, 1988; Rovegno, 1992; Smith, 1999; Van Dreil & De Jong, 2001; Veal et al., 1999). Preservice PETE teachers in the current cases found material they could apply immediately in the classroom to be
most relevant. Learning content, pedagogy, and pedagogical content knowledge occurred predominately at the elementary school placement, as all preservice PETE teachers identified they learned most effectively and efficiently through their practical experience. Preservice PETE teachers consistently identified pedagogical topics as being relevant. Planning, assessment, and behavior management strategies were constantly acknowledged. To enhance effectiveness of instruction, preservice PETE teachers appeared to put a concentrated focus on providing specific feedback to their students. Content that was found to be relevant were topics that were directly related to the preservice PETE teachers classroom units (dance, gymnastics, fundamental motor skills). A content topic taught by Dr. Peanut, though not mentioned by any preservice PETE teachers, was fitness, because this was taught by none of the preservice PETE teachers.

A concentrated effort to develop reflective practice of preservice PETE teachers occurred throughout the PETE program at Allentown University. This was in response to findings that skills of inquiry and reflection aid in the development of the preservice PETE teacher (Tuan et al., 1995; Van Driel & De Jong, 2001; Veal, 1999). Preservice PETE teachers were required to complete reflections on their lesson plans. They were also required to reflect upon their teaching, and set weekly goals to be accomplished. Upon the end of the week, preservice PETE teachers reflected upon the attainment of the goals they set and set new goals for the upcoming week. The goals and reflections assignment shows the preservice PETE teachers were acting as reflective practitioners throughout their elementary experience. Reflective thoughts focused on providing appropriate feedback, using appropriate assessment and instructional strategies, and meeting student needs.
Preservice PETE teachers in the current study developed a student-centered approach throughout their elementary experience. This finding is consistent with previous research and suggests that preservice teachers focus transforms over time from content-centered to student-centered (Lederman & Chang, 1994; Lederman et al., 1994; Veal et al., 1999). During the first few weeks of student teaching, preservice PETE teachers focused on planning appropriate activities, planning enough activities, and controlling the classroom. By week three several of the preservice PETE teachers were focusing on providing specific feedback to their students to aid them in acquiring or refining a skill. By the end of the 10-week elementary experience all six of the preservice PETE teachers acknowledged attempts to meet student needs in the classroom.

An implication from these conclusions is that in order for preservice PETE teachers to develop PCK they must first be comfortable in their environment. It was also suggested by Lave and Wenger (1991) that knowledge transfers only to similar situations, therefore, the actual identification of PCK acquisition cannot be fully understood unless it is studied in several similar situations with the same preservice PETE teacher. Lankard (1995) commented, "...it is the authentic social context in which learning occurs that offers the benefit of increased knowledge and offers the learner the potential for applying that knowledge in new ways and in new situations" (p. 1). These statements substantiate the belief of the preservice PETE teachers in the current cases that they learn best by participating in authentic situations where they can apply the theory they have learned. The model of teacher knowledge (Grossman, 1990) indicated that pedagogical content knowledge is influenced by several factors, one being knowledge of context. By studying the same preservice PETE teachers in similar situations PCK can be observed,
documented, and compared, thus increasing our knowledge of preservice PETE teacher PCK development. By controlling the contextual factors, a clearer vision of subject matter knowledge, general pedagogical knowledge, and pedagogical content knowledge can be seen.

Suggestions for Teacher Education

Teacher education programs should provide ample opportunities for preservice PETE teachers to practice what they have learned in the classroom. Dr. Peanut adopted a field-based model for the elementary physical education experience provided to the preservice PETE teachers. Opportunities were provided for the preservice PETE teachers to practice teaching in a controlled environment, the university, and a semi-controlled environment in the clinical education site. They then had the opportunity to experience a near “real world” situation by teaching in an elementary school under the tutelage of a cooperating teacher and the supervision of a teacher educator. Data from the current study shows that these preservice PETE teachers felt they learned the most from actually teaching and being in the classroom with elementary students.

Preservice PETE teachers provided suggestions to make content or pedagogy relevant. Suggestions ranged from changing how content and pedagogy were presented, to the timing of the content and pedagogy presentation, and the clinical education sites selected. For example, the preservice PETE teachers wanted the opportunity to observe and participate in adapted physical education classes and have more hands-on time with practicing assessment strategies. A request to view “perfect” settings as well as schools where effective teachers thrived despite facing discouraging contextual factors such as
lack of equipment, lack of support from fellow teachers and administration, unmotivated students, and non supportive parents was made by the preservice PETE teachers.

Providing ample opportunities to practice teach is not enough for PETE programs. Curtner-Smith (2001) found that quality PETE programs had faculty who possessed specialist pedagogical qualifications, innovative orientations towards physical education, and they broadly agreed on shared technical culture and professional ideology. Taggart (1988) reported that teaching faculty and staff, cooperating teachers, and preservice teachers should agree on a common focus of the PETE program. Howey and Zimpher (1989) proposed 14 attributes of coherent PETE programs:

1. Program is driven by clear conceptions of school and teaching
2. Faculty appear to unite around programs with distinctive qualities
3. Reasonableness and clarity are associated with the program goals
4. Program is rigorous and academically challenging
5. Themes run through the curriculum
6. Balance and link between general knowledge and pedagogical knowledge, and experience to practice pedagogical development
7. Cohort groups
8. Cohort faced with challenges
9. Interdisciplinary and integrative approach
10. Revisiting and clarification of key concepts
11. Adequate curriculum material and resources
12. Connection between activities occurring at university and at schools
13. Link between teacher preparation and professional development and research
14. Systematic evaluation exists

Allentown University's PETE program meets many of these attributes. This PETE program is driven by conceptions of school and teaching created by the faculty and based upon national, state, and local standards and accreditation institution requirements. The faculty is a cohesive group that works together to develop courses and logical progressions for the preservice PETE teachers to complete. Program goals and themes are clearly stated and understood by preservice teacher, faculty, cooperating teachers, and
clinical educators. Clinical educators who had participated with these participants are graduates of Allentown University's PETE program; this allows the clinical educator to continue to professionally grow while connecting public schools with the university. The PETE program requirements challenge the preservice teacher cohort by integrating technology and various interdisciplinary fields. The preservice PETE teacher cohort completed program coursework together, thus providing a learning support system. Within the support system the cohort both teach and learn from each other. Knowledge learned at the university is linked to activities performed in school placements and clinical education sites, and the preservice PETE teachers are required to use many different resources to complete their activities and assignments. Evaluation of the PETE program occurs frequently and is analyzed to see if any improvements are needed.

Howey and Zimpher (1989) suggested four recommendations to aid PETE faculty in providing a coherent PETE program:

1. Robust and integrated field experiences and lab activities are necessary to aid in pedagogical training
2. Use of technology to aid in communication and collaborative work amongst and between schools and universities
3. Professional development for professors on activities to actively engage preservice teachers
4. Use of clinical educators

All of Howey and Zimpher's (1989) suggestions are incorporated into the PETE program at Allentown University. PETE programs need to provide practice opportunities for preservice PETE teachers in a supportive environment, to provide assistance to these preservice teachers as they develop into reflective practitioners, and support development of content, pedagogy, and pedagogical content knowledge by having able and adept faculty and staff instructing within the program.
Within the PETE program at Allentown University, preservice PETE teachers travel through the program with a cohort. This cohort provides a support system for the preservice teachers within the program. During the student teaching experience a cooperating teacher and a university supervisor support the preservice PETE teachers. The university supervisor observes the preservice PETE teacher a minimum of one time per week. If the preservice PETE teacher is struggling the university supervisor visits the school site more often. The university supervisor provides feedback to the preservice teachers about their lesson plans and their teaching. There is a strong support system within the Allentown University's PETE program. Professors within the PETE program must make a concentrated effort to discover how to make content relevant to preservice teachers. Several strategies implemented by Allentown University PETE faculty are to provide meaningful, authentic experiences for the preservice teachers, assist them in reflecting upon the purpose and goals of physical education and on their teaching performance, and to provide support to the preservice teachers by providing opportunities for the preservice teachers to interact with practicing teachers, PETE faculty, university supervisors, and each other.

Future Research

As a result of this current study the following recommendations were provided for future research on PCK and content knowledge development of preservice PETE teachers.

1. Future research in this field should include observations of preservice PETE teachers. The current study used interviews of the preservice PETE teachers and a professor, and a collection of written artifacts. During the current study, findings
were based on the recollections of preservice PETE teachers. Observation would
provide another form of data to either support or refute findings from the
interviews. This would allow the researcher a more complete picture of the
development of the teacher.

2. A second suggestion for future research is to expand the scope of the study to
both the elementary and secondary placements, thus following the preservice
PETE teachers through the entire year of their student teaching. This study was
limited to a 10-week elementary experience.

3. Development of the teacher must be understood beyond just the student teaching
experience. The final suggestion for future research is to follow the preservice
PETE teachers through the first five years of their career. A longitudinal study of
this type would provide the context to examine the complexities of the
development of pedagogical content knowledge, and how this knowledge
develops over time.
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APPENDIX A

CONTEXTUAL TEACHING AND LEARNING FRAMEWORK
<table>
<thead>
<tr>
<th>Characteristics of Contextual Teaching &amp; Learning</th>
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<tbody>
<tr>
<td>Is problem based</td>
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<tr>
<td>Occurs in multiple contexts (schools, homes, worksites, communities)</td>
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<tr>
<td>Fosters self regulated learning</td>
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<tr>
<td>Anchors teaching and learning in students' diverse life contexts</td>
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<td>Employs authentic assessment</td>
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<td>Uses interdependent learning groups</td>
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APPENDIX B

GROSSMAN'S MODEL OF TEACHER KNOWLEDGE
Figure 1.1. Model of Teacher Knowledge

SUBJECT MATTER KNOWLEDGE

| Syntactic Structures | Content | Substantive Structures |

GENERAL PEDAGOGICAL KNOWLEDGE

| Learners and Learning | Classroom Management | Curriculum and Instruction | Other |

PEDAGOGICAL CONTENT KNOWLEDGE

| Conceptions of Purposes for Teaching Subject Matter |

| Knowledge of Students' Understanding | Curricular Knowledge | Knowledge of Instructional Strategies |

KNOWLEDGE OF CONTEXT

| Students |

| Community | District | School |
APPENDIX C

ALIGNMENT OF SITUATED LEARNING THEORY AND CONTEXTUAL TEACHING AND LEARNING
Situated Learning Theory:

1. Learning is grounded in the actions of everyday situations
2. Knowledge is acquired situationally and transfers only to similar situations
3. Learning is the result of a social process encompassing ways of thinking, perceiving, problem solving and interacting in addition to declarative and procedural knowledge
4. Learning is not separated from the world of action but exists in robust, complex, social environments made up of actors, actions, and situations

<table>
<thead>
<tr>
<th>Situated Learning Theory Characteristics</th>
<th>Characteristics of Contextual Teaching &amp; Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 3, 4</td>
<td>Is problem based</td>
</tr>
<tr>
<td>1, 2, 4</td>
<td>Occurs in multiple contexts (schools, homes, worksites, communities)</td>
</tr>
<tr>
<td>3, 4</td>
<td>Fosters self regulated learning</td>
</tr>
<tr>
<td>1, 2, 4</td>
<td>Anchors teaching and learning in students’ diverse life contexts</td>
</tr>
<tr>
<td>1, 2, 4</td>
<td>Employs authentic assessment</td>
</tr>
<tr>
<td>3, 4</td>
<td>Uses interdependent learning groups</td>
</tr>
</tbody>
</table>
APPENDIX D

PARTICIPANT CONSENT FORMS AND VOLUNTEER REQUEST LETTER
CONSENT FOR PARTICIPATION IN RESEARCH

Dear

I am writing to ask you if you would participate in my study. This study is being performed for my dissertation. Your participation is voluntary in nature. I am trying to find out when and how Masters of Education students in the Physical Education Teacher Education (PETE) program at The Ohio State University acquire content knowledge and then transfer that into pedagogical content knowledge. Knowing that this is voluntary in nature, you are allowed to refuse participation in or to answer any questions that are asked of you. You may also withdraw from the study if the need arises.

This study will benefit the school/program area by providing formative feedback regarding the student perceptions of the relevant content and its applicability to their teaching proficiency.

Participation in this study entails meeting with me every two weeks for approximately 15 minutes. During this meeting you will be interviewed about your teaching in your Elementary Placement and the coursework you have completed at The Ohio State University. I would like to audiotape the interviews, with your consent. In addition to answering interview questions you will be asked to select a pseudonym to protect your identity during the analysis of the data. The information that you share with me will not be seen by your professors until after you have completed your Elementary Placement/Masters of Education Program.

Please contact me, Christine Whipple, at whipple.18@osu.edu or 451-1884 to either accept or decline the offer to participate. Dr. Stroot is the principal investigator for this study. If any questions, comment, or concerns arise, you can contact her at: stroot.1@osu.edu or 292-8368

Thank you,

Christine E. Whipple

CONSENT FOR PARTICIPATION IN SOCIAL AND BEHAVIORAL RESEARCH

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Protocol title: PROSPECTIVE TEACHERS' PERCEPTIONS OF CONTENT AND PEDAGOGICAL KNOWLEDGE PRESENTED IN AN ELEMENTARY PORTION OF A PHYSICAL EDUCATION TEACHER EDUCATION PROGRAM

Protocol number: 01E0397

Principal Investigator: Dr. Sandra Stroot

I consent to my participation in research being conducted by Dr. Sandra Stroot of The Ohio State University and her assistants and associates, Christine Whipple.

The Investigator(s) has explained the purpose of the study, the procedures that will be followed, and the amount of time it will take. I understand the possible benefits, if any, of my participation.

I know that I can choose not to participate without penalty to me. If I agree to participate, I can withdraw from the study at any time, and there will be no penalty.

I consent to the use of audiotapes and/or videotapes. I understand how the tapes will be used for this study.

I have had a chance to ask questions and to obtain answers to my questions. I can contact the investigator Christine Whipple at whipple.18@osu.edu or 451-1884 or Dr. Sandra Stroot at stroot.1@osu.edu or 292-8368. If I have questions about my rights as a research participant, I can call the Office of Research Risks Protection at (614) 688-4792.

I have read this form or I have had it read to me. I sign it freely and voluntarily. A copy has been given to me.

Print the name of the participant:

__________________________________________

Date: ___________________________ Signed: ___________________________

Signed: ___________________________ Signed: ___________________________

(Principal Investigator or his/her authorized representative)

(Principal Investigators Assistant)

Witness: ___________________________ (When required)

HS-027 (Rev. 05/01) (To be used only in connection with social and behavioral research.)
APPENDIX E

INTERVIEW QUESTIONS
First set of questions for prospective teachers

Asked at beginning of quarter

1. What content did you learn in your undergraduate program?

2. Did you ever learn anything about teaching?

3. Have you had any opportunities to teach?

4. How did you learn physical education content prior to this M.Ed. program?

5. What did you learn upon entering the M.Ed. program in the summer and the autumn?
   a. Opportunities to teach?
   b. How did you learn the content?

   Where did you learn the content?
Second set of questions

Interview Questions for Prospective Teachers

As asked every two weeks

The specific research questions that will be addressed in this study are:

1. What pedagogy/content do prospective teachers learn in their preservice teacher experience?
   
   What did you learn in class the past 2-weeks?
   OR
   What was presented in class the past 2-weeks

2. How do the prospective teachers view that they learn the content/pedagogy?
   
   How was this content learned?
   How was it presented?

3. How do prospective teachers view the content/pedagogy to influence their ability to teach?
   
   Does the content/pedagogy that you have acquired help you teach?
   Prepare to teach?

   What content/pedagogy has helped you?

   How has it helped you? OR has it?
Interview Questions for the Professor

Asked every two weeks

1. What content/pedagogy have you presented in the past 2-weeks?

2. How was this content/pedagogy presented?
APPENDIX F

BLOCK PLAN FOR COURSE 740
<table>
<thead>
<tr>
<th>Week</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
</table>
| 1    | -Goals of Elem. P.E.  
-Characteristics of Elem. P.E. Teacher  
-Dev. Appropriate Practice (DAP) in Elem. P.E.  
-Clinical Education Site (C.E.)  
-Floor Hockey  
-R.R., & E -Lesson Cycle | -Motor Dev. for Elem. School Age Child  
-Principles of Inclusion | -In Elem. Schools All Day | -In Elem. Schools All Day |
| 2    | -Assessment & Evaluation  
-Authentic Assessment  
-Grading Rubrics | -C.E. -Floor Hockey  
-Student & Teacher Roles & Control  
-Planning for Instruction  
-Physically Educated Person  
-Nat'l Standards -OH Guidelines -Unit Planning -Task Analysis | -Planning for instruction  
-Lesson Planning  
-Instr. Objectives  
-Unit Plans & Work Sample Methodology | -Instr. Strategies  
-R.R. & E -Motivating Students  
-Openings & Closings  
-Feedback -Tool Book of Skills |
| 3    | -No School | -C.E. -Floor Hockey  
-Movement Concepts | -Fitness -National Perspectives -Wellness | -C.E. -Fitness |
| 4    | -Gymnastics -Early Games  
-Lead up Games  
-Tactical Appr. | -C.E. -FMS -Object Control -Locomotor | -Multicultural Awareness -Ethnicity -Gender Disability | -Dance |
| 5    | -Games -Early Games  
-Lead up Game  
-Tactical Approach | -C.E. -Putting it all Together -Goal Setting for Elem. Instruction | -Schools All Day | -Schools All Day |
| 6-10 | School All Day | School All Day | School All Day  
-School All Day -Evening Seminar | School All Day |

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Patty and Lucy’s Group

**Pedagogy Learned**
- Feedback
- Proximity
- Behavior Management
- Authentic Assessment
- Task Development
- With-it-ness
- Reflection
- Lesson Planning
- Organization
- Pinpointing
- Motivation
- Developmentally Appropriate Practice
- Instant Activity
- Instructional Alignment
- Congruent cues/Feedback
- Student Input/Response
- Teaching Styles

**Content Learned**
- Motor Skills
- Gymnastics
- Dance
- Sports Skills
- Adventure Education
- Fitness
- Juggling
- Jumping Rope
- Games

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Sarah and Sally’s Group

Pedagogy Learned

Feedback (positive, corrective)
With-it-ness
Behavior Management
Opening and Closing of Lesson
Good Planning
Demonstrations
Organization
Motivation
Proximity Control
Back to the Wall
Reinforcement
Assessment
Reflection
Professionalism
Inclusion
Styles of Teaching
How to be an Effective Teacher
Extending/Refining Tasks
Cues
TGMD
Tactical Approach

Content Learned

Dance
Gymnastics
Motor Development Stages
Movement Concepts
Games
Net
Invasion
Racquet
Field
TGMD
Learning
Pedagogy
Disabilities
Adventure Education
Cooperative Games
Sport Education
Fitness

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Charles’ Group

**Pedagogy Learned**
- Reinforcement
- Feedback
- Organization
- Demonstrations
- Behavior Management
- Content Knowledge of Instructor
- Planning
- Assessment Strategies
- Reflection
- Inclusion
- Teaching Whole Child
  - 3 Domains
    - Psychomotor, Cognitive, Affective
- Adaptive Tasks
- Professionalism

**Content Learned**
- Games/Sports
- Motor Skills
- Gymnastics
- Dance
- Cooperative Games
- Field Sports
- Net Sports
- Individual Sports
- Fitness
- Adventure Education
- Basketball
- Volleyball
- Acrosport
- Frisbee
- Running
- Striking
- Throwing
- Catching
- Invasion
Linus’ Group

**Pedagogy Learned**
- Being Clear
- Prepared
- Direct
- Consistent and Fair
- Feedback (Specific, Corrective)
- Proximity Control
- Rewards- Stickers
- With-it-ness
- Praise
- Check for Understanding
- Assessment (Qualitative, Quantitative)
- Pathways
- Closure
- Safety
- Cross Room Feedback
- Names
- Student and Teacher Demonstrations
- Task Analysis
- Small Sided Games
- Inclusion
- Technical vs. Tactical
- Relevance

**Content Learned**
- Movement
- Dance
- Tumbling/Gymnastics
- Volleyball
- Jump Rope for Heart
- Juggling
- Fitness
- Acrosport
- Safety Issues
- Adventure Education
- Target Games
- Field Sports
- Loco-motor/non-locomotor skills
- Manipulative Skills
- Modifications

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APPENDIX H

TOPICS LEARNED AT SCHOOL SITE DURING HALF-DAY AND FULL-DAY 
STUDENT TEACHING AS IDENTIFIED BY PETE STUDENTS

340
<table>
<thead>
<tr>
<th>Weeks</th>
<th>Patty</th>
<th>Lucy</th>
<th>Marcy</th>
<th>Linus</th>
<th>Charles</th>
<th>Sally</th>
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<tbody>
<tr>
<td>1 &amp; 2</td>
<td>-Student/Class Control</td>
<td>-Jump Rope</td>
<td>-Behavior Management</td>
<td>-R, R, &amp; E</td>
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<td></td>
<td>-Extending Tasks</td>
<td>-Juggling</td>
<td>-Clear start/stop signals</td>
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<tr>
<td></td>
<td></td>
<td>-Learn st. names</td>
<td>-Individualizing Instruction</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>-St. control</td>
<td>-Safety Issues</td>
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<td>3</td>
<td>-Student/Class Management</td>
<td>-Behavior Management</td>
<td>-Clear start/stop signals</td>
<td>-Specific Feedback</td>
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<td>-Extending Tasks</td>
<td>-Clear directions</td>
<td>-Individualizing Instruction</td>
<td>-Teacher Behavior</td>
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<td>-St. accountability</td>
<td>-Safety Issues</td>
<td>-Corrective Feedback</td>
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<td></td>
<td>-Clear &amp; Concise Directions</td>
<td>-Gymnasium Movement</td>
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<td>4</td>
<td>-Individualized Instruction</td>
<td>-Specific Feedback</td>
<td>-Stopping Signals</td>
<td>-Clear Instructions</td>
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<td></td>
<td>-Feedback</td>
<td>-Content</td>
<td>-Clear Start/stop signals</td>
<td>-Not Raising Voice</td>
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<td>-Planning</td>
<td>Knowledge</td>
<td>-Positive Feedback</td>
<td>-Age Appropriate Language</td>
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<td>-Slowing Down</td>
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<td>-St. Accountability</td>
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<td>5</td>
<td>-Extending Tasks</td>
<td>-Gymnasium Movement</td>
<td>-Clear Transitions</td>
<td>-Clear &amp; Concise Directions</td>
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<td>-Individualized Instruction</td>
<td>-With-it-ness</td>
<td>-Positive Feedback</td>
<td>-St. Accountability</td>
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<tr>
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<td>-Effective Instruction</td>
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<td>-Feedback</td>
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<td>-Staying True to Lessons’ Objectives</td>
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Topics Learned at School Site During Half-Day Student Teaching as Identified by PETE Students
<table>
<thead>
<tr>
<th>Weeks</th>
<th>Patty</th>
<th>Lucy</th>
<th>Marcy</th>
<th>Linus</th>
<th>Charles</th>
<th>Sally</th>
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<tbody>
<tr>
<td>6</td>
<td>-Effective Feedback</td>
<td>-Transitioning Students</td>
<td>-Positive Feedback</td>
<td>- Activity Time</td>
<td>-Using Age</td>
<td>-Praising Students</td>
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<td>- Activity Time</td>
<td>-Assessing while teaching</td>
<td>-Efficient Transitions</td>
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<td>ST. Accountability</td>
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<td>- Instruction Time</td>
<td>-Explicit &amp; Efficient Directions</td>
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<td>Learn St. Names</td>
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<td></td>
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<td></td>
<td></td>
<td>Provide Specific Feedback</td>
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<td>7</td>
<td>-Scanning -</td>
<td>- Activity Time</td>
<td>-With-it-ness</td>
<td>-Behavior Management Strategies</td>
<td>-Effective &amp; Efficient Transitions</td>
<td>- Activity Time</td>
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<td>With-it-ness Feedback</td>
<td>- Transition Time</td>
<td>-Positive &amp; Corrective Feedback</td>
<td>-Being Positive Specific Positive Feedback</td>
<td>Transitions</td>
<td>- Instruction Time</td>
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<td>- Effective Feedback</td>
<td>- Activity Time</td>
<td>- With-it-ness</td>
<td>-Behavior Management Strategies</td>
<td>-Effective &amp; Efficient Transitions</td>
<td>Positive Behavior Focus</td>
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<td>- Corrective Feedback</td>
<td>- Activity Time</td>
<td>-Provide Specific Feedback</td>
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<td>With-it-ness Feedback</td>
<td>- Activity Time</td>
<td>- With-it-ness</td>
<td>-Focus on Positive Behaviors</td>
<td>-Transition Time</td>
<td>- Activity Time</td>
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<tr>
<td></td>
<td>- Effective Feedback</td>
<td>- Activity Time</td>
<td>- Positive &amp; Corrective Feedback</td>
<td>-Focus on Positive Behaviors</td>
<td>-Transition Time</td>
<td>- Activity Time</td>
</tr>
<tr>
<td>9 &amp; 10</td>
<td>-Feedback</td>
<td>- Cross Court Feedback</td>
<td>- Positive Feedback</td>
<td>-St. Motivation</td>
<td>-Feedback</td>
<td>- Feedback</td>
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<tr>
<td></td>
<td>- St. Accountability</td>
<td></td>
<td>- Specific Feedback</td>
<td>-Focus on Pos. Behaviors</td>
<td>- Penalize only students not following</td>
<td>- Feedback</td>
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<tr>
<td></td>
<td></td>
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<td>- Specific Feedback</td>
<td>- St. Motivation</td>
<td>- Inappropriate Behaviors</td>
<td>- Feedback</td>
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<tr>
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<td>- Activity Time</td>
<td>- Feedback</td>
<td>- Inappropriate Behaviors</td>
<td>- Feedback</td>
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</table>

Topics Learned at School Site During Full-Day Student Teaching as Identified by PETE Students