

SOURCES OF INFLUENCE
ON PEDAGOGICAL BEHAVIOR PATTERNS
OF FIVE ELEMENTARY PHYSICAL EDUCATION SPECIALISTS

by

Glenn Reif

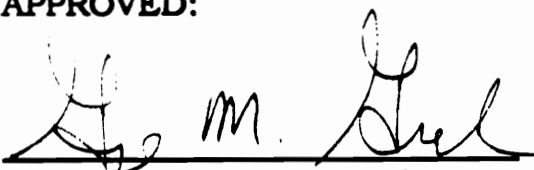
Dissertation submitted to the Faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of

DOCTORATE OF EDUCATION

in

Curriculum and Instruction


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Health, Physical Education and Recreation

(ABSTRACT)

Although research on teaching has been conducted for many years, the question, "Why do teachers teach as they do?" has been rarely asked. Researchers (Denham & Michael, 1981; Dunkin & Biddle, 1974) suggest that some of the "whys" of teaching could be understood by investigating presage and context variables and their potential influence on teacher behaviors.

The first purpose of this study was to systematically analyze pedagogical behavior patterns of five elementary school physical education teachers. The second purpose was to identify factors and sources of influence (presage and context variables) which appear to have a facilitating or inhibiting effect on individual teacher's behavior patterns.

Data for this study were triangulated through the use of systematic observations, field notes, structured interviews, and a questionnaire. Descriptive profiles for each teacher were compiled consisting of process scores, questionnaire scores, and interview/field note results. A comparison across data sources was completed to determine if the four data sources corroborated each other.

The results of the study indicated that the most commonly employed

pedagogical behavior patterns of the five elementary physical education specialists included providing students with: the purpose of the lesson, class rules, warm ups, cognitive information, pre-arranged equipment, adequate opportunities to practice skills, and minimum waiting time. The subjects however, infrequently provided their students with: visual demonstrations, a clear model of organizational patterns to be used, feedback directed to the total class, low amounts of management time, and a closure to the lesson.

In regard to sources of influence used to explain pedagogical behaviors, the results suggest that the major facilitating sources of influence on the process behaviors of the subjects included their "own ideas", their undergraduate coursework/training experiences, and actual teaching experience. The major sources of influence which had an inhibiting effect on their process behaviors included class size, facilities, and the schedule/time for classes.

ACKNOWLEDGEMENTS

A popular song during the final year this dissertation was being completed was "Wind Beneath My Wings." This song had a special meaning to me because there were numerous individuals who I consider the "wind beneath my wings" and made this dissertation possible.

First, I would like to thank the five teachers who volunteered to participate in this investigation. Their willingness to be observed and interviewed helped me to gain a better understanding of several variables which seem to influence teacher behavior.

Second, thanks to committee members Dr. John Burton, Dr. Janet Sawyers, and Dr. Terry Wildman. Their willingness to read and challenge my work added strength to the finished product.

Thirdly, I greatly appreciate the support I received from the University of Maine. Without the encouragement of Dr. Robert Cobb, Dr. James Rog, and Dr. Joseph Pechinski, I would never have entered a doctorate program.

Fourthly, my family. Thanks to my parents who taught me never to quit, and to my daughters Lindsay, Gretchen, and Michaela, who spent too many hours entertaining themselves while Daddy was in the library.

An especially meaningful line in the song is "did you even know you were my hero." Fortunately, for me, I have several heroes. Dr. George Graham will always be my hero in terms of his work with elementary physical education and his writing ability. Dr. Michael Metzler is a hero for his knowledge of systematic observation and teacher supervision. Both these individuals allowed me to maintain my personal priorities and had faith in me when I doubted myself.

My last and most important hero is my wife, Amy. She "stood in my

shadow" all through this dissertation and without her continual love, patience, and support, I would never have completed this work.

Thanks to all these people who helped me "fly higher than an eagle" and reach an educational level I never dreamed possible.

Henley, L. & Silbar, J. (Writers). (1982). Wind Beneath My Wings [Song].
Published by W.B. Gold Music Corp., ASCAP/Warner House of Music, BMI.

DEDICATION

This dissertation is dedicated to the memory of Al Schwartz, my elementary physical education teacher and first source of influence.

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Chapter 1

INTRODUCTION

What influences a teacher to conduct classes in a particular manner? From where do the fundamental behaviors of teaching originate? Is there a conscious effort on the part of teachers to try to be as effective as possible?

Although research on teachers and teaching has been conducted for many years, the global question of why teachers teach as they do remains largely unanswered. Such questions as "What factors have a persuasive effect on teaching?" and "Where do teaching behaviors originate?" have generally been overlooked.

In one of the earliest scientific analyses of teaching, Plato recorded the verbal behavior of Socrates instructing the slave boy Meno in the fundamentals of Pythagoras' theorem (Cheffers, 1977). Plato asked "what" Socrates was doing (i.e., teaching based on convergent questioning), but neglected to inquire "why" Socrates chose to teach this way and where he learned the questioning technique.

Fenstermacher (1978) suggested that current researchers consider teachers' subjective perceptions, or their personal reasons for teaching as they do, in order to gain a clearer understanding of the teaching process. Citing Shulman and Lanier (1977), he emphasized the importance of understanding teacher intent, sources of influence, and the meaning teachers attach to their actions. "How teachers behave and what they do is directed in no small way by what they think. It is that relationship between thought and action that becomes

the critical issue in research on teaching" (Shulman & Lanier, 1977, p. 44).

Presently the teaching research literature consists of only a few studies which have sought to identify variables thought to have an influence on the pedagogical behavior patterns of teachers (Clark, Smith, Newby & Cook, 1985; Friebus, 1977; Hoste, 1982; Karmos & Jacko, 1977; Pigge, 1978). In general, these studies indicated that the sources of influence on a teacher's behavior apparently originate from numerous variables including college instructors and coursework (Friebus, 1977; Hoste, 1982; Karmos & Jacko, 1977), a teacher's own ideas (Clark, Smith, Newby, & Cook, 1985), fellow teachers at the same school (Friebus, 1977; Hoste, 1982), cooperating teachers, administrators (Friebus, 1977; Karmos & Jacko, 1977), students (Friebus, 1977), friends and family (Karmos & Jacko, 1977) and classroom teaching experiences (Pigge, 1977).

A major weakness of these studies is that teachers' actual in-class processes were not directly observed. Dunkin and Biddle (1974) pointed out that the early research on teaching was often criticized because researchers failed to observe teachers in the actual teaching process and there was a general lack of interest in the influence of contextual effects on teaching.

Instead, teachers in these studies were either presented a list of behaviors and asked to supply the origin of each, or asked to select the behavior's source from a list of possible origins. This research methodology is questionable because the teachers were asked to identify a source of influence for behaviors which they may or may not have displayed (Clark, Smith, Newby, & Cook, 1985), (i.e., they may not actually use that behavior in their teaching).

Only one study of teacher intent (Clark, Smith, Newby, & Cook, 1985)

systematically observed classroom events. The researchers observed the behaviors of instructing, reinforcing, managing, drilling, enriching, or evaluating students and asked their subjects to identify the influencing sources which explained why they employed or didn't employ these pedagogical behavior patterns. They reported that pedagogical behavior patterns demonstrated in class were influenced to a great extent by their own ideas (27%), followed by their past cooperating teacher or student teaching experience (17%), an instructor or class within the teacher education program (17%), a book or program adopted by the school or district (13%), and a teacher in their own school or district (11%).

Overall, studies on sources of influence suggested that a person's repertoire of teaching behaviors originates from a variety of sources and variables. Presently, two relevant research models (Denham & Michael, 1981; Dunkin & Biddle, 1974) exist which suggest that certain variables have the potential to influence the pedagogical behavior patterns of teachers. Within the discipline of physical education, the model proposed by Dunkin and Biddle has been referred to most frequently. In their text, The Study of Teaching (1974), Dunkin and Biddle suggest that researchers need to consider both presage and context variables as having a direct causative relationship to process variables (the observable pedagogical behavior of teachers). Cruikshank (1986) points out that the Dunkin and Biddle model (see Figure 1) "is classic, making the study of teaching visual and understandable due to the division of possible variables into specific categories" (p. 82).

Presage categories include teacher formative experiences, teacher training experiences, and teacher properties. Context categories include pupil

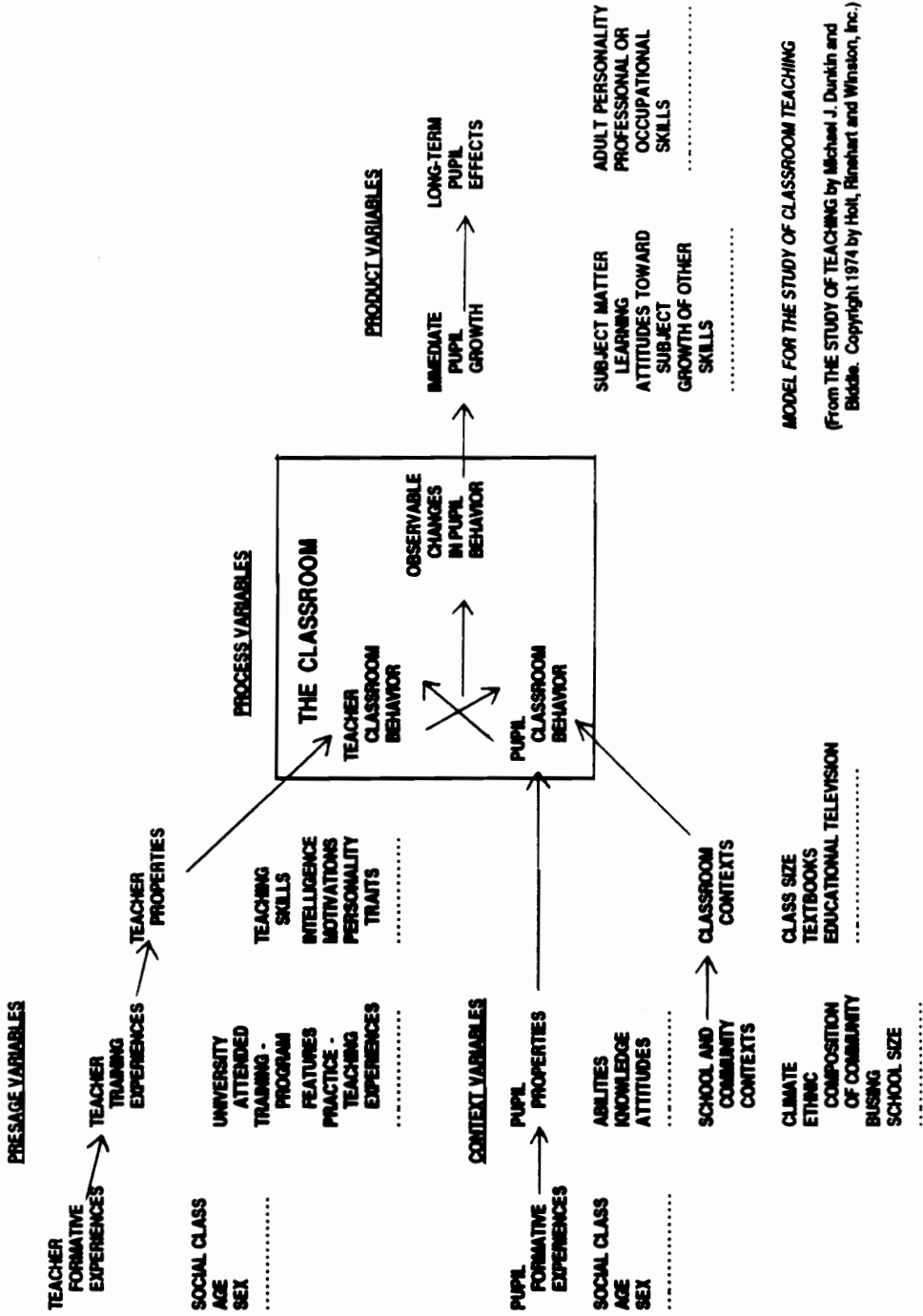


FIGURE 1. MODEL FOR THE STUDY OF CLASSROOM TEACHING

formative experiences, pupil properties, school/community context and classroom contexts. Many of the presage and context variables that Dunkin and Biddle (1974) suggest contribute to the pedagogical behavior patterns of teachers are included in a model for the study of teacher sense of efficacy (see Figure 2) developed by Denham and Michael (1981).

This model suggested that teachers behave as they do based on the belief that they can bring about positive change in certain students under certain environmental conditions. Presage and context variables which contribute to this belief and effectiveness include personal factors, teacher experiences, teacher training, peer support, administrative support, and school conditions. Both the Dunkin and Biddle (1974), and Denham and Michael (1981) models strongly indicate that presage and context variables have some relationship to actual pedagogical behavior patterns (i.e., the number, type, and sequencing of teacher behaviors).

In order to truly understand the origins of teacher behaviors, it is necessary to first establish, through observation, what pedagogical behaviors teachers actually employ. Once behaviors have been specified, presage and context variables can be investigated to determine retrospectively what influence, if any, they have on the observed pedagogical behavior patterns.

As a first step in this investigation, it was necessary to select and utilize observational systems. Such tools have been in existence since the early 1950's (Cheffers, 1977) allowing researchers to measure teacher behaviors while observing the actual process of teaching. The use of these instruments has resulted in two pertinent findings regarding teaching. First, teaching does in fact involve numerous pedagogical behavior patterns. Second, these pedagogical

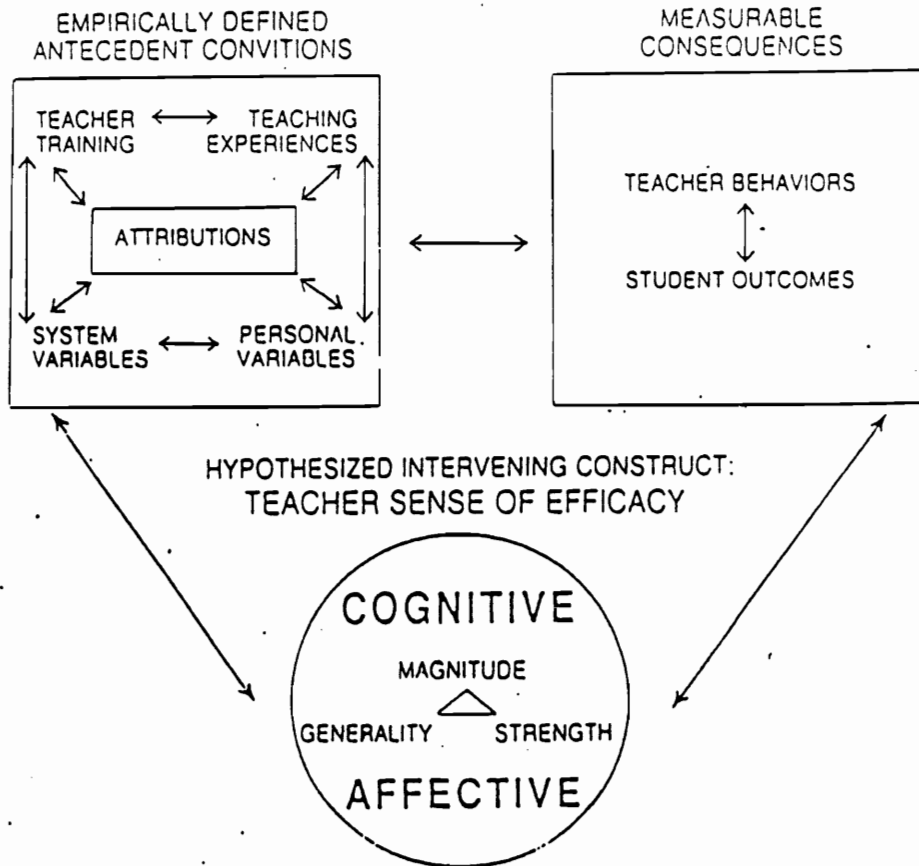


Figure 2. Model for the Study of Teacher Sense of Efficacy

behavior patterns have cause and effect relationships (Dunkin & Biddle, 1974).

While observational systems have the capacity to measure the pedagogical behaviors of teachers, they lack the capability to determine the origins of such behaviors (i.e., the reason teachers use, or don't use certain behaviors). Thus, multiple data sources including interviews, field notes, and questionnaires were needed to understand whether or not specific presage and context variables have an effect on the pedagogical behavior patterns of teachers.

The principle for the use of multiple perspectives has been termed triangulation, in which disparate methods are used to measure a similar phenomenon. Denzin (1978) suggests that "triangulation directs the observer to combine multiple data sources, research methods, theoretical perspectives and observers in the collection, inspection, and analysis of behavior specimens" (p. 10). The result of triangulation is a better validation of measures, which allows alternative explanations of the results to surface and be considered (Metzler, 1987).

The intention of this study was to develop triangulated profiles of five elementary physical education specialists, attempting to understand how certain presage and context variables influenced their use of teaching behaviors. In this study, the triangulated data sources included systematic observations made on selected teaching pedagogical behaviors, formal interviews, field notes, and a questionnaire ascertaining sources of influence on teaching behaviors.

Statement of the Problem

The first purpose of this study was to systematically analyze selected teaching behaviors of five elementary school physical educators. The second purpose was to identify factors and sources of influence (presage and context

variables) which appeared to have a facilitating or inhibiting effect on individual teacher's pedagogical behavior patterns.

Research Questions

Traditionally physical education researchers have focused much of their attention upon how events occur in the gymnasium, to the exclusion of considering why. Harrison (1987) suggested that researchers place more emphasis on determining why teachers believe and do what they do.

Locke (1984) pointed out that three types of research questions need to be investigated in order to gain a clearer understanding of teaching of physical education. These questions include not only "What is happening here?", but also "Why is this happening here?", and "What do these events mean to participants within this context?" (p. 34).

In order to do this, we need to examine both teacher and student behavior in physical education classes. Specifically, this study looked at teacher pedagogical behavior patterns (What is happening here?), identified sources of influence (Why is this happening here?), and how students spent their time in physical education (What do students do within this context?).

The research questions for the study follow this premise and include:

1. What pedagogical behavior patterns, as determined through videotape analysis, are commonly employed by the five elementary physical education teachers in this study?
2. What sources of influence (presage and context variables) are identified by the teachers as contributing to their observed pedagogical behavior patterns?

Significance of the Study

Doyle (1985) has observed that how teachers learn to teach has begun to emerge as a major focus for research in teacher education. Hoffman and O'Neal (1985) have stated that the success of our efforts to understand how to improve teaching in classrooms hinges in large part on our understanding of the forces that shape and constrain teaching practices. Currently, there are few studies reported in the literature which have examined the motives and sources of influence underlying teachers' behaviors (Hoffman & O'Neal, 1985). Locke (1984) emphasizes the need for physical education teaching research which deals with a deeper level of understanding of what is happening in the gym and why. This study contributes to this vein of research by investigating some of the forces which combine to influence elementary physical education teachers as they execute the instructional program in a particular manner.

Delimitations

The study was delimited to five elementary physical education teachers who were employed by a school system in its initial year of elementary physical education programming.

Limitations

1. The five teachers described in this study may not be representative of the total population of elementary physical education teachers.
2. The five physical education teachers in this study had varying amounts of professional teaching experience.
3. Three of the physical education teachers previously were members of an elementary physical education class which was team taught by the

researcher.

4. Two of the physical education teachers were previously supervised during their student teaching experience by the researcher.
5. The lessons videotaped for observation were limited to specific content areas and may not be representative of lessons taught throughout the entire year.

Basic Assumptions

1. It was assumed that the five elementary physical education teachers were equally motivated to participate in this study.
2. It was assumed that the answers given on the questionnaire and in response to interview questions were valid, without being influenced by the researcher.
3. It was assumed that the teachers' and students' reactivity to videotaping was satisfactorily reduced and thus representative of behavior when no videotaping occurred.
4. It was assumed that the data gathered with interval recording techniques (teacher and student) were representative of continuously recorded behavior.
5. It was assumed that the students randomly selected to be measured for student engagement rates were representative of all students in those classes.

Definition of Terms

Academic Learning Time--Physical Education (ALT-PE). The time that a student is practicing a motor skill at an easy level of difficulty (Metzler, 1983).

Activity Time. Time when students are involved in physical movement that is consistent with the specific goals of the particular lesson (Graham, Holt/Hale & Parker, 1987).

Context Variables. The characteristics associated with the teaching

environment including pupil formative experiences, pupil properties, school, community, and classroom context (Dunkin & Biddle, 1974).

Feedback. Teacher generated information about a response that is used to modify the next response (Siedentop, 1983).

Instruction Time. Time in which students receive verbal or nonverbal information relating to skill instruction (Graham, Holt/Hale & Parker, 1987).

Interval Recording. The observational recording of a behavior that occurs within a specified period of time (e.g., 6 seconds).

Management Time. Time devoted to activity organization and is unrelated to the instruction of motor skills.

Presage Variables. The characteristics of teachers including: gender, age, teacher formative experiences, teacher training experiences, and teacher properties (Dunkin & Biddle, 1974).

Process Variables. The observable behaviors of teachers while actively engaged in instruction (Dunkin & Biddle, 1974).

Skill Feedback. Verbal reactions intended to provide additional information to improve the next skill attempt (Dodds, 1983).

Social Behavior Feedback. Verbal reactions to all student actions other than movement skill attempts for the purpose of providing additional information about those actions (Dodds, 1983).

Teaching Effectiveness. A teacher's ability to enhance student learning.

Triangulation. A combination of methodologies or techniques used in the study of the same phenomenon or program to corroborate information and, therefore, increase the validity and reliability of the study (Denzin, 1978).

Waiting Time. Periods of no activity and no movement prior to and

between activities (Metzler, 1983).

Chapter 2

REVIEW OF THE LITERATURE

In order to answer the research question as to why the five teachers in this study taught as they did, it was first necessary to document the teaching behaviors used by each teacher (pedagogical behavior patterns) through systematic observation. Secondly, it was necessary to investigate each teacher's reasons for using, or not using, selected teaching behaviors in order for the investigator to identify variables (presage and context) which acted as sources of influence on the five teachers in this study.

Chapter 2 has been separated into three sections. The first section briefly examines the origin of systematic observation instruments. The second section reviews descriptive studies which have summarized physical education teacher and student behaviors. Emphasis has been placed on selected pedagogical behaviors frequently studied in the physical education literature including teacher use of time, student use of time, academic learning time, augmented feedback, and lesson organization. The final section examines research related to variables regarded as potential influential factors in the selection and frequency of teacher behaviors. This section is organized in relationship to the presage and context categories described in the Dunkin and Biddle (1974) model. The presage variables reviewed were teacher formative experiences, teacher training experiences, and teacher properties. The context variables were pupil formative experiences and properties, school/community contexts and classroom contexts.

Section I

Origin of Descriptive Systems of Observation

The first section of the literature review examines the development of systematic observation. This section is included in the review for two reasons. First, it emphasizes the importance of implementing systematic observation to accurately describe teacher and student behaviors. Second, it reports the origins and the initial use of observational systems in physical education research.

In the First Handbook of Research on Teaching, Medley and Metzel (1963) state that "there is no more obvious approach to research on teaching than direct observation of the behavior of teachers while they teach and pupils while they learn" (p. 247). However, until the late 1940's, it was rare to find a study which included any formal systematic observation of teachers or students.

From a historical point of view, the initial use of descriptive systems of observation in education examined teachers' social contacts with children (Anderson, 1939), behavior patterns of children (Lewin, Lippett, & White, 1939), social-emotional climate in classrooms (Withall, 1949), and verbal behaviors of teachers and students (Flanders, 1967). Fortunately, these initial systems encouraged the development of more sophisticated instruments designed to obtain a better understanding of effective teaching (Travers, 1973). Educational researchers who employed descriptive observational systems while studying the behavior of classroom teachers reported that more effective teachers spent less time on management, provided more time on academic activities, and had higher rates of praise and positive motivation (Medley, 1979). Systematic observation systems of student behavior revealed that students who had the greater opportunity to learn criterion material (engaged time) along with high rates of

academic learning time (the time engaged at an appropriate level with high success) demonstrated consistent gains in achievement (Rosenshine, 1979).

Systematic observation in physical education was not begun until the mid-1970's (Cheffers, 1977). Larry Locke was one of the first physical education researchers who realized its value, and encouraged the implementation of such systems. In his 1975 address to the American Alliance of Health, Physical Education, Recreation, and Dance, Locke enthusiastically proclaimed a "new hope for physical education teaching research" (Cheffers, 1977; Locke, 1977). His optimism was attributed to the development and use of systematic observation to consistently describe classroom teaching behaviors based on the work of Flanders (1967) and others. Locke's optimism was echoed by other physical education researchers (Anderson, 1971; Cheffers, 1977; Siedentop, 1972) who regarded observational systems as the tools which would provide information about the observable differences between teachers and in turn, lead to a better understanding of the teaching of physical education.

The earliest use of descriptive systematic observation in physical education described the social-emotional climate of classes (Bookout, 1967), teacher and student behaviors which occurred during movement education lessons (Barrett, 1969), and the effects of different styles of teaching on the development of physical fitness and motor skills (Daugherty, 1970). These initial studies in physical education encouraged research projects which developed and employed new observational systems.

The first major physical education teaching research project to employ systematic observation was led by William Anderson and a cadre of doctoral students at Teacher's College, Columbia University. This important research

effort has become known in the physical education literature as the Videotape Data Bank Project (Anderson & Barrett, 1978). The purpose of this project was to discover and understand what actually transpired in the gymnasium. To briefly summarize this project, 83 videotapes were made of randomly selected physical education teachers and classes in order to formulate descriptive analytic profiles of physical education instruction. Tapes were systematically analyzed using a variety of observational systems which described: teacher behaviors (Anderson & Barrett, 1978), student behaviors (Costello & Laubach, 1978), and teachers' use of augmented feedback (Fishman & Tobey, 1978). The findings from this project represented a first step in describing typical teacher and student behaviors.

Since Anderson's seminal work a plethora of physical education researchers (Anderson & Barrett, 1978; Costello & Laubach, 1978; Fishman & Tobey, 1978; Godbout, Brunelle & Tousignant, 1983; Graham, Soares & Harrington, 1983; McLeish, 1981; Metzler, 1979; Quarterman, 1978; Siedentop, 1981; Silverman, 1985) have used systematic observation to better describe and understand physical education teaching. Reflecting the importance of systematic observation, numerous instruments have been developed for the purpose of measuring teacher and student behaviors in terms of time management, feedback, and academic learning time (Darst, Zakrajsek & Mancini, 1989).

Section II

Descriptive Studies in Physical Education

The primary purpose of this section of the literature review is to present an overview of the most frequently cited descriptive studies which have been completed in physical education using systematic observation. Five descriptive categories have been selected as organizers for this section because of their relevance to this study. The five categories included in this section are teacher use of time, student use of time, academic learning time, augmented feedback, and lesson organization.

Teacher Use of Time

The first category, teacher use of time, has been the most popular category for physical education researchers to investigate (Metzler, 1989). These studies essentially found that physical education teachers spend the majority of their time involved in three functions: instructing students, monitoring students, and managing students (Anderson & Barrett, 1978; Siedentop, 1983).

As part of the Teacher's College Videotape Data Bank Project, Anderson and Barrett (1978) were among the first to examine how teachers spent their time during physical education class. Their analysis of 40 videotapes revealed that teachers spent a large percentage of their time instructing students (36.9%), silently monitoring students (21.2%) and in management functions (20.4%) including recording attendance, providing equipment, and enforcing codes of behavior (p. 32).

Siedentop (1983) reported similar results in a review of studies completed at Ohio State. He also concluded that the three primary functions of a

physical education teacher included directing and instructing, monitoring, and managing students. An interesting aspect of Siedentop's findings, however, is the reported high degree of variability within each category. For example, he found substantial variation in the amount of time they spent instructing (14 to 37 percent), monitoring (20 to 45 percent), and managing (17 to 35 percent) students during class.

Recently, physical education researchers have moved away from large scale descriptive studies which examine teacher behaviors and the causes of variability. The logical reason for this switch was consistent evidence that physical education teachers spent the majority of their time instructing, monitoring, and managing students. Unfortunately, several questions which focus on teacher variability have been left unanswered. For example, where and how do teachers learn to use specific pedagogical behaviors? Secondly, what are the factors which influence teachers to use some behaviors but not others?

Student Use of Time

A second category that has been the focus of descriptive analysis in physical education is student behavior. Researchers who truly wanted to describe what transpired in the gym observed student behavior (Siedentop, 1983). Essentially, the studies that have focused on what students do in physical education class reported that students seem to spend their time in four main categories: receiving instruction, waiting, management, and engaged in motor activity (Anderson, 1978; McLeish, 1981; Pieron, 1980; and Siedentop, 1983). The most interesting, and for many, troubling, finding was that students in physical education classes spent a remarkably low amount of time actually engaged in physical activity.

Two major studies performed in the United States examined how students used their time in physical education classes. Data taken from the Teachers' College Video Data Bank Project, under the direction of William Anderson (1978), showed that only 27% of class time was spent by students in motor engaged movement relating to the accomplishment of central objectives such as practicing, game playing, exercising, or exploring. Siedentop (1983) synthesized studies conducted at Ohio State and found students engaged in motor activities 21% of class time. Interestingly, it appears that low activity time for students in physical education isn't restricted to the United States. McLeish (1981) analyzed physical education lessons performed in Western Canada. He reported that Canadian students engaged in motor activity only 26% of the time. In a Belgium project, Pieron (1980) gathered data on master teachers, defined as having several years experience and high supervisory ratings. His findings indicated that students instructed by even master teachers spent only 30% of the physical education class in engaged motor activity.

So if students aren't physically active in physical education, what are they doing? Obviously, one of the things they are doing is spending time listening to teachers talk. Anderson (1978) found students in his project spent 25% of their time receiving information, Siedentop (1983) 15%, McLeish (1981) 22%, and Pieron (1980) 23%.

Students also spent their time in management tasks including transitions between activities such as getting and returning equipment. Siedentop (1983) observed students in management 20% of the time, while students in Belgium had the least amount of management time (6%) (Pieron, 1980). Anderson (1978) reported 13% while McLeish found Canadian students involved in

management tasks 20% of the time.

Students have also been observed spending a substantial amount of time waiting in physical education. The range for waiting time was found to be lowest in the McLeish (1981) study, 22%, highest in the Pieron (1980) study, 32%. Siedentop (1983) reported an average waiting time of 24%, and Anderson (1978) reported 25%.

Overall, the research on how students spent their time in physical education is quite consistent. Students spent the major portion of their time in non-movement activities such as receiving information, management, and waiting to perform tasks (Anderson, 1978; McLeish, 1981; Pieron, 1980; and Siedentop, 1983). Pieron (1983) makes an interesting observation that physical education is a subject whose primary objective is movement, but classes are mostly characterized by non-movement. The question that remains primarily unanswered is Why? What factors have an inhibiting effect on students' engaged motor time or contribute to their low rates of movement?

Academic Learning Time

The third prominent category of descriptive studies have focused on is academic learning time (ALT). The concept of ALT originated from the Beginning Teacher Evaluation Study conducted by the Far West Laboratory for Educational Research and Development during the mid-1970's. The purpose of that seminal study was to identify the behaviors of elementary classroom teachers which related to learning outcomes (Wurzer, 1983).

Essentially, ALT is defined as the amount of time the student is engaged in activities or with instructional materials at an easy or successful level (Marliave, 1976). This variable is considered significant by researchers due to

the numerous studies reporting a strong, positive correlation between high ALT and student achievement (Berliner, 1979; Fisher, Berliner, Filby, Marliave, Cohen & Dishaw, 1980; Rink, 1985; Rosenshine, 1979).

The ALT construct was adapted for use in a physical education setting by Metzler (1979). Specifically, ALT-PE measures the amount of time individual students are actually working with physical education content at an appropriate level allowing for high success rates.

In a recent review of eleven studies which examined ALT-PE and other functional time variables (engagement, content-PE motor appropriate, and criterion trials), Metzler (1989) concluded that each study found a moderate to strong correlation between student functional time and increased learning. He reported only two studies with mixed results (Silverman, 1985; Young, 1981). None of the eleven studies reported a negative relationship between ALT-PE and student learning.

In his original ALT-PE study, Metzler (1979) systematically observed high school and elementary students participating in physical education classes. He found low percentages of ALT-PE for both high school students (5%) and elementary students (9.1%).

Similar studies reporting low ALT-PE have been conducted in Canada. Godbout, Brunelle, and Tousignant (1983) found that ALT-PE was being accrued by Canadian students for approximately one-third of all class periods observed (elementary 31.3% and secondary 36.5%). They concluded that significantly higher percentages of ALT-PE might have occurred had the teacher managed the class more efficiently.

Several researchers have investigated the possible effects of such factors

as the gender of students, curriculum, grade level, and teacher experience on ALT-PE. The results of these efforts found that girls and boys receive about equal amounts of ALT-PE (Placek, Silverman, Shute, Dodds & Rife, 1982). Students participating in movement education classes receive more ALT-PE than students in traditional physical education classes (Shute, Dodds, Placek & Silverman, 1982). Students participating in team sports accumulate less ALT-PE than those in individual sports (Metzler, 1979). In terms of grade level and teacher experience, elementary students receive more ALT-PE than secondary students (Metzler, 1979), with ALT-PE for secondary students being as low as 3 to 5 minutes during a 30 minute class (Siedentop, Mand & Taggart, 1986). Pupils of student teachers with early field experiences had higher amounts of ALT-PE than pupils of student teachers with no prior experience (Paese, 1984).

Overall, the completed research on ALT-PE suggests that students are engaged in relevant physical education tasks at a high success rate for less than one-third of the class period (Godbout, Brunelle & Tousignant, 1983; Metzler, 1979; Rink, 1985). Factors known to cause variability in ALT-PE can be attributed to lesson content (Metzler, 1979; Shute, Dodds, Placek & Silverman, 1982), grade level (Metzler, 1979), prior field teaching experience (Paese, 1984), and teacher's ability to organize and manage the class (Godbout, Brunelle & Tousignant, 1983). The descriptive studies have recognized the aforementioned variables as factors influencing ALT-PE. One of the purposes of this study was to determine if other sources of influence exist and if so, from where did they originate?

Augmented Feedback

Augmented feedback is the fourth category of descriptive studies which

has received considerable attention from physical education researchers.

Feedback is defined as "information generated about a response that is used to modify the next response" (Siedentop, 1983, p. 7.).

Classroom researchers (Van Houten, 1980; Van Houten, Hill & Parsons, 1975) report that appropriate use of feedback during the acquisition and practice stages of learning is needed to enhance student achievement. Providing students with feedback which is immediate (Leach & Graves, 1973) and precise (Trap, Milner, Joseph & Cooper, 1978) have been found to be effective techniques in enhancing student achievement.

Many physical educators regard augmented feedback as a critical element in the learning of motor skills (Pieron & Delmelle, 1982; Rink, 1985; Singer, 1980). Siedentop (1983) suggests that unless students receive explicit feedback, they will assume they are performing the task correctly, which is often not the case.

Typically, physical education teachers gave very little feedback to their students. Siedentop (1983) found that teachers spent between 3 to 16 percent of their time in class providing feedback. Pieron (1983) suggests that only 10 to 25% of all observed teacher behaviors within a single class related to providing students with any type of feedback. Pieron (1983) reviewed six feedback studies (Arena, 1974; Fishman & Tobey, 1978; Freedman, 1978; Pieron, 1982; Pieron & Delmelle, 1982; Stewart, 1977) and found feedback was directed to individuals with teachers giving feedback statements at a rate of from less than one to approximately four per minute. Other researchers examining augmented feedback found that elementary and secondary teachers provided feedback at a rate of 1.5 per minute during class time (Tobey, 1974; Quarterman, 1978).

"Habitual" evaluative statements (e.g., "Nice job!") with no prescriptive or descriptive components were most common (Cheffers & Mancini, 1978; Tobey, 1974).

Overall, the research on augmented feedback suggests that feedback statements are repetitious in nature and directed to individuals (Pieron, 1983; Quarterman, 1978; and Tobey, 1974). When feedback is given, it tends to be evaluative and general (e.g., nice job, good) rather than specific and descriptive ("Great! That time you flexed your knees").

If feedback is a necessary condition for learning by helping the student to repeat correct behavior and eliminate incorrect behavior, the studies completed thus far suggest that physical educators are not maximizing student learning. But why? Are there persuasive influential factors that prevent teachers from providing feedback frequently and persuasively? Or perhaps, teachers have simply never learned to provide students with feedback.

Learning Environment

The final category which physical education researchers have recently begun to examine focuses on identifying pedagogical behaviors associated with establishing effective learning environments (Fink & Siedentop, 1989; Graham, Holt/Hale & Parker, 1987; Rink, 1985).

The importance of an effective learning environment is well documented in the classroom literature (Doyle, 1986; Rosenshine & Stevens, 1986). Doyle (1986) reported classroom organization and management was the key variable associated with effective learning environments. Effective classroom teachers were found to be managers who set clear goals for pupils (Good, 1983), direct their teaching behaviors toward accomplishing goals (Coker, Medley & Soar,

1980), clearly state rules, procedures, and expectations (Emmer, 1984), gave explicit directions (Evertson, Anderson & Brophy, 1977), model tasks (McKenzie, 1982), and keep students appropriately engaged in academic material for a high amount of class time in a warm climate (Berliner, 1979; Rosenshine, 1976).

Rink (1985) points out that "physical education teachers cannot be effective unless they can establish and maintain a learning environment conducive to learning." Pedagogical behaviors regarded as contributing to an effective learning environment in physical education include providing students with: the purpose of the lesson, class rules, cognitive knowledge pertaining to the mechanics of the skill, an accurate demonstration, a clear model of the organizational pattern to be used, equipment prearranged, an adequate opportunity to practice skills, minimum waiting time, minimum management time, prompt and specific feedback, and a closure to the lesson (Fink & Siedentop, 1989; Graham, Holt/Hale & Parker, 1987; Ratliffe, 1987; Rink, 1985).

Ratliffe's (1987) investigation supports the importance of implementing specific pedagogical behaviors. For two years, he videotaped preservice education majors enrolled in physical education methods classes, finding that less effective preservice teachers had trouble using teacher behaviors generally associated with well established learning environments in physical education. Specific behaviors which teachers had difficulty implementing included communicating clear objectives and determining a lesson focus, establishing clear rules and consequences, providing a demonstration, demonstrating management and organizational skills, and promoting positive behavior through

reinforcement. What this study didn't address was why these behaviors were difficult to implement.

As Larry Locke (1984) suggests, if physical education researchers are going to gain a better understanding of what is happening in the gym, then a deeper level of comprehension is needed. Therefore, it's critical that we not only describe behaviors but also identify the influencing factors which either prevent or encourage teachers to perform the specific functions associated with the establishment of effective learning environments in physical education.

Summary of Descriptive Studies in Physical Education

The results of the descriptive studies in physical education reviewed here clearly present a uniform portrait of one aspect of "what" teachers and students do in the gymnasium. To summarize, teachers spend a large portion of their time instructing, managing, and monitoring students (Anderson & Barrette 1978) McLeish, 1981; Pieron, 1980; Siedentop, 1983). Students spend substantial amounts of time waiting receiving information, resulting in low rates of motor engagement time and ALT-PE (Costello & Laubach, 1978; Metzler, 1979). Overall, physical education teachers appear not to be efficient class managers as demonstrated by the equal amounts of time students spend waiting and time spent in movement activity (Anderson, 1978; McLeish, 1981; Pieron, 1980; and Siedentop, 1983).

Several researchers (Coker, Medley, & Soar, 1980; Doyle, 1986; Emmer, 1984; Evertson, Anderson, & Brophy, 1977; Fink & Siedentop, 1989; Good, 1983; Graham, Holt/Hale, & Parker, 1987; Ratliffe, 1987; Rink, 1985) have identified pedagogical behavior patterns considered to have a relationship to effective instruction and classroom management. These behaviors focus directly

on establishing a learning environment and include defining the purpose of the lesson, explaining class rules and mechanics of a skill, giving a visual demonstration of both the skill and organizational formats, and ending the lesson with a structured review/closure.

In relation to feedback, it appears that teachers direct verbal statements mostly to individuals (Pieron, 1983; Quarterman, 1978; Tobey, 1974). Feedback is usually general with little corrective value (Pieron, 1983; Tobey, 1974). Interactions between teachers and students are typically short and rare-- averaging 1.5 per minute (Quarterman, 1978; Tobey, 1974).

Important to this study is the finding that there is considerable variability between teachers in their use of specific teaching behaviors. Siedentop (1983) found variability among teachers in the amount of time they spent instructing, monitoring, and managing. Pieron (1983) found teachers' feedback ranged from less than one to four per minute. Tobey (1974) indicated that the amount of feedback during one class period ranged from a low of one to a high of 297. The question that this study hoped to answer was Why?

In many circumstances, variability is believed to be due to presage and context variables regarded as having an influencing effect on teacher behavior. The third section of this literature review will examine those variables cited as possible influencing sources which will help to understand why individual teachers do or do not implement specific pedagogical behaviors.

Section III

Sources of Influence

The purpose of the third section of the literature review is to examine the research which identifies potential sources of influence on the pedagogical behaviors employed by teachers. Identifying these potential sources is necessary in order to better understand "why" teachers choose the behaviors they do in physical education.

For organizational purposes, the Dunkin and Biddle (1974) model (Figure 1) will be used in the remainder of this chapter to categorize and define variables which are central to this study. Their model suggests that many of the "whys" of teaching behavior can be traced to presage and context variables thought to have some influence on classroom events. Presage variables are associated with the teacher formative experiences, teacher training experiences, and teacher properties. Context variables are represented by pupil formative experiences and properties, contextual factors found within the school/community and classroom contexts.

The empirical literature which provided the most support in identifying presage and context variables as influencing agents on pedagogical behavior has been the teacher socialization and teacher induction research. Lacy (1977) defines teacher socialization as the process by which individuals learn how to teach and accept the values, attitudes, and interests of the teaching profession. Griffin (1985) describes teacher induction research as the study of new teachers as they make the transition from "student of teaching" in a college or university to full-time teacher in a classroom. Both the teacher socialization and teacher induction literature in education will be reviewed for the purpose of providing

evidence of variables corresponding to the Dunkin and Biddle model. When appropriate, related physical education studies will be discussed.

Presage Variables

Presage variables are defined as factors dealing with the characteristics of teachers which may influence their instructional patterns (Dunkin & Biddle, 1974). These variables possess the potential to influence teaching behaviors and include, for example, where they went to college, their student teaching experiences, their knowledge of a particular sport, and their gender and age.

Teacher Formative Experiences

The first presage variable cited in the Dunkin and Biddle (1974) model is teacher formative experiences. This variable includes personal factors of age, gender, and social background. Many studies have been completed in attempts to identify common presage variables such as age, gender, appearance, IQ, and grade point average and correlate them with student learning (Medley, 1979; Rosenshine, 1979). These studies failed to consistently identify any characteristics that had a direct association with effective teaching (Graham & Heimerer, 1981).

The physical education literature supports the classroom teacher literature in that no major studies report significant differences in teaching behaviors based on gender or age. In descriptive studies, older teachers have been observed having higher rates of teacher modeling (demonstration), student modeling, and nagging reactions during class (Quarterman, 1978). Male teachers (Quarterman, 1978) were found to use higher rates of "nasty" reactions and teacher modeling than female teachers. Male teachers praised students more at the primary grade level while female teachers praised students more at the

intermediate grade level (Twa, 1980). Male teachers demonstrated greater amounts of confusion (non-response behavior) at the primary level; female teachers had greater amounts at the intermediate level (Twa, 1980).

In the realm of teacher functions, Siedentop (1983) concluded that there is little difference between the teaching performance of male and female teachers. Both demonstrate similar effects on student behavior and provide students with approximately equal amounts of learning time.

The research on classroom and physical education teachers is relatively conclusive in that no differences exist between teachers based on age or gender (Graham & Helmerer, 1981; Siedentop, 1983). Thus, teacher formative experiences, as defined by Dunkin and Biddle (1974) seem to be an unlikely source of influence on the pedagogical behaviors of teachers for this study.

Teacher Training Experience

The second presage variable in the Dunkin and Biddle (1974) model is teacher training experiences. This variable has frequently been studied in the teacher socialization literature for the purpose of determining its effect on classroom teaching (Wells, 1984). Components associated with this variable include training program features, preservice field teaching experiences (e.g., student teaching) and transfer of skills into the in-service environment.

The first component, teacher training programs, have been criticized for having little influence on teachers' pedagogical actions (Grant, 1981; Hodges, 1982). Critics point out that method and foundation courses take up too much time and prevent preservice teachers from taking specific subject matter courses (Dewalt & Ball, 1987). Classroom teachers often report that professional education courses were useless and lacked intellectual demandingness (Keisling,

1984).

Contrary to this critical view of teacher training are several supportive studies which investigated the relationship between teacher preparation programs and teacher competence (Dewalt & Ball, 1987; Evertson, Hawley, & Zlotnick, 1985). These studies report that teachers who had professional training were found to provide more affective climates (Dewalt & Ball, 1987), recognized individual differences between students (Dewalt & Ball, 1987), and were thought to be more effective teachers (Evertson, Hawley, & Zlotnick, 1985). Teachers with no previous teacher training did, however, hold students more accountable and had better questioning skills (Dewalt & Ball, 1987).

While reviewing studies focusing on preservice training programs in physical education, Locke (1984) found that graduates often criticized their university training as inadequate. Frequent complaints suggested that preservice training did not prepare students to accommodate individual student differences, coeducational classes, discipline problems, and evaluation of students. Graduates stated that some courses were too theoretical and lacking in practical field experience (Locke, 1984).

Another component of teacher training focuses on preservice field experiences, including student teaching. Field experiences have been provided in teacher preparation programs with the belief that they will help students to be more effective teachers (Applegate, 1985). However, Tabachnick and Zeichner (1985) found a great deal of ambiguity in the socialization and teacher induction literature regarding to what teachers learned from field experiences and student teaching. Positive consequences include identifying one's educational beliefs (Erdman, 1983), affirming career decisions (Bennie, 1982), exposure to different

teaching styles and real world problems (Seiforth & Samuel, 1979), gaining an understanding of children and confidence as a teacher (Byrd & Garofolo, 1982). Negative consequences included preservice teachers becoming conservative and rigid in ideology, thus conforming to the school bureaucracies (Zeichner, 1980).

In physical education, Dodds (1984) found similar negative consequences when she reviewed the research relating to the value of field experiences for physical education majors. She cited evidence that often field experiences influence future teachers to become more negative, conservative, authoritarian, and custodial. She suggested three reasons why field experiences often fail to promote a positive influence on undergraduates. First, preservice teachers are already familiar with teaching and schools, believing they already know much about teaching from their own extensive careers in schools. Second, field placement sites were not considered to be extensions of the university. Hence, students were not provided with teaching experiences specifically designed to match personal levels of development. Third, preservice teachers had difficulty transferring skills learned in the college environment into field settings with different and more complex context variables (Gusthart & Rink, 1983).

The third component of the teacher training experience, the ability of teachers to transfer skills into an inservice environment, has previously been suggested to be a difficult task for pre-service physical education teachers (Dodds, 1984; Gusthart & Rink, 1983; Locke, 1984). Specific skills which physical education majors failed to transfer into new environments included: planning lessons in advance, adapting lessons to the needs of the individual student, providing positive reinforcement for learning, providing adequate opportunity to practice skills, providing enough vigorous activity to contribute to

fitness, preventing waste of time on managerial tasks, providing prompt and specific feedback, holding students accountable for execution of practice tasks, providing clear models of desired learning, or maintaining a warm and positive social atmosphere in class (Locke, 1984).

The literature which studied classroom teachers reported similar results. Borg (1982) reported that classroom teachers transfer about half of the teaching skills they acquire during the last three years at the university. The non-transfer of teaching skills taught at the university to the public school environment has been termed the "wash out effect" (Zeichner & Tabachnick, 1981). The major reasons cited for the failure of skills to be transferred to in-service environments by classroom teachers include: failure of university microteaching experiences to carry over into complex environments, the new contextual features of each situation, and the influence of cooperating teachers during student teaching (Hull, 1981).

Wildman, Niles, Magliaro, and McLaughlin (1989) found that beginning teachers do not transfer behaviors because they often are learning how to teach during their induction period. They suggest this learning process is highly individualized and inherently complex because it is influenced by numerous variables.

The research literature in physical education does not address "why" teachers do not transfer new skills to different environments. However, Locke (1984) gives several "commonsense" explanations:

1. Powerful socialization coupled with weak teacher education treatments. Unsure and inadequately practiced in pedagogy, the new teacher reverts to safe methods learned during the long apprenticeship of being a pupil in school physical education classes.
2. Powerful socialization forces exerted at the induction site

coupled with weak teacher education treatments. Unfamiliar with the complex demands of the teaching role, the new teacher adopts protective coloration and does what works for veteran residents of the school.

3. Inadequate selection of skills relative to the demands of the workplace. Teacher educators inculcate skills and attitudes which are in fact unworkable or dysfunctional given the realities which exist in schools.
4. Inadequate specifications of teaching skills, absence of systematic training and failure to enforce performance criteria. Quite simply, skills not acquired cannot transfer.
5. Trainee rejection of skills. Instructional skills acquired in preservice and inservice programs have implicit assumptions about the nature of students, authority, ability, learning, schools, and the objectives of education, which are not congruent with the value of people recruited into careers in physical education (Locke, 1984, pp. 55-56).

The literature describing the three components of the teacher training variables yields three interesting findings relating to the influence of training experiences on preservice and beginning teachers. First, what pre-service teachers learn from teacher education programs is uncertain (Tabachnick & Zeichner, 1985). Second, teacher education programs may be effective in helping students learn teaching skills that can be used in laboratory settings, but adequate transfer of those skills into the more complex realities of public schools is influenced by other factors and remains a serious problem (Borg, 1982; Dodds, 1984; Locke, 1984). Third, beginning teachers have difficulty transferring behaviors because they are still in the process of learning how to teach during their induction years (Wildman, Niles, Magliaro, & McLaughlin, 1989).

Teacher Properties

The final presage variable suggested by Dunkin and Biddle (1974) of interest to this study is the category of teacher properties. This variable takes into consideration the beliefs, motives, attitudes, perceptions, and psychological traits of teachers. Biddle (1964) states that:

"...such properties have two features in common. They are hypothetical constructs in psychology, thus they are presumed to characterize the individual teacher in a consistent fashion, over time, and serve to explain her behavior in response to a variety of situations. It is also presumed that such properties are laid 'within' the teacher and are not amenable to direct observation in the same way that behavior can be observed" (pp. 9-10).

It is reasonable to assume that teacher beliefs cannot be directly observed; however, there is evidence that suggests that an identifiable relationship exists between teacher beliefs and teaching practices (Mayer, 1985). For example, Bauch (1982) explored teachers' beliefs relating to discipline, teacher control, and student participation. Based on data collected through a triangulation design (interviews, questionnaires, and direct observation), teachers were labeled as autocratic (scoring high on teacher control, but low on student participation), strategists (high on both), laissez-faire (low on both), or democratic (low on teacher control and high on student participation). Bauch concluded that educational beliefs did influence teaching practices. Teachers categorized as being autocrats tended to employ direct teaching methodologies including lecturing, writing, and test-taking. In contrast, teachers considered to be democrats implemented self-direction methodology including class discussions, dramatization, and experiments.

In another example of the influence of teacher beliefs, Schmidt and Buchman (1983) probed the relationship between teachers' beliefs and teaching practices. They found the amount of time teachers devoted to various subject areas directly related to their beliefs regarding the importance of that subject.

In physical education, Placek (1983) described preservice teachers' perceptions and beliefs about successful teaching. She found that successful teaching was thought to occur if students enjoyed themselves, learned or

improved in a skill, or were kept busy. Plecak concluded that teachers held the belief that successful teaching was having busy, happy, and good students.

Her study also suggested that teachers perceive teaching very differently than do researchers. Where teacher educators regard student learning as the most important criterion for successful teaching (Rink, 1985), teachers regarded having "busy, happy, good" students as the most important characteristic of success.

The most significant study of teacher properties, related to this investigation was performed by Clark, Smith, Newby, and Cook (1983) and focused on teacher properties. The purpose of their study was to determine the perceived origins of teaching behavior. The subjects in this study were 27 student teachers and 44 first year teachers. Data were gathered through systematic classroom observation and interviews carried out by six graduate students. Each graduate student was trained to observe and write systematic classroom narratives which focused on teacher directions, method of presenting information, materials and equipment used, questioning strategies, evaluative feedback to students, and classroom management procedures. Each subject was observed for eight hours in either an elementary or secondary classroom. Overall, 1,346 teaching behaviors were observed and analyzed. During logical breaks in activities, the observer would ask the subject for the origins of a particular behavior or idea. Verbatim records of the subjects' comments indicated that the student teachers regarded their "cooperating teacher or student teaching experience" as their primary source of influence followed by "own idea" and "instructor or class within the teacher education program." The first year teachers most frequently mentioned "own ideas" followed by "instructor

or class within the teacher education program," "a teacher in my school district," "a book or program adapted by the school," and "cooperating teacher or student teaching experience."

When student teachers' and first year teachers' responses were combined, the teacher's "own idea" (27%) was identified most frequently. A teacher's "own idea" can be explained as a behavior which was performed by the teacher freely without outside influences including both conscious and subconscious factors. For example, providing students with a visual demonstration could be considered as the teacher's "own idea" if the behavior was truly regarded by the teacher as an action initiated on their own and free of outside influences. The researchers point out that there is no reason to believe teachers can not identify the predominant origin of a given teaching behavior since two thirds of the origins they identified were not claimed as their own ideas.

Besides "own idea," fifteen other sources of influence were identified by the subjects. When combining student teachers and first year teacher responses, the important sources of influence in descending order were: one's cooperating teacher during student teaching experience (17%), an instructor or class within the teacher education program (17%), a book or program adopted by the school or district (13%), another teacher in the school or district (11%), an independent professional book or article (4%), a teacher or class from grade school, junior high, or high school (3%), family member (3%), instructor or class outside the Teacher Education program (2%), a school, district, or professional workshop (1%), assigned student teachers or aides (1%), the college supervisor (1%), one's own students or their parents (1%).

The Clark, Smith, Newby, and Cook (1985) study clearly indicates that

many teacher behaviors are influenced by a teacher's "own idea." Several researchers suggest that a teacher's own ideas originate from conscious and subconscious sources (Feiman-Nemser, 1983; Goodlad, 1982; Lortie, 1975; and Stephens, 1976).

Feiman-Nemser (1983) argues that the formulation of many teachers' ideas and beliefs can be related to three pretraining influences. The first is the quality of the relationships individuals have had with important adults during childhood (e.g., parents, teachers, and coaches). Apparently, teachers deliberately or otherwise try to behave like the significant others in their childhood (Wright & Tuska, 1967). Lawson (1983) reported that physical education majors were influenced to enter teaching by former teachers and coaches. Locke (1984) also suggested that teachers often do not use new skills learned in university classes but rather draw upon familiar skills learned from former teachers and coaches.

A second influence is an outcome of the thousands of hours individuals have spent as students. Lortie (1975) refers to this influence as the "apprenticeship of observation." During this time, individuals are socialized into learning specific pedagogical behaviors through the internalization of observing teaching methods and their close contact with teachers (Tabachnick & Zeichner, 1985). Goodlad (1982) supported both these views when he wrote:

"Teachers teach as they were taught during their many years as students. Their professional preparation comes late in their own schooling and is too little and too thin to separate them from what their experience has taught them that teaching is. Their professional preparation and subsequent practice merely reinforces their own perceptions. Teachers fail to transcend the conventional wisdom of their own profession and continue to teach as they were taught". (p. 19-20).

The third hypothesized influence takes the form of an "evolutionary"

theory (Stephens, 1976). Feiman-Nemser (1983) explains this theory:

"Human beings have survived because of their deeply ingrained habits of correcting one another, telling each other what they know, pointing out the moral and supplying the answer. These tendencies have been acquired over the centuries and are lived out in families and classrooms. Thus, children not only learn what they are told by parents and teachers, they also learn to be teachers" (p. 152).

In summary, the research literature on teacher properties suggests that teachers' beliefs and own ideas are an important determinant of teaching behavior (Clark, Smith, Newby & Cook, 1985; Placek; 1983). Teacher beliefs and ideas are believed to be strongly influenced by significant others during their childhood (e.g., parents, former teachers, coaches) (Feiman-Nemser, 1983; Lawson, 1983; Locke, 1984), time spent as a student observing teacher behaviors and methods (Goodlad, 1982; Lortie, 1975; Tabachnick & Zeichner, 1985), and lastly, the inherent desire of the individual to give correction and instruction (Feiman-Nemser, 1983; Stephens, 1976) . Whether these influences have the same effect on behaviors of elementary physical education teachers had not been studied prior to this investigation.

Context Variables

The second major group of variables in Dunkin and Biddle's (1974) model is context variables. Context variables focus on the characteristics and conditions of the environment which teachers find difficult to change. For example, teachers have no control over the formal experiences their students bring from home and the community, nor do teachers have absolute control over the size of classes. Dunkin and Biddle (1974) suggest that such contextual variables require teachers to adjust their behaviors in order to cope with environmental factors. Specific context variables likely to influence the behaviors of teachers include:

pupil formative experiences and properties, school, community, and classroom contexts.

Pupil Formative Experiences and Properties

The first context variable in the Dunkin and Biddle (1974) model is pupil formative experiences and properties. Relevant factors within this variable include student age, gender, social class, and individual abilities. Researchers examining teacher socialization have consistently identified students as a primary source of influence on teacher behaviors (Tabachnick & Zeichner, 1985). One such study, which identified students as an important influencing source, was completed by Hoffman and O'Neal (1985). This study was significant to this investigation because it reviewed numerous socialization factors and examined their importance to the practices of classroom teachers. As a result of this review, 11 presage and context influencing factors were identified. These factors include: 1) teacher's family, 2) their own experiences, 3) contact with another professional in the immediate school setting, 4) contacts with another professional outside of the immediate school setting, 5) evaluation procedures, 6) day-to-day experiences with students in the classroom, 7) undergraduate coursework, 8) student teaching, 9) program requirements (e.g., teacher manual, curriculum guides), 10) the principal, and 11) the community (p. 7).

As part of their study, the researchers asked six first year teachers and 16 experienced teachers to rank and give specific examples for each source of influence at two points during the school year--in the fall and in the spring. The results of the study indicate that both first year and experienced teachers ranked day-to-day experiences with students as having the greatest influence on their teaching behaviors in the fall. Beginning teachers also ranked contacts with

teachers in the immediate school setting and student teaching as important sources, where experienced teachers regarded their family and the principal as influencing their decisions relating to classroom practices. In late spring, teachers were asked to complete a questionnaire for the purpose of determining if the sources of influence had changed over that year. Experienced teachers and beginning teachers reported no change. However, the intensity in which beginning teachers regarded day-to-day experiences with students, their own experiences in schools, and contacts with professionals in the school setting increased.

Beginning teachers in the Wildman, Niles, Magliaro, and McLaughlin study (1989) also identified students as the major factor affecting their induction into the profession of teaching. The teachers reported that students were influential in shaping their judgments, actions, feeling of competence, and satisfaction with teaching.

It is clear that students do have some influence on teachers. Good and Brophy (1984) suggest that the primary traits students possess which influence teachers to perceive and treat students differently include gender, social class, and physical abilities.

In regard to gender, girls have been perceived by teachers to be more emotional, intuitive, ambitious, and empathetic. Boys, in contrast, were expected to be aggressive, independent, and have better physical skills (Simmons, 1980). Boys consistently have had more interaction with teachers than girls (Cooper & Good, 1983).

In terms of social class, Rosenshine (1976) observed that students with dissimilar socio-economic status (SES) achieved more when teachers instructed

them differently. Low SES students performed better when teachers employed more direct (teacher-dominated) styles of instruction. Middle SES students found more success when teachers used less directive approaches to teaching.

Within a physical education context, students' physical ability has been found to be a persuasive socializing agent on teachers. Physically skilled students have been observed receiving more leadership assignments and individualized attention. Unskilled students however, were regarded as "motor morons" and received little individualized instruction (Tindall, 1975).

Templin (1981) found that teachers regarded motor achievement and the ability to behave as desirable traits for physical education students. His research using Pupil Control Ideology showed students who misbehaved socialized student teachers into initiating a custodial control orientation (e.g., threats, punitive sanctions) rather than a humanistic orientation (e.g., flexible, tolerant, patient). Similar findings were reported by Tindall (1975) when he observed that poorly skilled students received stern behavioral reprimands while misbehavior of physically skilled students was overlooked.

A final influencing effect that students have on physical education teachers was found in teacher planning. Placek (1983) reported that teachers did not plan activities designed to accomplish specific objectives. Rather, they selected activities that provided students with enjoyment, maximum participation, and few discipline problems for the teacher.

In summary, the literature clearly identifies students as significant sources of influence on the pedagogical behaviors of teachers. Specifically, pupil gender, social class, and physical ability have the potential to influence how teachers plan lessons (Placek, 1983), perceive (Simmons, 1980), interact (Cooper & Good,

1983; Templin, 1981; Tindall, 1975) and instruct (Rosenshine, 1976; Tindall, 1975) students. Students have a significant effect on beginning teachers and influence their judgment, actions, feeling of competence, and satisfaction with teaching (Wildman, Niles, Magliaro, & McLaughlin, 1989).

School Contexts

The second contextual variable cited in the Dunkin and Biddle (1974) model focuses on the school as a contextual factor. While students are regarded as important socializing agents within the school, other significant contextual elements such as the school bureaucracy and significant professionals (i.e., principals and teacher colleagues) also exist in schools. Both of these elements have the potential to influence teachers' pedagogical behaviors.

Regarding school bureaucracy, Hoy and Rees (1977) reported that schools were bureaucratic structures characterized by authority figures, rules, and work regulations. Teachers from all disciplines are expected to adapt their beliefs, values, and behaviors to correspond with those of the organization.

Studies which examined the school bureaucracy report that such organizations emphasize conformity to the values of the school (Eddy, 1969; Goodman, 1985) and take the form of using officially approved textbooks (Goodman, 1985), curriculum guides, and teachers' manuals (Eddy, 1969). Goodman (1985) reported that pre-service teachers felt pressured to support the school's expectations of bringing children to a certain academic level within a specified time period. Thus, the school bureaucracy influenced teachers not only in their process of teaching but also toward and achieving product results.

Perhaps the most important element within the school bureaucracy is significant professionals who act as authority figures with the responsibility of

formulating rules and work regulations (Hoy & Rees, 1977). School administrators are generally viewed by teachers as significant individuals with authority. Eddy (1969) reported that beginning teachers learned that their success in the school system not only depended on their ability to control the behavior of students and maintain a conducive learning environment, but also to present acceptable plans and adhere to the rules and regulations formulated by the principal.

Recent research on school organization and administration corroborate the importance of principals as influential leaders in effective schools (Blank, 1987; Good & Brophy, 1986). Principals have the potential to influence by emphasizing achievement, providing orderly atmosphere, frequently evaluating student progress, coordinating new instructional programs and supporting teachers (Sweeney, 1982).

In physical education, Faucette and Graham (1986) investigated the impact of principals on two physical education teachers participating in an in-service program. The purpose of the program was to aid teachers in the implementation of a movement education curriculum. Teachers perceived the action and support of principals as a critical factor in the decision to adopt new innovations. The principal who demonstrated a willingness to resolve problems relating to the problems associated with adopting the innovations and who actively supported this teacher had a substantial influence on his teacher's commitment to teaching. The principal who withheld support diminished teacher enthusiasm and commitment toward implementing new innovations.

School principals have also been regarded as having the potential to influence the improvement of instructional strategies (Sweeney, 1982). Ratliffe

(1986) reported that principals who were trained to use systematic observation techniques, and who discussed the collected data with their physical education teachers, could be influential in assisting teachers to increase student activity time and also decrease management time in their classes.

A second significant professional within schools are cooperating teachers (Clark, Smith, Newby, & Cook, 1985). Both experienced teachers and student teachers report that the most influential factor during their professional training period was their cooperating teacher (Karmos & Jacko, 1977). Student teachers perceived their cooperating teachers as influencing them by providing personal support and role development (Karmos & Jacko, 1977). Cooperating teachers have also been cited as a primary influence affecting the transfer of new ideas learned in the teacher training program into new teaching situations (Hull, 1981). Unfortunately, many of the new ideas are "washed out" because student teachers imitate their cooperating teachers, regardless of the approval or disapproval of the college supervisor (Zeichner & Tabachnick, 1981; Zevon, 1974).

Studies completed in physical education also cite the cooperating teacher as the dominant source of influence on student teachers (Locke, 1979). Basically, cooperating teachers instruct student teachers in learning useful techniques which work in the real world (Locke, 1979). For example, Templin (1979) examined the cooperating teacher's role as a socializing agent for student teachers. Through observation and interview data, Templin found that cooperating teachers influenced physical education student teachers to shift from a humanistic ideology (e.g., flexible, tolerant, patient) to a custodial control ideology (e.g., threats, punitive sanctions) which concurred with the cooperating

teachers' behaviors in the gymnasium.

The third and final group of significant professionals within the school context is experienced teacher colleagues. Experienced teachers have been reported to play a critical role in influencing the behavior of beginning teachers (Eddy, 1968; Feiman-Nemser & Floden, 1986; Wildman, Niles, Magliaro, McLaughlin, & Drill, 1989).

In a recent study beginning teachers were examined to determine how they solved problems during their first year of teaching (Wildman, Niles, Magliaro, McLaughlin, & Drill, 1989). The findings indicated that the primary solution to solving problems for beginning teachers was to "consult with other teachers." More specifically, beginning teachers regarded experienced teachers as being vital in their development by providing support in both cognitive (e.g., direct answering of questions, sharing materials, and collaborative planning) and affective (e.g., emotional) form. Wildman, Niles, Magliaro, and McLaughlin (1989) concluded that colleagues can make beginning teachers feel good about teaching. Specifically, colleagues can ease the stress and uncertainty beginning teachers experience, offer time-saving suggestions, share their materials, and provide a criteria against which neophyte teachers can judge their progress.

The findings of these two studies (Wildman, Niles, Magliaro & McLaughlin, 1989; Wildman, Niles, Magliaro, McLaughlin, & Drill, 1989) are consistent with the research which investigated how experienced teachers socialized beginning teachers into the profession. For example, Eddy (1969) reported that experienced teachers influenced beginning teachers, formally and informally, during daily work relationships. From the formal relationships, beginning teachers learn the daily routines, how to satisfy management

procedures, and how to present the formal curriculum. From the informal relationships, beginning teachers learn techniques of handling administrators, stereotypes of students, and rules governing relationships with other teachers. Experienced teachers have also been reported to influence beginning teachers to drop previous patterns of behavior (Edgar & Warren, 1969), accept the behavior patterns of established teachers (Feiman-Nemser & Floden, 1986) and learn survival techniques; thus making the complexities of the new job manageable (Pataniczek & Isaacson, 1981).

The influence of experienced colleagues on beginning physical education teachers is unclear. Burlingame (1972) points out that the socialization of physical education teachers takes place when experienced teachers direct beginning teachers into using system-wide syllabi, providing suggestions for disciplining students, and informing the beginner which teaching station is available for their use. However, the recent issue of "teacher isolation" in physical education questions whether beginning teachers have the opportunities to confer with experienced teachers (Templin, 1988). Isolation is defined as "the absence of routine and pedagogically based collegial interaction (p. 197)." Physical educators are reported to experience isolation, both physically and psychologically (Locke, 1975).

In a physical sense, elementary specialists are generally the only physical education teacher in the school. Secondly, the location of most gymnasiums is frequently located away from other classrooms, teachers, and administrators (Templin, 1988). Psychologically, physical educators and the subject of physical education, are given low status in the domain of education. Compounding the problems is the perception that the physical education curriculum is often

perceived as irrelevant (Bain, 1983; Templin, 1988). As a result of physical and psychological isolation, physical education teachers often depend on trial and error teaching processes and rely heavily on their own ability to solve problems (Templin, 1988).

In summary, the socialization literature provides evidence that within the school context, several important sources exist which have the potential to influence the behaviors of teachers. The four most obvious sources include the school bureaucracy (Goodman, 1987; Hoy & Rees, 1977), principals (Blank, 1987; Faucette & Graham, 1986; Good & Brophy, 1986; Ratcliffe, 1986), cooperating teachers (Hull, 1981; Karmos & Jacko, 1977; Locke, 1979; Zevon, 1974) and experienced colleagues (Eddy, 1969; Feiman-Nemser & Floden, 1986; Wildman, Niles, Magliaro & McLaughlin, 1989; Wildman, Niles, Magliaro, McLaughlin, & Drill, 1989). However, in the field of physical education, it has been suggested that teacher isolation may prevent teachers from being influenced by experienced colleagues (Templin, 1988).

Classroom Contexts

The final context variable in the Dunkin and Biddle (1974) model suggests that classroom and school conditions are possible factors which have the potential to influence the pedagogical behaviors of teachers. Doyle (1977) and Copeland (1980) concur that the "ecological system" of the classroom is an important force in shaping the pedagogical behavior patterns and decisions of teachers. Influencing factors within this complex ecological system include available resources, class size, space, time (Doyle, 1979; Tabachnick & Zeichner, 1985).

Eddy (1969) reported that beginning classroom teachers regarded an

abundance of equipment as a positive influence on their teaching. In contrast, impoverished work settings, lacking in essential supplies and equipment, were considered negative influences which limited what a teacher could successfully implement. Doyle (1977) suggests that when faced with unsatisfactory conditions, teachers are forced to learn coping strategies in order to survive the particular situation.

The ecological systems within a physical education setting seem to be just as influential as those in classrooms. For example, several physical education studies indicate that class size can be an influential factor on the behavior of physical education specialists. Morgenegg (1978) suggests that class size contributed to teacher variability in his study of pedagogical moves. Tobey (1974) found that large classes received less feedback than small or medium size classes. He concluded that large classes also influenced teachers to spend more of their time in administrative duties such as organizing and controlling the class.

Specific ecological conditions have been reported as being influential in the implementation of new physical education programs. Faucette and Graham (1986) found that physical education teachers regarded classroom conditions as necessary prerequisites for the successful implementation of movement education programs. Conditions which teachers perceived as having a direct positive influence on their teaching behaviors included having adequate equipment, reasonable class schedules, and manageable class sizes. If these prerequisites were not present, it had a negative influence on the teacher's enthusiasm, instructional abilities, and beliefs relating to the administration commitment to the program.

Other factors in addition to class size, and class schedules have been

uncovered as contextual factors which affect the quality of instruction of physical educators. Using participant observation and interview techniques, Griffin (1985) found four factors which had a detrimental effect on teacher pedagogical behaviors. These included: 1) outdoor activity space (e.g., park facilities); 2) central office policies (e.g., unclear policies regarding grades, process for attending conventions, assignment of students into classes); 3) school-based professional support (e.g., inadequate funding for equipment); and 4) unique qualities of multiracial, urban schools (e.g., insufficient training to handle the diversity of students due to racial, cultural, economic, and academic factors).

In summary, the literature clearly indicates that the ecological system of the classroom including class size (Morgenegg, 1978; Tobey, 1974), material resources (Eddy, 1969; Faucette & Graham, 1986), space (Griffin, 1985) and time (Faucette & Graham, 1986) influence the pedagogical behaviors of teachers. As a result, teachers develop coping behaviors to match their pedagogical patterns to the environment (Doyle, 1977).

Summary of Presage and Context Variables

An overall summary of the socialization and teacher induction literature, in relation to the Dunkin and Biddle (1974) model, suggests three fundamental conclusions. First, numerous presage and context variables exist which act as socializing agents and mechanisms that influence teacher behavior patterns. Second, the specific presage and context variables frequently found to be influencing factors include teacher's beliefs and own ideas, family, former teachers and coaches, teacher training programs, field experiences, student teaching, cooperating teachers, teacher colleagues, school bureaucracy, principal, program requirements, evaluation procedures, students, characteristics of the

school environment, time for classes, equipment, and facilities. Third, there is a clear lack of consensus in the literature with regard to the potency of these various influencing factors on individual teacher's pedagogical behavior patterns (Tabachnick & Zetchner, 1985).

Obviously, until observations are made and teachers are interviewed for the specific purpose of understanding their reasons for pedagogical behavior patterns, the sources of influence will remain purely speculative. The primary purpose of this study is to gain an understanding of the factors which influence the pedagogical behavior patterns of five elementary physical education specialists.

Chapter 3

PROCEDURES

Chapter 3 has three purposes. The first is to identify and describe the subjects and setting of this study. The second is to describe the research design. The third is to explain the techniques for data collection, and the strategies employed for analysis.

Subjects

The teaching subjects in this study were in the Progress County school system. All five were certified elementary physical education specialists. The 1985-86 school year marked the first time Progress County employed a staff of physical education specialists. Three of the teachers graduated in June, 1985 from the same undergraduate program. The teacher with the most experience served as a cooperating teacher during student teaching for one of the three beginning teachers during 1985. A composite of each teacher's gender, age, years of teaching experience, and the number of elementary schools to which he/she is assigned is included in Table 1.

Teachers were asked to participate in a year long study which would require being videotaped, interviewed and completing several questionnaires. Each teacher signed a written consent form (see Appendix A) expressing his/her willingness to participate.

The Setting

Progress County is located in Southwestern Virginia. It is a

Table 1

TEACHER DEMOGRAPHIC PROFILE

Teacher	Gender	Age	Experience	Number of schools	Classes per day
A	female	23	0	1	8
B	male	24	0	2	8
C	male	27	0	3	9
D	female	29	2 years sub 3 years teacher aide	3	8
E	female	33	9 years	3	9

predominantly rural. The public school system is composed of 12 elementary schools, two middle schools, and one high school. The (K-5) elementary schools have a combined population of 2,430, and range in size from 50 to 560. The school system was in its initial year of employing physical education specialists to teach in their (K-5) elementary schools. Physical education classes were scheduled twice a week for 30 minutes. Each specialist had an adequate supply of new equipment. Since most of the teachers taught in more than one school, a composite of each teacher's school, enrollment, grade, indoor and outdoor facilities is included in Table 2.

Design of the Study

The purpose of this study was to attempt to answer two major questions:

1. What are the pedagogical behavior patterns, as determined through videotape analysis, employed by the five elementary physical education teachers in this study?
2. What sources of influence (presage and context variables) are identified by the teachers as contributing to their observed pedagogical behavior patterns?

In order to answer these questions, it was necessary to first understand "what" the teachers were actually doing in classes and then "why" they taught the instructional program in the observed manner. This study thus required both quantitative and qualitative methods of data collection. Denzin (1978) terms the use of multiple methods of measurement as triangulation. The basic feature of triangulation is the combination of two or more different research methods to study the same phenomena, using a combination of methodologies to increase the validity and reliability of conclusions (Denzin, 1978). He explains this rationale by stating, "the flaws of one method are often the strength of another, and by

Table 2

SCHOOL DEMOGRAPHIC PROFILE

School	Teacher	Enrollment	Indoor Facilities	Outdoor Facilities
1	A	300	Half of cafeteria	Large fields/grassy areas
2	D	400	Half gym	Hilly fields
3	E	80	Gym	Blacktop/fields
4	C	120	Carpeted multi-purpose room	Blacktop/field
5	C	560	Gym	Large fields
6	B	50	Carpeted multi-purpose room	Large fields
7	D	50	Cafeteria	Blacktop/fields
8	E	180	Carpeted multi-purpose room	Old blacktop
9	E	80	Cafeteria	Large blacktop
10	D	130	Cafeteria	Blacktop/ small grassy area
11	B	370	Gym	Large fields
12	B	110	Cafeteria	Large field

combining methods, researchers can achieve the best of each while overcoming their unique deficiencies." (p. 302).

Two quantitative measures (systematic analysis of videotaped teacher/student observation and questionnaires) and two qualitative measures (interviews, field notes) were used to collect data. Systematic observation and field notes were used to determine what pedagogical behavior patterns were employed by teachers. Interview and questionnaires were used to determine the underlying reasons for teaching as each teacher did.

Techniques of Data Collection

Before studying the reasons why the teachers taught as they did, it was first necessary to analyze specific pedagogical behavior patterns exhibited by the five teachers. Hence, each teacher was videotaped six times for subsequent analysis. To reduce potential confounding effects, videotaping sessions were conducted indoors. Teachers were asked to design 30-minute lessons appropriate for their students, focusing on a skill theme or movement concept, (e.g., not refereeing a game or fitness testing) (see Appendix B). Each lesson was videotaped using a VHS videotaping system with the teacher wearing a wireless microphone for audio recording. The camera was placed unobtrusively in a corner of the gym and a wide angle lens adjustment constantly monitored the teacher and as many students as possible.

After each videotaping session, the investigator assessed whether the lesson met the criteria for acceptance in the study as stated in Appendix B. To be included in the data base, the lesson had to be free of uncontrollable events (i.e., fire drill, special programs) that could interfere with the typical teaching patterns. Any decision to judge a lesson atypical and therefore unacceptable for

analysis was made in conjunction with the teacher of that lesson. This was accomplished by asking the teacher, at the conclusion of the lesson, if it was typical and free of unusual events.

Currently, there is no single system available with the capability to measure all the dimensions of teacher behavior relative to teaching physical education. Therefore, two systematic observation instruments and a checklist were used to measure the pedagogical behaviors.

Systematic Observation of Teaching Behaviors

The two systems most relevant for this study were Metzler's (1984) Micro Computer Data Collection System (MCDCS), to measure academic learning time in classes and Dodd's (1983) Student Teachers Observing Peers (STOP) system to measure teacher feedback. Both systems were selected because they have the capability to measure pedagogical behavior patterns which research suggests are employed by effective physical education teachers (Rink, 1985; Siedentop, 1983).

ALT-PE MicroComputer Data Collection System

The ALT-PE MCDCS was selected to measure how students spent their time in physical education classes. The generated data are also useful in explaining how teachers spend time in specific pedagogical behaviors.

The system (ALT-PE MCDCS) employs interval recording measures to gather data on the frequency of 22 student process categories. These categories are separated into six groups: pacing (P), content general (CG), content physical education (CPE), not engaged (NG), engaged (E), and difficulty (D) (see Appendix C). The ALT-PE MCDCS yields specific data which are converted into percent of intervals students spend in management, instruction, activity, waiting, non-focus,

engaged motor, and academic learning time in physical education relative to this study. Management was determined by combining intervals spent in transition (CG) and management (CG) categories. Instruction was measured directly from the knowledge (CPE) category. Activity specific to skill learning was determined by combining intervals spent in practice (CPE), scrimmage (CPE) and game (CPE) categories. The non-focus (NG) category monitors activity not directly relating to the purpose of the lesson (i.e., warm-ups) was measured from the non-focus category (NG). Waiting was derived by combining intervals spent in wait (CG), and rest (CG). Engaged motor and ALT-PE are measured as single categories in the system.

The behaviors of three students were observed for the entire lesson. Different students were chosen during each lesson based on the degree to which they could be observed on the tapes. To qualify as an observable student, individuals had to be visible on the videotape for a minimum of 85% of the scored intervals.

Observation data were collected on ALT-PE coding forms (see Appendix D) while analyzing the videotapes of each lesson. Data were then calculated and stored, using MCDCS and an Apple IIe computer. All videotapes were coded within two weeks of the original taping session.

Student Teachers Observing Peers System

The Student Teacher Observing Peers System was selected to analyze the verbal feedback patterns of teachers in terms of category, frequency, and level. The two major categories included skill and social behavior. Within each category, feedback is coded as positive, negative, corrective, and whether each instance of feedback is general or specific. Frequency data were reported in

terms of rate per minute in both categories due to slight differences in observation session durations. The system also denotes level, whether feedback is directed to individuals, groups, or the total class. All videotapes were coded using the STOP Coding Form (see Appendix E). Verbal behaviors were coded from the videotapes within two weeks of the initial taping session.

Reliability

Observational reliability is the degree to which an individual observer (intraobserver) or observers (interobserver) is consistent in the interpretation of events which are taking place and recorded (Safrit, 1981). For this study, intraobserver reliability checks were implemented. One reliability check for each subject was made on the ALT-PE MCDCS and STOP systems. Thus, 17% of the 29 videotapes were checked for reliability on the MCDCS system and 17% of the videotapes were checked for reliability on the STOP system. Intraobserver reliability checks were performed within a two-week period after the original observation.

Reliability of MCDCS interval recording data was estimated by the scored interval (S-I) agreement calculation techniques reported by Metzler (1983). Agreement is defined as any interval in which an observed target behavior is recorded as the same in the original observation and during a second reliability observation. Disagreement is defined as any interval in which the target behavior is coded in only one observation. Intervals in which the target behavior is not recorded in either observation are left out of the agreement calculation. Consequently, there are no non-occurrence agreements to artificially inflate reliability. The Scored-Interval method is the most stringent method of determining reliability (Metzler, 1983). The S-I formula is as follows:

$$S-I = \frac{\text{Agree (yes)}}{\text{Agree (yes) + Disagree}} \times 100 = \% \text{ agreement}$$

Reliability of (STOP) event recording data was calculated by category, dividing the data of the observation with the lowest number of instances by the number of observations that has the highest number of instances (Siedentop, 1983). The event recording formula is as follows:

$$\frac{\text{Lowest}}{\text{Highest}} \times 100 = \% \text{ agreement}$$

Both the scored-interval and event recording reliability techniques have an inherent weakness. When the frequency of behaviors across categories is low, just one disagreement will cause lower reliability percentages. Birkimer and Brown (1978) suggest that flexible parameters need to be established for each observed frequency range of the observed behaviors.

Following guidelines outlined by Metzler (1979), criteria for acceptable intraobserver scored-interval reliability using the MCDCS were incorporated. The same criteria were used for event recording reliability using the STOP system. The criteria for reliability are:

1. When the number of intervals or events was five or less, the acceptable percentage of S-I or event agreement was 60 percent;
2. When the number of intervals or events was from six to ten, the acceptable percentage of S-I or event agreement was 70 percent; and
3. When the number of intervals was 11 or more, the acceptable percentage of S-I or event agreement was 80 percent.

Reliability checks of the ALT-PE Microcomputer Data Collection System and the Student Teacher Observing Peers System are included in Tables 3, 4,

and 5. The very high reliability check given for the difficulty level, can be attributed to the researcher's experience with each system.

The researcher had over 50 hours of experience using the ALT-PE MCDCS and STOP systems. Before coding the tapes in the present study, the researcher was also required to meet a minimum criterion of 80% intraobserver agreement by category on videotapes made as part of a pilot study.

Teacher Process Checklist

A pedagogical behavior checklist, modified from a previous study (Ratliffe, 1987) (see Appendix F) was implemented to determine whether teachers did/did not perform specific process behaviors during each observed class. Predetermined criteria for each pedagogical behavior were established and defined in order to systematically observe the behaviors in terms of yes, no, or partial occurrence (see Appendix G). Due to the simplistic nature of this checklist, reliability checks were not deemed necessary.

Interview Data

In an attempt to determine why the teachers employed the observed pedagogical behaviors, each subject was interviewed two times during the school year following the guidelines developed by Spradley (1979). The initial interview was completed during the first week of the school year. Interviews were held after school in the teacher's office, and were audiotaped and transcribed. Interview questions during this session were asked for the purpose of developing interviewer/client rapport, understanding the perceived teacher roles related to, learning the characteristics and behaviors regarded as being important by these teachers. The following questions were asked of all teachers during the first formal interviews:

Table 3

**SCORED-INTERVAL RELIABILITY
AGREEMENT PERCENTAGE FOR MCDCS**

Category	Teacher (Lesson)					Total
	A (6)	B (1)	C (1)	D (3)	E (6)	
Pacing (P)						
T	100%	97.3%	98.7%	98.4%	98.4%	98.8%
	177/177	74/76	78/74	65/66	127/129	521/527
S	----	96/3%	97.6%	98.8%	96.6%	97.4%
	----	80/83	84/86	84/85	58/60	306/314
Content Gen (CG)						
W	88.8%	90.3%	84.6%	82.1%	86.2%	85.3%
	8/9	28/31	11/73	23/28	25/29	95/110
T	----	85.7%	81.2%	66.6%	85.7%	81.3%
	----	12/14	13/16	4/6	6/7	35/43
M	86.8%	85.7%	80%	75.7%	85.1%	82.9%
	53/61	12/14	28/35	25/23	23/27	141/170
R	----	----	----	----	----	----
Content PE (CPE)						
P	94.7%	95.5%	97.6%	97.1%	98.3%	96.6%
	54/59	85/89	84/86	68/70	60/61	351/363
S	----	----	----	----	----	----
G	----	----	----	----	----	----
K	83.3%	80%	85%	80%	92%	87%
	10/12	8/10	17/20	4/5	35/38	74/85
N	93%	100%	100%	100%	----	95.7%
	40/43	7/7	5/5	15/15	----	67/70
Not Engaged (NG)						
P	80%	81.4%	80%	71.4%	87.5%	80.6%
	4/5	22/27	12/15	5/7	7/8	50/62
W	----	80.9%	100%	100%	87.5%	85.4%
	----	34/42	10/10	2/2	7/8	53/62
O	100%	75%	----	100%	----	83.3%
	2/2	2/3	----	1/1	----	5/6
Engaged (E)						
C	84.6%	75%	89.4%	80%	92.1%	87.9%
	11/13	6/8	17/19	4/5	35/38	73/83
I	----	----	----	----	----	----
M	96.1%	85.3%	91.1%	90.9%	93.4%	92.3%
	100/104	35/41	72/79	70/77	71/76	348/377
Difficulty (D)						
A	93.3%	83.8%	92.6%	80.8%	98.3%	91.1%
	84/90	26/31	38/41	38/47	61/62	247/271
I	87.5%	100%	91.4%	80.5%	85.7%	85.4%
	7/8	8/10	32/35	29/36	6/7	92/96
Total	94.6%	90.3%	92.9%	90.4%	94.7%	92.7%
	550/581	439/486	501/539	437/483	521/550	2448/2639

*denotes percentage below criterion level

(----) denotes the behavior was not recorded in the observation

Table 4

**EVENT RECORDING RELIABILITY AGREEMENT
PERCENTAGES FOR SKILL FEEDBACK**

Category of Skill Feedback	Teacher (Lesson)					Total
	A (6)	B (1)	C (1)	D (3)	E (6)	
<u>Class</u>						
+Specific	66.6% 2/3	----	100% 1/1	----	66.6% 2/3	71.4% 5/7
+General	60% 3/5	100% 2/2	100% 2/2	100% 2/2	80% 4/5	81.2% 13/16
Corrective Specific	100% 4/4	92% 5/6	66.6% 2/3	----	100% 15/15	92.8% 26/28
Corrective General	----	----	----	----	----	----
-Specific	----	----	----	----	----	----
-General	----	----	----	----	----	----
<u>Group</u>						
+Specific	----	100% 1/1	----	----	----	100% 1/1
+General	----	50% 1/2*	----	0 0/1*	----	33.3% 1/3
Corrective Specific	----	66.6% 4/6*	100% 1/1	----	----	71.4% 5/7
Corrective General	----	----	----	----	----	----
-Specific	----	----	----	----	----	----
-General	----	----	----	----	----	----
<u>Individual</u>						
+Specific	86.3% 19/22	100% 8/8	----	----	100% 2/2	90.6% 29/32
+General	80.9% 17/21	92% 23/25	33.3% 1/3*	85% 17/20	81.8% 9/11	83.7% 67/80
Corrective Specific	100% 6/6	93% 15/16	75% 3/4	80.6% 25/31	92.8% 13/14	87.3% 62/71
Corrective General	----	50% 1/2*	0 0/1*	0 0/1*	----	25% 1/4
-Specific	----	100% 2/2	----	----	----	100%
-General	----	100% 1/1	100% 1/1	----	----	100% 2/2

*denotes percentage below criterion level

(----) denotes the behavior was not recorded in the observation

Table 5

**EVENT RECORDING RELIABILITY AGREEMENT
PERCENTAGES FOR SOCIAL FEEDBACK**

Category of SOCIAL Feedback	Teacher (Lesson)					Total
	A (6)	B (1)	C (1)	D (3)	E (6)	
Class (TOTAL)						
+Specific	----	----	----	100%	----	100%
				1/1		1/1
+General	----	----	85.7%	100%	----	87.5%
			6/7	1/1		7/8
Corrective Specific	50%	83.3%	100%	100%	66.6%	84.2%
	1/2*	5/6	7/7	1/1	2/3	16/19
Corrective General	100%	----	----	----	----	100%
	1/1					1/1
-Specific	----	0	----	----	----	0
		0/1*				0/1*
-General	----	----	----	----	----	----
Group (TOTAL)						
+Specific	----	----	----	----	----	----
+General	100%	----	100%	----	----	100%
	1/1		1/1			2/2
Corrective Specific	----	100%	----	----	100%	100%
		1/1			1/1	2/2
Corrective General	----	----	----	----	----	----
-Specific	----	----	----	----	----	----
-General	----	----	----	----	----	----
Individual (Total)						
+Specific	75%	0	66.6%	100%	----	66.6%
	3/4	0/1*	2/3	1/1		6/9
+General	50%	----	86.3%	66.6%	100%	82.3%
	1/2*		19/22	4/6	4/4	28/34
Corrective Specific	60%	71.4%	82.7%	85.7%	100%	81.4%
	3/5	5/7	24/29	6/7	6/6	44/54
Corrective General	----	0	100%	66.6%	----	66.6%
		0/1*	2/2	2/3		4/6
-Specific	----	100%	100%	100%	----	100%
		1/1	1/1	2/2		4/4
-General	----	100%	----	100%	----	100%
		1/1		1/1		2/2

*denotes percentage below criterion level

(----) denotes the behavior was not recorded in the observation

1. How do you feel about the university's involvement in your district's new K-5 physical education program?
2. How do you feel about beginning a new program?
3. How would you describe the ideal elementary physical education teacher?
4. Compare yourself and your teaching to the ideal teacher.
5. What is your responsibility relating to student learning?
6. How important are you in producing student learning?
7. Do you have any concerns relating to the program?

The second interview was held during the last week of the same school year. Interview questions for these sessions were based on each teacher's pedagogical behavior analyses. Data were derived from the videotapes using the ALT-PE MCDCS, the STOP system, and the Teacher Pedagogical Behavior Checklist. Open-ended questions were designed and directed to individual teachers for the purpose of allowing them to verbally express their own perceptions of presage and context variables perceived as having some effect on specific pedagogical behavior scores. These included: amount of instruction, management, activity, waiting, motor engagement, ALT-PE and the frequency/category/level of augmented feedback. Data collected from the Checklist were used to design open-ended questions relating to specific teaching behaviors. In response to the questions, each teacher was asked to enumerate sources of influence on specific behaviors identified from the quantitative analysis. The teachers were also asked to state reasons why they did/didn't provide students with specific processes/functions represented on the Checklist (e.g. visual demonstrations, whole class feedback).

The purpose of interviewing each teacher was to gather descriptive data

using the subject's own words, allowing them to formally and informally describe their own feelings, perceptions, and interpretations of presage and context variables they regarded as having an effect on specific pedagogical behavior patterns. All interviews were transcribed and componential analyses were completed on each interview. The componential analysis process consisted of sorting the sources of influence with the corresponding pedagogical behavior. These data were entered into a paradigm chart (see Appendix H) for the purpose of providing visual evidence explaining which presage and context variables were regarded by the teachers as sources of influence on specific pedagogical behavior.

Field Notes

Field notes were written in diary form after each formal interview. Informal phone conversations, unscheduled visits, conversations during testing, and videotaped sessions were also included in the field notes. A final element of the field notes was the researcher's own interpretation of ideas and problems that arose during formal and informal interviews (Spradley, 1979). Analysis of interviews and field notes used the inductive ethnographic techniques outlined by Spradley (1979) and focused upon presage and context variables which might have influenced observed pedagogical behaviors of each teacher.

Reliability of the qualitative data collected was checked by having individual teachers read their profiles which included interview and field note results. Reliability was deemed acceptable once each subject agreed with the written profiles represented the presage and context variables they perceived to have an effect on specific pedagogical behavior patterns.

Sources of Influence Questionnaire

The Dunkin and Biddle (1974) model and the review of the literature (Clark, Smith, Newby & Cook, 1985; Hoffman & O'Neal, 1985) revealed 20 presage and context variables which have been identified as possible factors which may influence the way in which an instructional program is implemented.

The possible sources of influence include:

- teacher's gender
- teacher's age
- teacher's own ideas
- teacher's personal skill ability
- teacher's family
- former teachers/coaches
- undergraduate coursework and training experiences
- cooperating teacher
- colleagues (teaching in the same school)
- colleagues (teaching in the same profession)
- principal
- students
- parental/home environment of students
- schedule/time of classes
- class size
- equipment/facilities
- program requirements (teacher manual, curriculum guide)
- evaluation procedures
- researcher videotaping teacher

-other

Using a five-point Likert scale (1=strongly negative to 5=strongly positive) each subject was given a questionnaire (see Appendix I) and asked to respond to the question: "Does this factor have an influence on how you teach?" The questionnaire was administered upon completion of the second set of formal interviews. This procedure allowed each teacher to express his/her sources of perceived influence during the interviews without being previously exposed to the list of possible sources.

The researcher was present while the subjects responded to the questionnaire. All subjects were asked to specifically explain how their pedagogical behaviors were affected in regard to perceived sources of influence which were rated strongly negative or positive but were not previously discussed during the original interviews.

Summary

In summary, multiple data sources were employed in this study for the purpose of gathering quantitative and qualitative information. Quantitative data were collected using three descriptive systems of observation including ALT-PE Microcomputer Data Collection System (MCDCS), Student Teachers Observing Peers (STOP), and a Pedagogical Behavior Checklist. The systems were implemented for the purpose of gathering data explaining pedagogical behavior patterns commonly employed by the five teachers in this study.

Qualitative data were obtained through interviews and in field notes. These methods were employed to determine what presage and context variables (sources of influence) appear to have a contributing effect on the teaching behaviors employed by the five elementary physical education specialists.

A final data source, Sources of Influence Questionnaire, was used to gather additional information providing evidence of factors which influenced teacher behaviors. In this questionnaire, subjects rated presage and context variables which they perceived as influencing their pedagogical behavior patterns.

Data Analysis

Profiles

Data collected from interviews, field notes, and videotape observations were compiled into descriptive profiles for each elementary physical education specialist. Each of the five profiles contains:

1. Demographic information pertaining to the subject's age, gender, experience, undergraduate program, grades taught, facilities available, and the teacher's philosophy regarding the purpose of physical education.
2. General sources of influence which were perceived as important but were not coded as having an effect on any specific pedagogical behaviors.
3. The results of pedagogical behavior scores taken from the ALT-PE MicroComputer Data Collection System (MCDCS), Student Teachers Observing Peers (STOP) system and a Pedagogical Behavior Checklist. The data taken from these three systems described the pedagogical behaviors of each physical education specialist.
4. Individual teacher's perceptions and reasons for why they did/didn't execute the instructional process in a particular manner (presage and context variables) derived from interviews and field notes.
5. Factors and sources of influence perceived as having an effect on pedagogical behaviors, derived from interviews, field notes, and Sources of Influence Questionnaire.

6. An analysis of the degree to which the data from the interviews, field notes, questionnaire scores, and observations converge to some conclusion about "why" individual teachers teach as they do (presage and context variables).

Specific ideas and quotations from the transcribed interviews were coded using the following notations: I=interview, FN=field notes, A,B,C,D,E=specific teacher, 1 or 2=first or second interview session and other numbers represent page number of the interview transcript. For example IA2-13 means that the idea/quotation was taken from an interview (I) with teacher (A) during session (2) and the exact words can be found on page 13 of the interview transcript.

In summary, in order to answer the first research question--"What are the pedagogical behavior patterns, as determined through videotape analysis, employed by the five elementary physical education teachers in this study?" Data were collected from 29 videotapes using the three observation systems: ALT-PE Microcomputer Data Collection System, Student Teachers Observing Peers System, and Pedagogical Behavior Checklist. The ALT-PE Microcomputer Data Collection System provided scores and data describing the pedagogical behavior patterns of individual teachers in terms of the percentage of intervals their students spent in management, instruction, activity, waiting, engaged motor, and ALT-PE.

The Student Teachers Observing Peers System provided data describing the frequency of skill and social feedback provided to students, the categories of feedback (positive, negative, corrective, general, specific) and to whom the feedback was directed (individual, group, total class). The Pedagogical Behavior Checklist provided data which determined whether individual teachers provided students with purpose or objective of the lesson, class rules, cognitive

information, skill demonstrations, models of organizational patterns, warm-ups, equipment pre-arranged, and a closure to the lesson.

The research question, "What sources of influence (presage and context variables) are identified by the teachers as contributing to their observed pedagogical behavior patterns?" was examined using componential techniques developed by Spradley (1979). Componential analysis included the process of searching the interviews and field notes for sources of influence, sorting them in relation to specific pedagogical behaviors and entering this information on to a paradigm chart (see Appendix H).

The componentially analyzed data were then visually compared to the questionnaire results to determine if the data corroborated the same presage and context variables. For example, positive corroboration was determined when a subject frequently referred to a specific presage variable, such as the cooperating teacher, as a positive source of influence during the interviews and also rated the cooperating teacher highly (4 or 5) on the questionnaire.

Chapter 4

RESULTS

This chapter consists of individual profiles developed on each of the five elementary physical education specialists in this study. The formulation of each profile is based on data gathered from the systematic analysis of the videotapes, interview/field notes, and the questionnaire.

In terms of the interviews, Interview 1 focused on gathering data including demographics on each subject and school, understanding the teacher's beliefs regarding the importance of elementary physical education, defining apprehensions about starting a new program, and determining possible sources of influence which the teachers may have encountered during the first week of the school year (in-service). Pedagogical behavior patterns were not discussed at this time since the teachers had not yet begun teaching classes. Interview 2 was conducted during the last week of the school year. The purpose of this interview was to ask each subject to verbally express his/her own perceptions of the sources of influence which had some effect on specific pedagogical behavior scores taken from the videotapes. Teachers were asked, 1) why they did or didn't perform specific pedagogical behavior patterns, 2) what were the factors and sources of influence which caused them to behave in this manner.

At the conclusion of the second interview, each teacher completed the Sources of Influence Questionnaire. If a teacher gave an extremely high or low rating to a specific source of influence, and if this source of influence was not mentioned during Interview 2, the subject was asked how this factor influenced

his or her pedagogical behaviors.

All data from interviews, videotapes, field notes, and questionnaire were compiled into individual teacher profiles. Results are summarized in Appendices K, L, M, N, O. Each profile consists of six sections including: an introduction, review of the setting, scores taken from videotape analysis of specific pedagogical behaviors, positive sources of influence on specific pedagogical behaviors, negative sources of influence on specific pedagogical behaviors and a brief summary.

In order to assure internal reliability of the profiles, each subject was sent a letter (see Appendix J) and asked to read their personal profile along with audiotape transcripts of each interview to assure accuracy. All five subjects responded and agreed with their written profiles.

Profile Teacher A

Introduction

Teacher A was a 23-year-old female. She had recently graduated from a large university majoring in a program which emphasized physical education pedagogical skills for effective teaching. During her student teaching experience, Teacher A was presented the "outstanding student teacher award" by the physical education department of the university. Her cooperating teacher during student teaching was Teacher E.

Teacher A was hired for her first full-time teaching position by Progress County late in the summer of 1985 and assigned to one school where she taught students in kindergarten through third grade. Teacher A stated that she felt very "confident" and "qualified" (IA2-16) teaching the primary grades due to her previous experiences working in summer camps, babysitting, and undergraduate

field work.

Setting

Teacher A's physical education classes met twice a week. Her daily teaching schedule consisted of eight 30-minute classes and one planning period. The schedule included five minutes between classes to allow for the reorganization of the gym.

The outdoor teaching facilities available to Teacher A were deemed adequate and included several large fields and grassy areas. In contrast, the indoor facilities were considered to be inadequate, consisting of a small space within a cafeteria. One-half of the cafeteria was designated for physical education, while the other half served as a lunchroom. Portable lunch tables, placed in an upright position, divided the two areas.

Teacher A was videotaped on six occasions. One tape (Observation 5) was not analyzed due to audio equipment failure. The lessons which Teacher A taught focused on the skill themes and movement concepts of jumping/landing (lessons 1 and 2), throwing/catching (lessons 3 and 4), and relationships where students made shapes with their bodies (lesson 6). These skill themes were selected because Teacher A believed she had a responsibility to teach students specific skills (IA1-18). She reported that the five lessons observed were representative of her teaching.

Videotape Analysis

In terms of student process data, Teacher A had the lowest mean percentage of waiting intervals (3.3%) of the five teachers. Her classes also had the highest mean percentages in the categories of non-focus intervals (26.4%), motor engaged intervals (44.8%), and ALT-PE intervals (37.9%) (see Table 16).

Teacher A indicated during Interview 2 that "I look and make sure each child is active and succeeding but I don't specifically think in terms of how much academic learning time students are receiving." (IA2-9).

When giving skill feedback, Teacher A stressed the positive rather than the corrective. This resulted in her having the highest percentages in the categories of positive specific (20%) and positive general (44%) skill feedback while also having the lowest percentages in corrective specific (33%) skill feedback (see Table 18).

The analysis of the pedagogical behavior checklist revealed that Teacher A (see Table 6) provided her students with the purpose of the lesson and warm-ups in all five lessons. She also had minimum management time and her equipment was pre-arranged which allowed her students maximum opportunities to practice skills in each videotaped lesson. In three of the five lessons, Teacher A explained class rules, and in two, she gave a partial explanation of the mechanics of the skill being taught. When demonstrating, Teacher A gave a complete (40%) or a partial (60%) visual demonstration of the skill. However, she didn't model the organizational patterns the students needed to use in all her lessons. Teacher A gave individual feedback to students, but never provided skill feedback to the total class. She concluded her lessons with a review of the skill which was learned 80% of the time.

Major Sources of Influence

The two main sources of influence identified by Teacher A as having an effect on her lessons were her undergraduate coursework/training experiences and her own ideas. Of the 39 items referred to as potential sources of influence during the interview, 28% (11) included "my undergraduate coursework/training

Table 6
RESULTS OF PEDAGOGICAL BEHAVIOR CHECKLIST
Teacher A

Pedagogical Behavior	Yes	No	Partial
Provide student with:			
purpose of lesson	(5) 100%	(0) 0%	(0) 0%
class rules	(3) 60%	(2) 40%	(0) 0%
cognitive knowledge pertaining to skill	(0) 0%	(3) 60%	(2) 40%
a demonstration	(2) 40%	(0) 0%	(3) 60%
model of the organizational pattern to be used	(2) 40%	(3) 60%	(0) 0%
warm-ups	(5) 100%	(0) 0%	(0) 0%
equipment pre-arranged	(5) 100%	(0) 0%	(0) 0%
adequate opportunity to practice skills	(5) 100%	(0) 0%	(0) 0%
minimum waiting time	(4) 80%	(1) 20%	(0) 0%
minimum management time	(5) 100%	(0) 0%	(0) 0%
prompt and specific feedback to total class	(0) 0%	(4) 80%	(1) 20%
closure to the lesson	(4) 80%	(1) 20%	(0) 0%

experiences" and 18% (7) related to "my own ideas". The results of the Sources of Influence Questionnaire corroborate the results taken from the field notes and Interview 2, in which she identified (1) her undergraduate coursework/training experiences and (2) her own ideas as being the most influential as shown in Table 7.

Facilitating Sources of Influence

Teacher A identified her undergraduate program as the major factor which was responsible for her giving visual demonstrations, having equipment set up before class, giving students adequate opportunities to practice skills, providing skill feedback directed to individuals, providing specific corrective social feedback and ending lessons with a planned closure.

Although Teacher A found her undergraduate program to be influential, she was skeptical of certain pedagogical behaviors which she had been taught. This skepticism created the need for Teacher A to test these behaviors with her students to assure herself that they were effective. For example, she stated during Interview 2 that, "giving individual feedback to students sounded silly, but then through practice and using it, I think we (meaning people I went to school with) found that it really did work and was a great way to keep kids on task and to teach while they're active." (IA2-12).

In another example, she pointed out that her teacher training program encouraged the use of visual demonstrations, but she sometimes experimented and didn't provide the class with a demonstration. Instead, "I'll find a student who couldn't do the skill, then I'd give a demonstration to that student. As a result of this experiment, I'd see that it really did make a difference." (IA2-6).

The other major factor identified as a source of influence was "her own

Table 7

CORROBORATION OF DATA FROM INTERVIEWS AND QUESTIONNAIRE
Teacher A

	<u>Interviews</u> Percentage (#) identified as potential source of influence	<u>Questionnaire</u> (mean score on a Likert scale) 5=most influential 1=least influential
my gender	0%	3
my age	0%	3
my maturity	0%	5
my experience	3% (1)	5
my own ideas	18% (7)	5
my personal skill ability	0%	4
my family	0%	4
my former teachers/coaches	0%	5
my undergraduate coursework/ training experiences	28% (11)	5
my cooperating teacher during during student teaching	2% (2)	5
my colleagues teaching in the same school	0%	4
my colleagues in physical education	0%	4
my principal	0%	3
my students	10% (4)	5
parental/home environment of students	0%	3
my schedule and time of classes	5% (2)	2
class size	3% (1)	4
facilities	10% (4)	2
the program requirements established by the central office	3% (1)	4
evaluation procedures	0%	3
the researcher videotaping equipment	3% (1)	3
specific activities	5% (2)	no rating
fatigue	5% (2)	no rating
teacher's cognitive ability	3% (1)	no rating

ideas." She believed it was her own idea to provide class rules, plan lessons with minimum waiting time and give students specific corrective skill feedback.

Teacher A had the tendency to merge her own ideas with the concepts she had learned in her teacher training program. For example, she viewed the purpose of physical education as a time to teach students basic skills. She stated during Interview 1 that this philosophy was primarily her own, but indicated that her teacher training program had strengthened that belief. In another example, when asked in Interview 2 why she started classes with a brief explanation of the purpose of the lesson, she answered that her undergraduate training gave her the idea but she changed the concept to fit her own situation; thus, it was a combination of both sources. "See if you asked me this (reason for providing students with the purpose of the lesson) before I started teaching, I might say that it was more from my teacher training. But now, after I've taught for a year, I've learned so much and I've found what works for me, that I really do think it's just myself, my own influence." (IA2-4).

Other less powerful sources of influence in descending order included students, cooperating teacher, and colleagues. For example, in some lessons, new rules were given or old rules reviewed while in other lessons rules were left out completely. Asked why, during Interview 2, she explained that reviewing rules was "my own idea" (IA2-4), however, the location of the class (indoors or outdoors), the skill being taught, and the particular students influenced her decision as to whether or not to review rules. If the students had previous experience with the skill and there was minimal chance for an accident to occur, due to adequate practice space, then the rules were frequently omitted. She also stated during this interview that the length of students' attention span also

influenced her in determining how much information should be given to students relating to a particular motor skill.

Before beginning her first year of teaching, Teacher A indicated in Interview 1 some potential factors which might influence how she taught included colleagues teaching in the same building (IA1-3) and the general learning environment (IA1-5). In regard to teaching colleagues, Teacher A was concerned about how classroom teachers might react to the school system having physical education specialists for the first time. In general, she felt that classroom teachers were receptive to having specialists but was concerned that the teachers regarded physical educators as babysitters with the primary responsibility of organizing a structured recess period for students while classroom teachers had a break (IA1-3). Teacher A didn't believe the teachers would hinder her teaching but was determined to "keep communication open and let them know what I'm doing and why I'm doing it." (IA1-2). In this sense, she regarded the teachers as a facilitating source of influence which motivated her to do her best.

Inhibiting Sources of Influence

Several factors were identified as having an inhibiting impact on how Teacher A taught. These were facilities and schedule/time of classes.

The indoor facility provided for physical education classes was small. Therefore, Teacher A found it necessary to plan lessons around specific skills which could be practiced in the available space. Frequently, the lessons required the use of different types of equipment for each grade level. As a result, management times were higher in some lessons due to equipment re-organization. Teacher A stated in Interview 2 that, "I can't leave equipment set

up because each class is different and requires different equipment. I just don't have the space to leave all my equipment out." (IA2-10).

During Interview 2, Teacher A was asked why she had such high rates of positive general skill feedback. She attributed this behavior to the high number of students working in such a small area. More specifically, she stated, "It's hard to get your mind tuned in to giving positive specific skill feedback when you're looking at 25 students all moving in a small space and you don't want anybody to get hurt and you want everyone on task. It's hard to direct your thoughts on just one child and really analyze the positive aspects of the skill he/she is performing." (IA2-12).

The fact that the cafeteria had to be shared with classes eating lunch also influenced the direction (individual, group, class) to which Teacher A provided verbal feedback (see Tables 18 and 19). For example, when students demonstrated similar skill difficulties, Teacher A chose to give the same repetitious feedback statements to individuals rather than stopping the activity and correcting the total class. She explained that the noise level from the cafeteria prevented her from bringing the class together and giving total class feedback.

The limited space and high noise level, combined with the burden of continually having to re-organize equipment differently for classes and lessons appeared to have a fatiguing effect on Teacher A. This resulted in her failure to give a complete visual demonstration to all classes, stating that she was "too tired" (IA2-6) and "by the end of the day you're not going to demonstrate as well as in the beginning." (IA2-27).

These same factors also explained why Teacher A did traditional warm-

ups and had such high percentages of non-focus (warm-up) intervals which were not related to the development of a specific skill. "I started out doing them (warm-ups) because my cooperating teacher did them and because exercises give you five minutes to kind of tune out. You know the students know the routine and what they're doing. All you have to do is count. You could just kind of stand there and collect your thoughts and energy for the following 20 minutes." (IA2-8).

Summary

In summary, the predominant sources of influence for Teacher A were presage variables including her undergraduate coursework/training experiences and her own ideas. The teacher training program was particularly important in influencing the amount of time students practiced activities, how classes were managed, and how verbal feedback was given to students. Her own ideas influenced her to give corrective specific feedback to students, and to implement lessons with minimum amounts of waiting time.

Secondary factors which had a less profound effect on Teacher A's pedagogical behaviors included the context variables of the facilities and her students. These two factors made it necessary for Teacher A to change several of her teaching behaviors. Facilities influenced the type and direction of feedback provided. Students were instrumental in Teacher A's decision concerning whether to provide class rules and how much cognitive information was necessary. When asked where she learned to make these pedagogical adaptations, necessitated by the facility and students, she indicated that they were a result of her own ideas (trial and error) and from her teacher training program.

Profile Teacher B

Introduction

Teacher B was a 27-year-old male. During the first two years of his undergraduate studies, Teacher B attended a small college where he completed basic courses in his major of physical education. At the beginning of his junior year, he transferred to a large university where teacher effectiveness was emphasized in the teacher preparation program.

Teacher B was hired by Progress County as an itinerant elementary physical education teacher, his first teaching position. His previous experience working with young children was obtained while employed at his hometown recreation center. He was assigned to teach grades K-5 in three schools: one urban, one rural, and one which served as the county's multiple handicapped center. Before beginning the school year, Teacher B indicated in Interview 1 that he was concerned about the different populations of students which he would be teaching. In particular, he felt unprepared to work with the severely and profoundly retarded, emotionally disturbed, and physically handicapped students due to the fact that he had completed only one course in adaptive physical education. He stated that teaching special populations was "going to be a real challenge." (IB1-1).

Setting

Teacher B was assigned to teach a total of 38 classes per week. Individual classes had physical education twice a week for 30-minutes each session. The schedule provided Teacher B with one hour to travel between two schools three days a week. Five minutes between each class was built into the schedule to allow for equipment rearrangement but Teacher B stated that "honestly that time is

nonexistent." (IB2-2).

The outdoor facilities for all three schools were regarded by Teacher B as adequate and consisted of large, open fields. Two of the schools had separate indoor gyms. However, at one school, Teacher B was required to pull a curtain and divide the gym in half for the purpose of allowing classroom teachers access to this space. The third school used a cafeteria for all physical education classes.

During the first week of the school year, Teacher B indicated that he perceived "pressure" from the school administration to do a good job and have the program succeed. He stated, "I certainly feel pressure to succeed. Progress County and the school board are committed to the program and I feel like they're looking at the program really close. The assistant superintendent told me that of all the applicants, we were hand picked. So if the program doesn't work, it's going to fall back on us." (IB1-3). Teacher B also felt pressure to do a good job due to an incident which occurred during the summer. "In the middle of July, another county contacted me about coaching football and teaching physical education at a high school. I was willing to listen to them, but they talked to my superintendent and he wouldn't release me from my contract. So that told me two things. One, they were committed to this program and two, he must have an awful lot of confidence in me because he's never seen me teach. So right away, I feel pressure to make this program work." (IB1-3).

Teacher B taught a program which emphasized skill development. Factors which influenced Teacher B to teach motor skills included his undergraduate coursework/training experiences and the poor physical education classes he had attended as a child. During Interview 2, he stated, "Undergraduate coursework taught us to teach skills, not games. But I think I saw the need to do that even

when I was in high school. I was frustrated that no skills were being taught, especially to students with different abilities." (IB2-2). Even though he was determined to teach skills, he was aware that the students in the rural school may prefer to play games. "They're (students) excited about physical education, but once we get into the skills, I'm afraid that they may say, well that's not what I thought it would be. Why aren't we playing soccer, why aren't we playing softball?" (IB1-2).

Teacher B was videotaped six times. Specific lessons which were taught included: kicking, throwing/catching, balancing on body parts, and work on the balance beam. Teacher B stated that these lessons were representative of his teaching and indicated on the questionnaire that the videotaping had no effect on his teaching. Teacher B explained that he selected these specific skills because they were included in the state's Standards of Learning. "We're held accountable through the standards of learning so it's a constant factor trying to meet the county and state objectives." (IB2-3). Hence, Teacher B was somewhat influenced by requirements established by the state to teach specific skills. This factor however, did not influence how he implemented his instructional program.

Videotape Analysis

When comparing the process behavior results and checklist data of all teachers, the classes of Teacher B were found to have the highest percentage of activity (52.4%) and waiting (23.9%) intervals and lowest percentage of management (14.4%) intervals (see Table 16). Teacher B stressed that "I really try to keep my students busy." (IB2-2). High activity percentages were attributed to such process behaviors as starting classes with a series of warm-ups, not providing students with a lesson closure, and giving rules as students were

performing skills. When asked why he didn't explain rules while students were sitting, he stated, "Explaining rules while students are sitting down takes away from activity time, it's better to get them up and going." (IB2-6). High waiting intervals were attributed to the number of students in class and the organizational patterns the teacher chose for the lesson. "For my kicking lesson (39.1% waiting intervals) I remember thinking to myself, should I have minimum stations with a lot of supervision or more stations with less supervision and more kicking time. More stations wasn't a good choice for this lesson because the students couldn't handle it. As a result, I had more waiting time." (IB213). Waiting intervals were also higher for gymnastic lessons where the quantity of equipment such as balance beams and mats was limited.

Teacher B attributed his low management intervals (14.4%) to his previous experience working with the recreation department and his undergraduate program. He emphasized having equipment spread out and ready to go increased the amount of academic learning time his students received.

In relation to giving feedback, Teacher B gave the highest percentage of skill feedback (80%) while also giving the lowest percentage of social behavior feedbacks (20%). In general, his skill feedback was positive general and his social feedback was corrective specific (see Tables 18 and 19).

The results of the pedagogical behavior checklist for the six lessons indicate that Teacher B (see Table 8) provided his students maximum opportunities to practice skills with minimum waiting and management time in each of the lessons. His equipment was always pre-arranged and he began each class with a group warm-up. In some classes, Teacher B told his students the purpose of the lesson (67%) and provided a visual demonstration (50%) when he

Table 8
RESULTS OF PEDAGOGICAL BEHAVIOR CHECKLIST
Teacher B

Pedagogical Behavior	Yes	No	Partial
Provide student with:			
purpose of lesson	(4) 67%	(2) 33%	(0) 0%
class rules	(1) 17%	(0) 0%	(5) 83%
cognitive knowledge pertaining to skill	(1) 17%	(2) 33%	(3) 50%
a demonstration	(3) 50%	(3) 50%	(0) 0%
model of the organizational pattern to be used	(1) 17%	(5) 83%	(0) 0%
warm-ups	(6) 100%	(0) 0%	(0) 0%
equipment pre-arranged	(6) 100%	(0) 0%	(0) 0%
adequate opportunity to practice skills	(6) 100%	(0) 0%	(0) 0%
minimum waiting time	(6) 100%	(0) 0%	(0) 0%
minimum management time	(6) 100%	(0) 0%	(0) 0%
prompt and specific feedback to the total class	(0) 0%	(2) 33%	(4) 67%
closure to the lesson	(0) 0%	(6) 100%	(0) 0%

considered it to be appropriate. In half of the classes, Teacher B gave a partial explanation of the skill being taught and class rules were usually explained to the class while the students practiced a skill (83%). Teacher B only provided a visual demonstration of the organizational pattern that he wanted students to employ in one lesson and he never ended his lessons with a specific closure.

Major Sources of Influence

Teacher B indicated during the interviews and questionnaire that the two main sources of influence which had an effect on his pedagogical behaviors were his own ideas and his undergraduate coursework and training experiences. Of the 28 items identified as potential sources of influence from field notes and interviews, 35% included "my own ideas" and 28% "my undergraduate coursework and training experiences" (see Table 9). These results correlate with the data taken from the Sources of Influence Questionnaire where Teacher B identified "my own ideas" and "my undergraduate courses/training experiences" as having a strongly positive influence on his teaching process behaviors as shown in Table 9.

Facilitating Sources of Influence

Teacher B identified his "own ideas" as influencing the way he gave class rules, had students perform warm-ups, gave general skill feedbacks, provided specific corrective behavior feedbacks and did not implement a closure to his lessons.

Teacher B explained why he gave specific rules to students while they were performing skills by stating, "It really reduces the number of questions. Normally, if I stop the activity and suggest or tell the students a rule, I'll get three or four 'What if?' or 'Can you do this?' type of questions. But, if they're busy,

Table 9

**CORROBORATION OF DATA FROM INTERVIEWS AND QUESTIONNAIRE
Teacher B**

	<u>Interviews</u> Percentage (#) identified as potential source of influence	<u>Questionnaire</u> (mean score on a Likert scale) 5=most influential 1=least influential
my gender	0%	5
my age	0%	4
my maturity	0%	4
my experience	4% (1)	4
my own ideas	35% (10)	5
my personal skill ability	0%	4
my family	0%	4
my former teachers/coaches	0%	5
my undergraduate coursework/ training experiences	28% (8)	5
my cooperating teacher during during student teaching	7% (2)	5
my colleagues teaching in the same school	0%	3
my colleagues in physical education	0%	3
my principal	0%	3
my students	0%	4
parental/home environment of students	0%	4
my schedule and time of classes	4% (1)	1
class size	14% (4)	1
facilities	0%	2
the program requirements established by the central office	0%	4
evaluation procedures	0%	2
the researcher videotaping equipment	0% 4% (1)	3 2
specific activities	4% (1)	no rating
fatigue	0%	no rating
teacher's cognitive ability	0%	no rating

usually they won't ask questions." (IB2-6).

All of Teacher B's classes began with a warm-up consisting of jogging for a specific time period followed by doing pushups and sit ups. During Interview 2, he was asked what influenced his decision to start class using this method. He replied that it was his "own idea." "You see all the statistics and read articles that the youth today are overweight and unfit. I think just through running and doing sit-ups and pushups, that I can develop the total body both muscularly and cardiovascularly quicker than anything else. I can do it without spending the whole 30-minute session on it." (IB2-9). The average time which his students spent on warm-ups was 10.9% of the scored intervals (non-focus intervals). Classroom teachers were asked to do follow-up jogging with their classes for three minutes on days in which there was no structured physical education class.

Teacher B attributed his "own ideas" for giving the two types of feedback he used most frequently. These were positive general (44%) when giving skill feedback and corrective specific (51%) when giving social behavior feedbacks. When asked in Interview 2 what influenced him to give these two types of feedbacks he responded that, "I think it's just being lazy from my standpoint, it's easier to give general skill feedback." (IB215). Corrective social behavior feedback was given because "I don't like to give positive specific behavior feedback, it sounds so fake to me, like it came right out of a textbook." (IB216).

The second major factor identified as a source of influence was his undergraduate coursework and training experiences. Pedagogical behaviors that Teacher B performed and attributed to his undergraduate program included: providing students with adequate opportunities to practice skills, giving individual skill feedback and being as specific as possible when giving feedback.

For example, Teacher B explained in Interview 2 that "in our undergraduate methods classes we had to provide a certain percentage of activity time and to give individual social feedback like nice shoes or that's a pretty necklace. It seemed really silly and I thought it was stupid, but it let the student know that you're looking at them individually." (IB2-14). When asked why he gave specific corrective skill feedback to individuals, he answered that "giving specific corrective skill feedback was pretty much ingrained into us during method classes. To tell someone simply it's not good, is a waste of time. You have to be specific to correct a poor performance." (IB2-16).

A third less critical positive source of influence was Teacher B's cooperating teacher (7%). Teacher B indicated that his cooperating teacher influenced him to explain the purpose of his lessons and give a visual demonstration to his students. For example, in Interview 2, he stated that "my cooperating teacher would say--this is what we're going to do today and this is how you do it. She could simplify the activity in the students' minds before they even tried it." (IB2-5).

Inhibiting Sources of Influence

Data from the field notes, interviews and questionnaire indicate that two factors had an inhibiting effect on how Teacher B taught. These included class size and the schedule/time of classes (see Table 9).

Teacher B felt that large classes prevented him from giving individual instruction. For example, in Interview 2, he stated that "I don't give as much individual instruction as I would like. I may see someone throwing the ball and stepping with the wrong foot and I start over there and then before I get there, I see something else. I'm sure that happens with small classes but it occurs more

with 40 or 50 students in a class." (IB2-1). Large classes also limited the amount of material which could be taught. Teacher B stated, "I don't always get to expose my students to the amount of material I could if the classes were smaller." (IB-2). A final effect that large classes had on Teacher B was lack of motivation and fatigue. He expressed the feeling that "large classes make it physically and mentally tiring. It's really tough to stay upbeat. There are a lot of areas that I should address but I just let them go because I've got 45 children in a class. That makes the difference between mediocre and above average classes." (IB2-21).

The schedule and time of classes was the second inhibiting factor that affected Teacher B. When asked to specifically explain how his schedule and time of classes affected his teaching, he stated, "with eight or nine classes per day and five minutes between classes you can make only a few minor adjustments to equipment if you need to. More times than not, there's not enough time to adequately be prepared for the next class. I don't have any planning time during the day, I don't have any time when I can sit down and drink a Coke or even go to the bathroom. It's not the best situation. I can see why teachers feel like they work on a production line in a factory." (IB2-20).

Summary

In summary, the major sources of influence for Teacher B were the presage variables of his own ideas and his undergraduate coursework/training experiences. Specifically, his own ideas influenced him to provide students with: warm-ups, rules during activity time, frequent general skill feedback, specific corrective social behavior feedback and to dismiss his classes without a lesson closure. Teacher B's undergraduate coursework/training experiences influenced him to provide maximum activity time which necessitated planning lessons with

minimum management and waiting time. His training program also was influential in teaching him to provide individual skill feedback to students, especially corrective specific skill feedback.

Teacher B was taught specific pedagogical behaviors such as providing his students with closure at the end of a lesson and providing students with positive specific skill feedback. However, his own ideas superseded what he had been taught at the undergraduate level. For example, when asked why he didn't provide his students with a lesson closure, he stated, "We're taught to sit children down the last two minutes and review things. I don't do that all the time because of the limited time for class. I hate to take away from activity time, when students are having so much fun. It's a Catch-22. By increasing activity time, like I was taught in my methods classes, I'm taking time away from the cognitive aspect of the lesson by not reviewing things which I taught." (IB216).

Inhibiting sources of influence which affected Teacher B's pedagogical functions included the number of students in class, the schedule, and limited time for physical education classes. These factors had a direct effect on Teacher B's stamina, motivation, and ability to instruct.

Profile Teacher C

Introduction

Teacher C was a 24-year-old male who had just completed an undergraduate degree, majoring in physical education. Like Teachers A and B, Teacher C attended the same large university which emphasized teacher effectiveness training. While attending this university, he participated on the varsity baseball team. His previous experience working with children was limited to field experiences in methods classes and student teaching.

Setting

Teacher C was the first elementary physical education teacher to be hired by Progress County. He was employed as an itinerant teacher assigned to teach at two schools. One of these schools enrolled only kindergarten students. The facilities at this school consisted of an indoor carpeted multipurpose room and an outdoor blacktop/field area. Teacher C taught two early morning classes at this school per day.

The major portion of Teacher C's schedule was spent at a second school where he taught grades one through five. The indoor facilities at this school were excellent, consisting of a large gym used only for physical education classes. A curtain could be pulled to divide the area into two separate gyms. The outdoor facilities were made up of large grassy fields. Teacher C taught seven classes at this school. Thus, he taught a total of nine classes per day. Five minutes were scheduled between class to provide the teacher with an opportunity to reorganize. However, this time was seldom available. "We're supposed to have five minutes between classes as a break. The way that's sitting right now, one class leaves and the next one's there or I have to go find the next class. I don't have enough time to set up properly." (IC1-9).

Each grade had physical education twice a week for 30 minutes each class session. Several of Teacher C's classes were combined with double enrollments so that he instructed 50 to 60 students at one time. Arrangements were made to have one of the classroom teachers act as an aide. This situation was considered by Teacher C to be a perpetual hindrance. "I spend more time telling the teachers what to do than I spend telling all the students what to do." (IC1-4).

Teacher C was videotaped teaching three lessons on striking with long-

handled implements, two dribbling lessons and one lesson on throwing. He indicated that the six lessons were representative of his teaching. However, on the questionnaire, he noted that the videotaping had a slightly negative effect on his teaching. When asked how, he explained, "A couple of times I was trying something for the first time and the taping made me feel uneasy." (IC2-1).

Teacher C viewed the purpose of elementary physical education as a time to learn new activities and skills rather than to play games. During Interview 2, he was asked to explain his responsibilities as a physical education teacher. His response was, "I should expose the students to a variety of activities and skills, making sure they can perform the skills needed in the middle school." (IC2-2). The source of influence which encouraged him to teach skills was Progress County's curriculum. "Our program is skill based and once I saw that I knew I wasn't going to teach just games." (IC2-2).

Videotape Analysis

When comparing the process data for Teacher C with that of the other subjects, the results indicate that his classes had the highest percentage of management intervals (41.6), and the lowest percentages of activity (31.5), engaged motor (30.2), and ALT-PE (21.5) intervals (see Table 16). In terms of feedback, Teacher C provided the lowest rate of skill feedback (1.2 per minute). The majority of this feedback was corrective in form (59%) (see Table 18).

The pedagogical behavior checklist revealed that Teacher C (see Table 10) started his classes by defining the purpose of the lesson (83%) followed by calisthenic-type warm-ups (83%). His equipment was always pre-arranged, contributing to keeping his students' waiting time to a minimum. In five of six lessons, students in his class received adequate opportunity to practice skills, but

Table 10
RESULTS OF PEDAGOGICAL BEHAVIOR CHECKLIST
Teacher C

Pedagogical Behavior	Yes	No	Partial
Provide student with:			
purpose of lesson	(5) 83%	(1) 17%	(0) 0%
class rules	(2) 33%	(1) 17%	(3) 50%
cognitive knowledge pertaining to skill	(1) 17%	(0) 0%	(5) 83%
a demonstration	(1) 17%	(3, 50%	(2) 33%
model of the organizational pattern to be used	(2) 33%	(4) 67%	(0) 0%
warm-ups	(5) 83%	(1) 17%	(0) 0%
equipment pre-arranged	(6) 100%	(0) 0%	(0) 0%
adequate opportunity to practice skills	(5) 83%	(1) 17%	(0) 0%
minimum waiting time	(6) 100%	(0) 0%	(0) 0%
minimum management time	(2) 33%	(4) 67%	(0) 0%
prompt and specific feedback to the total class	(0) 0%	(5) 83%	(1) 17%
closure to the lesson	(1) 17%	(5) 83%	(0) 0%

Teacher C spent a great deal of time managing his large classes. In most situations, students received partial cognitive information pertaining to the movement. Class rules were given to students while they were in the process of practicing a specific skill in half the lessons. Teacher C seldom gave his students a complete visual demonstration of the skill to be performed (17%) or a model of how the movement was to be practiced (33%). In every lesson, feedback was directed to individual students, rather than to the total class. Teacher C kept his students for the total time allotted for class but in only one videotaped lesson did he provide a specific lesson closure.

Major Sources of Influence

Information gathered from the interviews and field notes show that the three main sources of influence for Teacher C's process behaviors include his undergraduate coursework/training experiences, his own ideas, and size of his classes. Of the 23 items that Teacher C indicated were sources of influence, 31% were attributed to "my undergraduate coursework/training experiences, 26% "my own ideas", and 18% were due to "class size" (see Table 11). The results of the Sources of Influence questionnaire corroborated this data. Teacher C regarded his "undergraduate coursework/training experiences" as strongly positive, "my own ideas" as slightly positive, and "my class size" as strongly negative as shown in Table 11.

Facilitating Sources of Influence

Teacher C regarded his undergraduate coursework and training experiences to be solely responsible for the way he had equipment set up before class, provided skill feedback, directed skill feedback to individual students, and provided more corrective specific skill feedback than general corrective skill

Table 11

CORROBORATION OF DATA FROM INTERVIEWS AND QUESTIONNAIRE
Teacher C

	<u>Interviews</u> Percentage (#) identified as potential source of influence	<u>Questionnaire</u> (mean score on a Likert scale) 5=most influential 1=least influential
my gender	0%	4
my age	0%	3
my maturity	0%	2
my experience	0%	2
my own ideas	26% (6)	4
my personal skill ability	0%	5
my family	0%	3
my former teachers/coaches	4% (1)	5
my undergraduate coursework/ training experiences	31% (7)	5
my cooperating teacher during during student teaching	9% (2)	5
my colleagues teaching in the same school	0%	1
my colleagues in physical education	0%	5
my principal	0%	4
my students	4% (1)	3
parental/home environment of students	0%	3
my schedule and time of classes	4% (1)	1
class size	18% (4)	1
facilities	4% (1)	2
the program requirements established by the central office	0%	5
evaluation procedures	0%	2
the researcher videotaping equipment	0%	2
specific activities	0%	5
fatigue	0%	no rating
teacher's cognitive ability	0%	no rating

feedback. For example, Teacher C stated during Interview 2 that his undergraduate field experiences provided in methods classes taught him to lower his management time by having his equipment pre-arranged. "If it weren't for those classes where we went out to the schools and taught, I probably would never have thought about it." (IC2-3). When asked why he gave skill feedback directed to individuals, Teacher C responded in Interview 2 by saying "I was taught to give individual feedback and I feel that's the right way to do it. I know the students respond a lot better when you use their name and show them the right way personally." (IC2-12).

Several pedagogical behaviors were attributed to more than one source of influence. For example, Teacher C indicated that his undergraduate coursework/training experiences and his former coaches were responsible for the way he presented parts of skills rather than the whole skill. His undergraduate program taught him to "start with the fundamentals" and his former baseball coaches "didn't explain the whole skill but parts." (IC2-6). His undergraduate coursework and his cooperating teacher during student teaching were responsible for him providing each student with his/her own piece of equipment. Minimum waiting time was attributed to his undergraduate training but also to his own ideas. In Interview 2, he stated, "We were taught not to have students waiting around and I found since I've been out, that when you have people waiting, you have problems with students pushing, talking, and goofing off." (IC2-11).

Pedagogical behaviors that Teacher C credited exclusively to his "own ideas" include explaining class rules as the lesson was in progress, not giving a demonstration in certain lessons, not providing information relating to the

organizational patterns being used, providing warm-ups and giving more positive general skill feedback than specific skill feedback. When asked in Interview 2 why he gave a visual demonstration in only half of his observed lessons, he stated that it was his own idea, especially when the skill was obvious and the students had performed the skill previously. "You learn a whole lot more when you see the skill performed than when somebody tells you. However, I thought I would lose their attention if I stood up and showed them something that they had done before." (IC2-6,7). Performing calisthenics as a warm-up was also Teacher C's own idea. "I knew that what I was doing wasn't going to improve their fitness a whole lot but I wanted them to get interested and learn how to do exercise." (IC 2-8).

Teacher C felt that another positive source of influence was his cooperating teacher (9%). He specifically believed that his cooperating teacher was responsible for him explaining the purpose of his lessons to the students. "My cooperating teacher would let the students know what they were going to do beforehand and it seemed to work real well for her. That's why I tried it." (IC2-4).

Inhibiting Sources of Influence

Data taken from the Sources of Influence Questionnaire indicated that Teacher C believed class size, his schedule and time for classes and his colleagues teaching in the same school had a strong inhibiting influence on his process behaviors. Two of these factors, class size (18%), and schedule of time for classes (4%), corroborated the data taken from the interviews as shown in Table 11.

Class size had an expressed negative effect on how Teacher C taught skills

and how he provided feedback. Large classes forced him to switch emphasis from teaching skills to managing and controlling students. During Interview 2, he explained how his responsibilities as a teacher changed due to class size. "I was struggling with 50 or 60 students in a class. I couldn't keep control of that many students. As a result, I wasn't concerned whether they learned or not, I just wanted to make sure everything went smoothly." (IC2-2). Large numbers of students also prevented Teacher C from giving skill feedback. "I couldn't get to every student and I wasn't giving feedback. I wasn't teaching. I told students what to do, sent them on their way and then started looking for behavior problems." (C2-1,2). This explains why Teacher C gave more corrective specific social feedback instead of positive specific social feedback. When asked during Interview 2 why he provided so much corrective specific social feedback, he responded, "It goes back to class size. I don't know the names of all the kids who are behaving correctly, but I always know the names of the kids that are misbehaving, because they always misbehave. It's hard to pick out one specific student who's behaving and say, 'I like the way you're doing that', but it's really easy to see somebody who's off task and point it out to the class." (IC2-13).

The second inhibiting influence, schedule and time for class, was directly responsible for Teacher C's decision not to provide students with a "closure to the lesson". When Teacher C was asked to explain why he didn't implement a closure in his lessons, he explained, "We were taught to stop and have a little question and answer period at the end of class. I didn't do that all the time, I only did it when the students caught on and when I had enough time left in class." (IC2-14).

During Interview 2, Teacher C was asked how his schedule of nine classes

per day affected his teaching. Teacher C indicated that it prevented him from putting forth the same effort with all classes. He stated, "I don't get a break all day and I feel that I cheat the students in the afternoon. By the afternoon, I'm burned out and tired. I'm not putting forth the same effort as in the morning." (IC2-20).

Although colleagues teaching in the same school did not have a direct effect on Teacher C's observed pedagogical behaviors, he had the feeling that some of the teachers "resented" him. He stated, "In the past, physical education had been taught by the classroom teachers and they just played games. I think they feel a little threatened because I'm here, as the so-called expert, and I'm doing things totally opposite from what they've done." (IC1-2,3). At one point during the school year, Teacher C thought about quitting and indicated that if the situation didn't change he would not sign his contract for the next year. Teacher C became more frustrated when teachers began referring to him as the "planning period." As a result, he addressed the faculty during a staff meeting and explained "physical education wasn't just a time for playing games but a time to learn skills." (FNC11-6). His colleagues responded by telling Teacher C "that he shouldn't worry about teaching skills, only about teaching the Standards of Learning objectives which could be accomplished in two weeks." (FNC1-1,6). Teacher C felt his lack of experience and maturity prevented him from addressing that specific issue and from being more influential with the other teachers. "I didn't know how to act. I just think that if I had more experience, what I said would be more meaningful." (IC2-21). This incident explained why he rated his experience and maturity as slightly negative on the Sources of Influence Questionnaire as shown in Table 11.

Summary

In conclusion, the three main sources of influence on the pedagogical behaviors of Teacher C were his undergraduate coursework/training experiences, his own ideas, and class size. Specific behaviors that he learned from his undergraduate program included having equipment pre-arranged, giving skill feedback with emphasis on providing corrective specific skill information directed to individuals. His own ideas were responsible for the way he explained class rules, provided calisthenic-type warm-ups, not giving a visual demonstration in all lessons and not providing organizational information.

The main inhibiting variable of influence on his behavior was class size. Teacher C attributed his high management intervals, low scores on activity time, engaged motor, ALT-PE intervals and low skill feedback to the size of his classes. "Large classes regardless of the grade took more management time than the smaller ones." (IC2-11). As a result, "you sometimes have to sacrifice activity time for better organization." (IC2-9).

The schedule and time of class was a second inhibiting influence. This factor caused Teacher C to omit lesson closure and prevented him from putting the same teaching effort into every class.

Profile Teacher D

Introduction

Teacher D was a 29-year-old female. She graduated eight years ago with a physical education degree from a small university located in the county in which she grew up. The physical education department at this university did not emphasize teacher effectiveness research or practice.

Her teaching experience since graduating from college included two years

substitute teaching and three years working as a teacher aide. She indicated that during these teaching experiences, she worked specifically with high school and middle school students. Teacher D stated in Interview 1 that she had not worked with the "little ones" and "I've never taught physical education" for any length of time (ID1-1). Her most recent job was working for AT&T.

Progress County offered her a position as an itinerant teacher assigned to three schools. She was both excited and nervous about the position. "I grew up here, and went to school here. I've always wanted to teach in Progress County. It took me a long time to get this position. It's a little scary because I want to do an exceptional job." (ID1-1).

Setting

Teacher D taught a total of 38 physical education classes each week in three different schools. She had a maximum of eight classes and a minimum of five classes per day. All her classes received physical education twice per week for 30 minutes each session. Five minutes were provided between classes for the purpose of class reorganization. Thirty minutes were provided for the purpose of traveling between two schools four times per week.

The schools assigned to Teacher D were dissimilar. One school had a large enrollment with a student body made up of fourth and fifth graders plus educable mentally retarded and emotionally disturbed students. The indoor and outdoor facilities at this school were excellent. However, the indoor space was inadequate due to scheduling difficulties. Half of the gym was assigned for physical education while the other half was scheduled as an organized recess area under the direction of classroom teachers. On occasion, the classroom teachers would combine classes and play games such as dodgeball. This made it difficult

for Teacher D to determine what space would be available for her classes and at times created a safety hazard.

Her second school used a small cafeteria as a gym. This facility required Teacher D to take down tables, chairs and place them around the perimeter of the room. Before leaving, the room had to be reorganized into its exact position. Teacher D taught two classes of multiple grades at this school. One class consisted of students from the kindergarten, first and second grades. The other class was made up of third, fourth, and fifth grades.

The third school housed grades kindergarten through five. Teacher D was not observed or videotaped at this school.

Physical education was regarded by Teacher D as a time to teach students "how to take care of their bodies, how to move and control the body, learn safety and to perfect fundamental skills." (ID1-3). Teacher D was observed teaching the skills of dribbling, throwing, catching, and striking with paddles. She felt that these lessons were representative of her teaching. The Source of Influence Questionnaire and Interview 2 revealed that the videotaping was regarded as having a slightly negative effect on her instruction by making her nervous.

Videotape Analysis

Teacher D's process variables indicate that among the five subjects she had the lowest mean score in instructional intervals (1.5%) and in non-focus (warm-up) intervals (0.3%) (see Table 16). This low percentage of non-focus intervals contributed to Teacher D's above average mean scores in activity, engaged motor and ALT-PE intervals. For example, instead of starting her classes with non-focused calisthenics, she began her lessons with practicing the skill of dribbling. Even though her students had numerous opportunities to practice

skills, they also spent much time waiting and performing management tasks. Teacher D's mean percentage in management (32.7%) and waiting (21.1%) intervals were the second highest among the five subjects.

In terms of feedback, Teacher D had the highest mean rate per minute in total feedback (3.1), skill feedback (2.0) and social behavior feedback (1.1). The majority of her skill and social feedbacks were corrective in form and directed to individuals (see Tables 18 and 19).

The pedagogical behavior checklist shows that Teacher D (see Table 12) typically explained the purpose of the lesson (100%) and provided rules (67%) to her students. In half of the lessons, she gave partial cognitive information while her students performed the skill. Teacher D didn't give a complete visual demonstration or model the organizational patterns to be used in class. Skill warm-ups were always provided at the beginning of each class. Teacher D provided each of her students with their own piece of equipment. However, the equipment wasn't pre-arranged in the class (0%), thus causing potential activity time to be used for waiting and retrieving equipment. Her feedback was directed to individual students and she seldom gave feedback to the whole class (0%). In all but one of the lessons, Teacher D ended with a closure in which skills taught were reviewed.

Major Sources of Influence

Teacher D identified two main sources of influence as having an effect on her pedagogical behaviors. Of the 21 items identified as potential sources of influence during the interviews and field notes, 52% were related to "my own ideas" and 19% were attributed to "my undergraduate coursework/training experiences." The results of the Sources of Influence Questionnaire corroborated

Table 12

**RESULTS OF PEDAGOGICAL BEHAVIOR CHECKLIST
Teacher D**

Pedagogical Behavior	Yes	No	Partial
Provide student with:			
purpose of lesson	(6) 100%	(0) 0%	(0) 0%
class rules	(4) 67%	(1) 17%	(1) 17%
cognitive knowledge pertaining to skill	(1) 17%	(2) 33%	(3) 50%
a demonstration	(0) 0%	(4) 67%	(2) 33%
model of the organizational pattern to be used	(0) 0%	(4) 67%	(2) 33%
warm-ups	(6) 100%	(0) 0%	(0) 0%
equipment pre-arranged	(0) 0%	(6) 100%	(0) 0%
adequate opportunity to practice skills	(6) 100%	(0) 0%	(0) 0%
minimum waiting time	(1) 17%	(5) 83%	(0) 0%
minimum management time	(0) 0%	(6) 100%	(0) 0%
prompt and specific feedback to the total class	(0) 0%	(4) 57%	(2) 33%
closure to the lesson	(5) 83%	(1) 17%	(0) 0%

with this finding. She identified my own ideas and undergraduate coursework/training experiences as having a strongly positive effect as shown in Table 13.

Facilitating Sources of Influence

Teacher D identified her own ideas as being the primary source of influence for the majority of her pedagogical behaviors. These included why she explained the purpose of her lessons and rules to her students, didn't provide visual demonstrations or model organizational patterns, provided skill warm-ups, gave each student his/her own piece of equipment, did not have equipment prearranged, gave skill feedback directed to individual students, provided more general skill feedback than specific skill feedback, gave more corrective specific skill and social behavior feedback.

Teacher D explained in Interview 2 that it was her own idea not to give a visual demonstration because she felt it would frustrate her students. "When I demonstrate, it looks so easy. When the students can't do it the first time, they get frustrated because they can't do it as well as I can when I demonstrated." (ID2-7).

Teacher D did not have students do a traditional warm-up consisting of calisthenics. Instead, students were given time as a group to practice dribbling a playground ball. Teacher D stated that this type of warm-up was her idea and she believed it was more appropriate because "it develops ball skills, hand-eye coordination and also arm strength." (ID2-8).

Several of the pedagogical behaviors which Teacher D attributed to her own ideas were self taught or developed out of necessity. When asked in Interview 2 to explain the reason she gave out equipment individually to students, she declared that "nobody ever taught me to prearrange the gym. It

Table 13

CORROBORATION OF DATA FROM INTERVIEWS AND QUESTIONNAIRE
Teacher D

	<u>Interviews</u> Percentage (#) identified as potential source of influence	<u>Questionnaire</u> (mean score on a Likert scale) 5=most influential 1=least influential
my gender	0%	3
my age	0%	3
my maturity	0%	5
my experience	0%	5
my own ideas	52% (11)	5
my personal skill ability	0%	5
my family	0%	5
my former teachers/coaches	5% (1)	5
my undergraduate coursework/ training experiences	19% (4)	5
my cooperating teacher during during student teaching	0%	5
my colleagues teaching in the same school	0%	3
my colleagues in physical education	5% (1)	4
my principal	0%	3
my students	5% (1)	5
parental/home environment of students	0%	5
my schedule and time of classes	5% (1)	1
class size	5% (1)	1
facilities	5% (1)	2
the program requirements established by the central office	0%	5
evaluation procedures	0%	4
the researcher videotaping equipment	0%	2 5
specific activities	0%	no rating
fatigue	0%	no rating
teacher's cognitive ability	0%	no rating

was out of necessity the way I had several students at a time retrieve equipment." (ID2-8).

In terms of providing students with different types of feedback (general and specific), Teacher D explained that in most cases it was simply her own idea. "I never thought about it" (ID2-11) or "I wasn't aware that I was doing that." (ID2-12).

The second source of influence was her undergraduate coursework/training experiences. Teacher D felt this was a secondary influence and did not attribute many of her pedagogical behaviors to her college experiences. This may be due to the eight years between graduating and securing her first physical education teaching position or that her undergraduate program did not stress specific pedagogical behaviors.

The major influence that her undergraduate program had on her pedagogical behavior was identified in Interview 2. She stated that "methods classes taught us to establish discipline to the degree that you almost have to be an ogre before you can slack off. If you don't have your discipline established, then students will walk all over you creating total chaos." (ID2-9). This belief influenced Teacher D into believing that good class management meant being a disciplinarian. She regarded this belief as being a positive pedagogical behavior. As a result, Teacher D taught in a very authoritarian manner which caused large amounts of waiting and management times for her students. For example, besides giving out equipment very rigidly, Teacher D frequently stopped class to give behavior reprimands to individual students.

Other positive sources of influence having less of an impact on Teacher D's pedagogical behaviors included former teachers/coaches and colleagues in

physical education. For example, two former teacher coaches influenced Teacher D to provide skill feedback "both of them were real good in giving positive feedback." (ID2-11). She regarded Teacher E as being responsible for influencing her to close each lesson with a brief review of the skill being taught. "I learned it by listening to Teacher E. She'll have her students come over to a specific spot and they'll talk about the activity worked on." (ID2-14).

Inhibiting Sources of Influence

Three factors were identified during the interviews and on the Sources of Influence Questionnaire as inhibiting Teacher D in performing specific pedagogical behaviors. These included time for class, size of classes, and facilities as shown in Table 13.

Teacher D believed that 30 minutes provided as class time was inadequate for learning skills. She stated during Interview 2 that, "The more practice they get, the better they're going to do. Unfortunately, I only have them 30 minutes twice a week." (ID2-9). She regarded the size of classes and the facilities as negative factors which helped contribute to extended periods of waiting time. "I have equipment for each child in class, but the number of students limits my working space. For example, I don't have the space to put 45 hula hoops around the wall (to teach throwing). As a result, I had to rotate students which necessitated some students to wait their turns." (ID2-10).

Summary

In conclusion, Teacher D's "own ideas" had an overwhelming influence on her choice of pedagogical behaviors. This can be attributed to two factors. First, Teacher D hadn't taught physical education for any extended period of time. Second, even though her undergraduate coursework had some influence, the

training she received did not emphasize teaching skills derived from the teacher effectiveness literature. As a result, Teacher D was left to implement pedagogical behaviors based on her own ideas.

The inhibiting influences on her behavior were associated with the context variables. These factors included instructing large classes in shared facilities without sufficient time to teach skills.

Profile Teacher E

Introduction

Teacher E was a female 33 years old. She had worked for the previous nine years as an elementary physical education specialist in a school located in a neighboring county. Her reason for applying to Progress County was because the schools were closer to her home. She had served as a cooperating teacher for several physical education student teachers, the most recent of whom was Teacher A.

Teacher E received an undergraduate degree in physical education from a small nearby university. The physical education department at this university didn't incorporate teacher effectiveness skills into their program. Thus, Teacher E wasn't familiar with the teacher effectiveness literature or techniques.

Teacher E regarded elementary physical education "as a place for students to improve their skills, working with different equipment, play safely and use good judgment." (IE1-3). She viewed herself as being very important in the learning process because "a lot of students wouldn't learn movement skills anywhere else." (IE2-2). It was her belief if students "honestly" wanted to learn skills they had the responsibility to "be willing to listen, work hard during class and practice at home." (IE1-3).

Setting

Teacher E's students had no previous experience with a physical education program which focused on learning skills. Previously, their physical education classes had consisted of playing games and having free time. Teacher E felt that the classroom teachers liked having specialists and regarded them as assets because they weren't comfortable teaching physical education. As she stated in Interview 1, "the teachers are not physically minded, they just go out and play games or have free time." (IE1-3). However, the classroom teachers "are really interested in us teaching skills. A lot of them commented that they think it will be easier for them the other three days when they lead students in games." (IE1-3).

The previous teacher-directed physical education program caused Teacher E some anxiety. She was glad to be among the first elementary physical education teachers in Progress County but was concerned with how students would react to an organized program. As she said during the first interview, "It's hard for students to get adjusted to working on skills instead of having free play and games. Students will have to get used to coming in and having a regular lesson just like they would in the classroom." (IE1-3).

Progress County hired Teacher E as an itinerant teacher assigned to three schools. The grades she was to teach included kindergarten through fifth, plus trainable mentally retarded students. Although she had nine years of experience, Teacher E had never worked with kindergarten or mentally retarded students. She felt it would be a challenge to teach both these groups of students.

Of the three schools to which she was assigned, one had an indoor gym. The indoor facilities at the other two schools consisted of either a carpeted

multipurpose room or a cafeteria. The outdoor facilities were basically blacktop areas.

Teacher E taught nine classes per day. Students participating in her classes had physical education twice a week for thirty minutes each session. Teacher E had seven planning periods per week which were scheduled during the first or last period of the day. Thirty minutes were allotted to her for the purpose of traveling between schools three days per week.

Teacher E was videotaped teaching dribbling, jumping/landing, striking with paddles, striking with long handled implements, balance work, and dodging skills. She indicated that these lessons were representative of her teaching and she selected them because they focused on skill development. The Sources of Influence Questionnaire revealed that the videotaping had no effect on her teaching.

Videotape Analysis

The results of the videotape analysis indicate that Teacher E was unique when compared to the other physical education specialists in terms of instructional time, amount of feedback, and number of social behavior feedbacks given to students. She provided the most cognitive information resulting in the highest mean percentage of instructional intervals (23.9%) as shown in Table 16. In terms of feedback, Teacher E had the lowest mean rate of feedbacks per minute (1.7) and the lowest rate of social behavior feedback per minute (.36). as shown in Table 17.

The pedagogical behavior checklist indicates that in each of the six videotaped lessons, Teacher E (see Table 14) always started her classes by stating the purpose of the lesson followed by a warm-up. In these lessons, she also

provided her students with cognitive skill information, adequate opportunities to practice, minimum waiting time, and at all times had her equipment pre-arranged. In half of the classes, Teacher E explained or reviewed class rules frequently. She provided her students with either a complete demonstration or a partial demonstration of the skill to be performed in four of the six lessons. Teacher E only provided her classes with a model of the organizational pattern to be used in two of the lessons. Teacher E concluded each of her lessons with a closure which reviewed the skill that was taught.

Major Sources of Influence

Teacher E identified three main sources of influence as having an effect on her pedagogical behaviors. Of the 22 items referred to as potential sources of influence during the interviews and field notes, 36% related to "my experience", 18% included "my colleagues in physical education" and 13% dealt with "my own ideas" (see Table 15). The results of the Sources of Influence Questionnaire corroborate the results taken from the interviews and field notes. She identified my experience, my colleagues in physical education and my own ideas as being strongly positive influences.

Facilitating Sources of Influence

Teacher E regarded her experiences in teaching as influencing several of her pedagogical behaviors. Her experiences were responsible for the way she gave a visual demonstration, modeled the organizational patterns, stressed minimum waiting and management time, gave skill feedback and directed feedback to individuals, gave specific feedback at times to the total class, and focused on corrective specific skill feedback.

Past experience taught Teacher E to use students whenever possible in

Table 14

**RESULTS OF PEDAGOGICAL BEHAVIOR CHECKLIST
Teacher D**

Pedagogical Behavior	Yes	No	Partial
Provide student with:			
purpose of lesson	(6) 100%	(0) 0%	(0) 0%
class rules	(3) 50%	(2) 33%	(1) 17%
cognitive knowledge pertaining to skill	(6) 100%	(0) 0%	(0) 0%
a demonstration	(1) 17%	(2) 33%	(3) 50%
model of the organizational pattern to be used	(2) 33%	(4) 67%	(0) 0%
warm-ups	(6) 100%	(0) 0%	(0) 0%
equipment pre-arranged	(6) 100%	(0) 0%	(0) 0%
adequate opportunity to practice skills	(6) 100%	(0) 0%	(0) 0%
minimum waiting time	(6) 100%	(0) 0%	(0) 0%
minimum management time	(4) 67%	(4) 33%	(0) 0%
prompt and specific feedback to the total class	(2) 33%	(2) 33%	(2) 33%
closure to the lesson	(6) 100%	(0) 0%	(0) 0%

Table 15

CORROBORATION OF DATA FROM INTERVIEWS AND QUESTIONNAIRE
Teacher E

	<u>Interviews</u> Percentage (#) identified as potential source of influence	<u>Questionnaire</u> (mean score on a Likert scale) 5=most influential 1=least influential
my gender	0%	3
my age	0%	3
my maturity	0%	5
my experience	36% (8)	5
my own ideas	13% (3)	5
my personal skill ability	0%	4
my family	0%	5
my former teachers/coaches	0%	4
my undergraduate coursework/ training experiences	9% (2)	4
my cooperating teacher during during student teaching	0%	5
my colleagues teaching in the same school	0%	3
my colleagues in physical education	18% (4)	5
my principal	0%	4
my students	5% (1)	5
parental/home environment of students	0%	4
my schedule and time of classes	0%	4
class size	0%	4
facilities	0%	4
the program requirements established by the central office	9% (2)	4
evaluation procedures	0%	4
the researcher videotaping equipment	0% 5% (1)	3 4
specific activities	5% (1)	no rating
fatigue	0%	no rating
teacher's cognitive ability	0%	no rating

her demonstrations. Asked, during Interview 2, why she used students in demonstrations, she stated, "I like to use students whenever I can. When they see another student doing the skill, they feel like they can do it too." (IE2-5).

Teacher E didn't present students with a model of the organizational pattern when students were to work as individuals. However, her former experiences influenced her to give a model when working with groups because it saved time eventually. She indicated, "I found out if I showed the students how to do it with one group, they could get to work on their activity and not have to spend time running around trying to figure out where they're supposed to be. It really saves time to show them especially with the older students." (IE2-6).

From trial and error experiences, Teacher E learned to establish a conducive learning environment early in the year, thus reducing management and waiting time as the year progressed. "From my experience, I found that I don't like to waste time with (management tasks) getting out and putting away equipment, getting students in lines and changing formations. So right off the bat, I teach them the right way to do things." (IE2-9).

In relation to feedback, Teacher E's nine years of experience influenced her to the extent that much of her feedback was given "naturally". For example, she directed a large portion of skill feedback to individual students. When asked why she preferred to give individual feedback, she stated, "when you see students not performing a skill correctly you need to give personal feedback. It just seems to come naturally now." (IE2-11). When asked what influenced her to sometimes stop the lesson and give skill feedback to the total class, she indicated that experience working with students taught her how to monitor and tell when students "haven't understood or when they're all having the same problems.

When that occurs, I need to stop the whole class." (IE2-11).

The second important influence for Teacher E were her colleagues in physical education. Past student teachers were especially influential in teaching her to be a more effective manager and to have maximum activity time in her classes. For example, student teachers influenced her to have equipment prearranged, give each student their own piece of equipment, and several effective management techniques. In regard to why she always had her equipment prearranged, she stated, "It comes from working with the student teachers. We started spreading equipment out and getting it ready so we wouldn't waste time. We also wanted students to spend more time in activity." (IE2-7).

One specific management technique that her student teacher suggested and Teacher E employed frequently was to have her students place equipment at their feet when she asked for attention. This technique was found to be effective in reducing management time.

Student teachers were also responsible for Teacher E spending a portion of her lesson in warm-ups or activities which were unrelated to the main objective of the lesson, but still taught a skill. For example, dribbling a playground ball, or performing an aerobic dance were among the warm-ups for lessons focusing on jumping/landing, striking with paddles, and throwing/dodging. She indicated that she learned to include this type of warm-up from a student teacher in order "to get the students warmed up and have a little fun. I liked it and the students liked it so I've used it ever since." (IE2-7).

After reading her profile, Teacher E questioned whether the student teacher (colleagues in physical education) or the university teacher training

program should be listed as the source of influence. She agreed that she learned the behaviors from the student teacher but reasoned that the student teachers were trained by the university. For purposes of data collection, this was coded as being influenced by colleagues in physical education.

The third main source of influence was her own ideas. Teacher E gave positive general skill feedback and corrective specific social behavior feedback based on her own ideas. She attributed giving positive general feedback frequently just out of "habit." (IE2-12). Students who displayed inappropriate behaviors were given corrective specific social behavior feedback because "that's the way I deal with it. I think a student needs to know that he's not behaving correctly and it needs to be changed." (IE2-12).

In addition to the three main sources of influence, Teacher E identified two other sources of influence which were regarded as having a facilitating effect on several pedagogical behaviors. These sources included my undergraduate coursework/training experiences and program requirements established by the central office.

Teacher E indicated in Interview 2 that she felt the reason she stated class rules and stressed cognitive information at the beginning of class was due to her undergraduate coursework. She indicated that "methods classes taught us to be sure to review rules so you don't leave yourself open for lawsuits." (IE2-4). Methods classes also taught her to "pick out three main factors of a particular skill and stress these points." (IE2-4).

The Standards of Learning were considered "program requirements established by the central office." Teacher E felt that the Standards of Learning influenced her to tell her classes the purpose of the lessons and to close each

lesson with a review. She stated during the final interview, "When we started using the Standards of Learning we were told by the administration to tell the students the objectives of our lessons." (IE2-3). It was also "recommended that we include a closure, by reviewing what was taught with each lesson." (IE2-13).

Inhibiting Sources of Influence

The data from the interviews and the Sources of Influence Questionnaire reveal Teacher E's only negative source of influence came from the lack of equipment available when she taught gymnastics as shown in Table 15. She stated in Interview 2 that it was "obvious we're not going to have a mat or balance beam for each student." (IE2-9,10). As a result, her gymnastics lessons had higher percentages of waiting intervals (Lesson 5--34.7%).

Summary

In conclusion, Teacher E indicated that her most valuable source of influence came from her nine years of teaching experience and her own ideas. During this time, she was exposed to a variety of sources which influenced how she taught.

She held former student teachers in high regard as a source of influence. Even though her undergraduate program didn't teach specific teacher effectiveness techniques, some of these behaviors were transferred through her association with well trained student teachers.

Teacher E's only negative influence came from her lack of equipment. This lack of a sufficient quantity of gymnastic equipment forced her students to have less activity time and more waiting time than she regarded as appropriate.

Summary of Profile Results

To summarize the profiles, an analysis of the triangulated data was performed. The results are based on a composite of data collected on all five teachers. However, since the teachers' years of experience and educational preparation were different, it was necessary to examine the data in regard to how beginning teachers (Teachers A, B, C, D) compared to the experienced teacher (Teacher E) and how teachers trained to use teacher effectiveness techniques (Teachers A, B, C) compared to teachers without such training (Teachers D, E).

ALT-PE MCDCS Data

Overall, the ALT-PE MCDCS data indicate that there was variability among the five teachers (see Table 16). The data shows mixed results and no consistent trends when the scores are compared based on educational preparation and teaching experience.

Instruction

The mean percentage for instructional intervals for all teachers was 12% of the scored intervals. The teacher with the most experience (Teacher E) provided her students with nearly twice as many instructional intervals (23.9) as the beginning teachers.

In terms of educational preparation, the teachers who received specialized training (A,B,C) provided their students with similar percentages of instructional intervals. Teacher D who wasn't taught teacher effectiveness techniques, provided her students with a significantly lower number of instructional intervals (1.5).

Management

The mean percentage of time students spent in management intervals

Table 16

**ALT-PE MCDCS DATA
MEAN PERCENTAGE SCORES FOR ALL TEACHERS**

	Teacher					Mean All
	A	B	C	D	E	
% management intervals	23.6	14.4	41.6	32.7	18.8	26.2
% waiting intervals	3.3	10.5	7.0	18.1	8.7	9.5
% instructional intervals	13.1	11.2	10.5	1.5	23.9	12.0
% activity intervals	33.4	52.4	31.5	45.5	39.9	40.5
% non-focus intervals	26.4	10.9	9.1	0.3	9.4	11.2
% engaged motor intervals	44.8	40.9	30.2	41.0	32.6	37.9
% ALT-PE intervals	37.9	28.2	21.5	34.6	28.5	30.1

during the observed lessons was 26.2%. This high percentage of managerial intervals can be attributed partially to the management scores of beginning Teacher C (41.6) and D (32.7). Teachers A and B, who were also first year teachers, had management percentages similar to the experienced teacher (Teacher E). In this study, high management intervals appear to be unrelated to teacher effectiveness training or experience.

Non-Focus

In terms of non-focus intervals (warm-ups), the mean percentage for all teachers was 11.2%. The data for non-focus intervals indicates mixed results based on teacher experience. Beginning teachers B and C and the experienced Teacher E had similar percentages of scored intervals. However, beginning Teachers A and D had extremely different percentages. Teacher A provided her students with high percentages of non-focus intervals (26.4) while Teacher D provided a low percentage of non-focus intervals (0.3).

Waiting

The mean percentage of scored intervals in which students, for all teachers, spent time waiting was 9.5%. Beginning Teacher A's students were seldom observed waiting (5.3). Students taught by beginning teachers B and C and experienced Teacher E spent similar percentages in waiting intervals. Teacher D's students however, spent almost twice as much time waiting (18.1) when compared to the other teachers.

Activity

The mean percentage of activity intervals for all teachers was 40.5%. The activity percentages indicate variability among the teachers. Neither teacher training nor experience seem to influence the amount of time students spent in

activity intervals. The greatest difference was demonstrated by teachers with effectiveness training. Teacher B's students were frequently observed in activity (52.4) while Teacher C's students were observed in activity intervals for a noticeably smaller percentage (31.5).

Engaged Motor/ALT-PE

The mean percentage of intervals students spent in motor engaged time and ALT-PE for all teachers was 37.9% (engaged motor) and 30.1% (ALT-PE). In terms of these two categories, there was no difference between teachers based on experience or training. Noticeable differences did exist between the five teachers.

STOP Data

Feedback

The STOP system indicated that teachers in this study provided verbal feedback on the average of 2.2 times a minute. Skill feedback was provided 71% of the time, a mean rate of 1.6 per minute, while social behavior feedback was given 29% of the time at a mean rate of .63 per minute (see Table 17). Specific feedback (61%) was given more often than general feedback (39%), as shown in Tables 18 and 19. Corrective specific feedback was provided most frequently 48% during skill practice and 56% during social feedback. Seldom did teachers give positive specific skill feedback (10%) or positive specific social feedback (6%). When positive feedback was given, it was general 38% of the time during skill feedback and 16% of the time during social behavior feedback. The teachers gave no negative skill feedback but negative social behavior feedback was provided in the general (4%) and specific (2%) form. Teachers directed their feedback to individual students 78% of the time when giving skill feedback and

Table 17

**SKILL AND SOCIAL FEEDBACK
MEAN SCORES FOR ALL TEACHERS**

	Teacher					Mean All
	A	B	C	D	E	
Total # feedback	64	79	62	104	59	74
per minute	1.9	2.4	1.9	3.1	1.7	2.2
Skill feedback	71%	80%	61%	66%	79%	71%
mean # per class	43.8	63.8	39.6	67.8	46.0	52.2
rate per minute	1.32	1.9	1.2	2.04	1.3	1.6
Social Behavior						
Feedback	29%	20%	39%	34%	21%	29%
mean # per class	18.4	15.5	22.1	26.1	12.8	20.9
rate per minute	.55	.48	.70	1.05	.36	.63

73% of the time when giving social feedback (see Tables 18 and 19).

The feedback results provided evidence of variability between the five teachers. Several interesting differences occurred between teachers in their process of giving feedback.

First, beginning Teacher D, who had no specialized training in teacher effectiveness techniques, provided her students with more feedback (3.1 per minute) than did the other four teachers. Her feedback rates per minute were noticeably higher in both the skill (2.04) and social (1.05) feedback categories.

Second, the experienced teacher (Teacher E) provided skill feedback directed to the total class (39%) much more frequently than did the beginning teachers. Also, she seldom needed to provide social behavior feedback (.36 per minute) to her students.

Third, Teacher A gave twice as much positive specific skill feedback (20%) and three times as much positive specific social feedback (18%) than did the other four teachers. She also gave considerably less corrective skill feedback to her students (35%).

Last, compared to the other teachers, Teacher B gave more social behavior feedback which was corrective (82%) and negative (13%). Seldom did he provide his students with any positive comments regarding their social behavior (5%).

Pedagogical Behavior Checklist Data

The Pedagogical Behavior Checklist revealed both similarities and differences among the teachers on pedagogical behaviors they did or did not implement. Due to the small number of teachers observed in the study, the results taken from the Pedagogical Behavior Checklist and interviews needed to

Table 18

**CATEGORIES OF SKILL FEEDBACK
MEAN PERCENTAGE SCORES FOR ALL TEACHERS**

	Teacher					Mean All Teachers
	A	B	C	D	E	
Skill feedback	71%	80%	61%	66%	79%	71%
mean # per class	43.8	63.8	39.6	67.8	46.0	52.2
rate per minute	1.32	1.9	1.2	2.04	1.3	1.6
Class	12%	17%	22%	9%	39%	20%
Group	0%	3%	3%	2%	5%	3%
Individual	88%	80%	75%	89%	56%	78%
Positive specific	20%	10%	4%	4%	10%	10%
Positive general	44%	44%	37%	35%	32%	38%
Corrective specific	33%	41%	54%	56%	58%	48%
Corrective general	3%	3%	5%	3%	0%	3%
Negative specific	0%	1%	0%	1%	0%	0%
Negative general	0%	1%	0%	1%	0%	0%

Table 19

**CATEGORIES OF SOCIAL BEHAVIOR FEEDBACK
MEAN PERCENTAGE SCORES FOR ALL TEACHERS**

	<u>Teacher</u>					<u>Mean All Teachers</u>
	A	B	C	D	E	
Social Behavior Feedback	29%	20%	39%	34%	21%	29%
# per class mean	18.4	15.5	22.1	36.1	12.8	20.9
rate per minute	.55	.48	.70	1.05	.36	.63
Class	26%	23%	30%	19%	15%	23%
Group	5%	4%	2%	6%	6%	5%
Individual	69%	73%	68%	75%	79%	73%
Positive specific	18%	0%	5%	2%	6%	6%
Positive general	16%	5%	19%	20%	18%	16%
Corrective specific	51%	52%	62%	46%	69%	56%
Corrective general	14%	30%	12%	20%	6%	16%
Negative specific	0%	1%	0%	7%	1%	2%
Negative general	1%	12%	2%	5%	0%	4%

be examined carefully to assure that no single teacher was responsible for major differences in the data. Each of the twelve behaviors on the Pedagogical Behavior Checklist was examined by looking at both group and individual teacher scores.

Purpose of Lesson

The teachers communicated to their students the purpose of the lesson in 26 of the 29 lessons (90%) (see Table 20). Teacher B was responsible for two of the three lessons in which the purpose wasn't explained to students.

Class Rules

The teachers began their class or started a new activity by verbally explaining specific rules in thirteen (45%) of the observed lessons (see Table 21). Teachers A, D, and E were responsible for providing rules at the beginning of an activity in ten of the thirteen confirmed observations (77%).

The rules were provided to students after the activity had already begun in ten (35%) of the lessons. Beginning teachers B and C were responsible for 80% (8/10) of the lessons in which rules were given during an activity. In six (20%) of the lessons, rules were never given to the student. Teachers A and E were responsible for four of the six lessons in which the rules were never given.

Cognitive Information

The teachers in this study provided students with complete or partial cognitive knowledge pertaining to the skill in 22 (76%) of their lessons (see Table 22). Complete cognitive information consisting of two or more mechanical aspects were explained in nine (31%) of the lessons. The teacher with the most experience (Teacher E) accounted for six of the nine observations where complete cognitive information was provided. The four beginning teachers (Teachers A, B, C, D) accounted for the thirteen instances of partial cognitive

Table 20
 PEDAGOGICAL BEHAVIOR CHECKLIST RESULTS
 PURPOSE OF THE LESSON

		Yes	No	Partial
All Teachers	# of lessons	26	3	
	% of lessons	90%	10%	
Teacher A	# of lessons	5	0	
	% of lessons	100%	0%	
Teacher B	# of lessons	4	2	
	% of lessons	67%	33%	
Teacher C	# of lessons	5	1	
	% of lessons	83%	17%	
Teacher D	# of lessons	6	0	
	% of lessons	100%	0%	
Teacher E	# of lessons	6	0	
	% of lessons	100%	0%	

Table 21
 PEDAGOGICAL BEHAVIOR CHECKLIST RESULTS
 CLASS RULES

		Yes	No	Partial
All Teachers	# of lessons	13	6	10
	% of lessons	45%	20%	35%
Teacher A	# of lessons	3	2	0
	% of lessons	60%	40%	0%
Teacher B	# of lessons	1	0	5
	% of lessons	17%	0%	83%
Teacher C	# of lessons	2	1	3
	% of lessons	33%	17%	50%
Teacher D	# of lessons	4	1	1
	% of lessons	66%	17%	17%
Teacher E	# of lessons	3	2	1
	% of lessons	50%	33%	17%

Table 22

**PEDAGOGICAL BEHAVIOR CHECKLIST RESULTS
COGNITIVE KNOWLEDGE PERTAINING TO SKILL**

		Yes	No	Partial
All Teachers	# of lessons	9	7	13
	% of lessons	31%	24%	45%
Teacher A	# of lessons	0	3	2
	% of lessons	0%	60%	40%
Teacher B	# of lessons	1	2	3
	% of lessons	17%	33%	50%
Teacher C	# of lessons	1	0	5
	% of lessons	17%	0%	83%
Teacher D	# of lessons	1	2	3
	% of lessons	17%	33%	50%
Teacher E	# of lessons	6	0	0
	% of lessons	100%	0%	0%

knowledge (100%).

Demonstration

In this area, the data show mixed results. A complete visual demonstration relating to all aspects of the movement was provided in only seven (24%) of the 29 lessons observed (see Table 23). A partial demonstration was given in ten (35%) of the lessons while twelve (41%) of the lessons lacked any type of demonstration.

Teacher B provided a complete demonstration in 50% (3) of his lessons. Teachers A and E provided students with at least a partial demonstration in 50% (3) of their lessons. Beginning teachers B, C, and D didn't provide demonstrations in 50% (3) or more of their lessons.

Model of the Organizational Pattern

Overall, the teachers in this study seldom provided students with a model of the organizational patterns to be used during class. A model for each organizational pattern was provided in only seven (24%) of the lessons (see Table 24). A partial model of at least one organizational pattern was given in two (7%) of the lessons observed. Organizational patterns were not modeled in 20 (68%) of the 29 lessons observed.

Warm-ups

Teachers provided their students with a warm-up at the beginning of nearly all classes. Warm-ups were defined as fitness-related activities or a short activity unrelated to the objective of the lesson. Of the 29 classes videotaped, 28 (97%) contained a warm-up activity (see Table 25). The three beginning teachers who were taught teacher effectiveness techniques incorporated calisthenics as their primary warm-up.

Table 23

**PEDAGOGICAL BEHAVIOR CHECKLIST RESULTS
VISUAL DEMONSTRATION**

		Yes	No	Partial
All Teachers	# of lessons	7	12	10
	% of lessons	24%	41%	35%
Teacher A	# of lessons	2	0	3
	% of lessons	40%	0%	60%
Teacher B	# of lessons	3	3	0
	% of lessons	50%	50%	0%
Teacher C	# of lessons	1	3	2
	% of lessons	17%	50%	33%
Teacher D	# of lessons	0	4	2
	% of lessons	0%	67%	33%
Teacher E	# of lessons	1	2	3
	% of lessons	17%	33%	50%

Table 24

**PEDAGOGICAL BEHAVIOR CHECKLIST RESULTS
MODEL OF THE ORGANIZATIONAL PATTERN**

		Yes	No	Partial
All Teachers	# of lessons	7	20	2
	% of lessons	24%	69%	7%
Teacher A	# of lessons	2	3	0
	% of lessons	40%	60%	0%
Teacher B	# of lessons	1	5	0
	% of lessons	17%	83%	0%
Teacher C	# of lessons	2	4	0
	% of lessons	33%	67%	0%
Teacher D	# of lessons	0	4	2
	% of lessons	0%	67%	33%
Teacher E	# of lessons	2	4	0
	% of lessons	33%	67%	0%

Table 25

**PEDAGOGICAL BEHAVIOR CHECKLIST RESULTS
WARM-UPS**

		Yes	No	Partial
All Teachers	# of lessons	28	1	
	% of lessons	97%	3%	
Teacher A	# of lessons	5	0	
	% of lessons	100%	0%	
Teacher B	# of lessons	6	0	
	% of lessons	100%	0%	
Teacher C	# of lessons	5	1	
	% of lessons	83%	17%	
Teacher D	# of lessons	6	0	
	% of lessons	100%	0%	
Teacher E	# of lessons	6	0	
	% of lessons	100%	0%	

Pre-arranged Equipment

The three beginning teachers (A, B, and C) who received undergraduate training in teacher effectiveness techniques and the teacher (E) with the most experience accounted for 23 (79%) observations where equipment was already set up (see Table 26). Beginning Teacher D, who hadn't been taught teacher effectiveness techniques, was responsible for all the observations which did not have pre-arranged equipment (6). She handed out equipment to students individually or sent students in groups to retrieve equipment.

Adequate Opportunities to Practice Skills

All the teachers designed and implemented lessons which provided students with their own equipment and maximum opportunities to practice skills. Students were provided with adequate opportunities to practice skills in 28 (97%) of the observed lessons (see Table 27).

Minimum Waiting Time

Four of the teachers in this study (A, B, C, and E) organized their lessons to have minimum waiting time for their students. Of the 29 class periods observed, 23 (79%) of the lessons were found to have started at the designated time, were free of interruptions which lasted longer than 30 seconds, and ended on schedule (see Table 28).

Teacher D was responsible for five (83%) of the lessons with extended periods of student waiting. Students were frequently observed waiting as she passed out equipment.

Minimum Management Time

Lessons with minimum management time were observed in 17 (59%) of the 29 lessons videotaped (see Table 29). Experienced Teacher E and beginning

Table 26

**PEDAGOGICAL BEHAVIOR CHECKLIST RESULTS
EQUIPMENT PRE-ARRANGED**

		Yes	No	Partial
All Teachers	# of lessons	23	6	
	% of lessons	79%	21%	
Teacher A	# of lessons	5	0	
	% of lessons	100%	0%	
Teacher B	# of lessons	6	0	
	% of lessons	100%	0%	
Teacher C	# of lessons	6	0	
	% of lessons	100%	0%	
Teacher D	# of lessons	0	6	
	% of lessons	0%	100%	
Teacher E	# of lessons	6	0	
	% of lessons	100%	0%	

Table 27

**PEDAGOGICAL BEHAVIOR CHECKLIST RESULTS
ADEQUATE OPPORTUNITY TO PRACTICE SKILLS**

		Yes	No	Partial
All Teachers	# of lessons	28	1	
	% of lessons	97%	3%	
Teacher A	# of lessons	5	0	
	% of lessons	100%	0%	
Teacher B	# of lessons	6	0	
	% of lessons	100%	0%	
Teacher C	# of lessons	5	1	
	% of lessons	83%	17%	
Teacher D	# of lessons	6	0	
	% of lessons	100%	0%	
Teacher E	# of lessons	6	0	
	% of lessons	100%	0%	

Table 28

**PEDAGOGICAL BEHAVIOR CHECKLIST RESULTS
MINIMUM WAITING TIME**

		Yes	No	Partial
All Teachers	# of lessons	23	6	
	% of lessons	79%	21%	
Teacher A	# of lessons	4	1	
	% of lessons	80%	20%	
Teacher B	# of lessons	6	0	
	% of lessons	100%	0%	
Teacher C	# of lessons	6	0	
	% of lessons	100%	0%	
Teacher D	# of lessons	1	5	
	% of lessons	17%	83%	
Teacher E	# of lessons	6	0	
	% of lessons	100%	0%	

Table 29

**PEDAGOGICAL BEHAVIOR CHECKLIST RESULTS
MINIMUM MANAGEMENT TIME**

		Yes	No	Partial
All Teachers	# of lessons	17	12	
	% of lessons	59%	41%	
Teacher A	# of lessons	5	0	
	% of lessons	100%	0%	
Teacher B	# of lessons	6	0	
	% of lessons	100%	0%	
Teacher C	# of lessons	2	4	
	% of lessons	33%	67%	
Teacher D	# of lessons	0	6	
	% of lessons	0%	100%	
Teacher E	# of lessons	4	2	
	% of lessons	67%	33%	

teachers A and B were responsible for 15 of these lessons.

Beginning Teachers C and D accounted for ten of the 12 lessons where significant amounts of time were spent on management tasks. These results show variability among the beginning teachers.

Total Class Feedback

The teachers seldom stopped the total class for the purpose of giving specific verbal feedback relating to the mechanics of a movement. The teachers stopped class three or more times during a lesson to give feedback in only two (7%) of the 29 observed classes (see Table 30). Partial feedback, defined as stopping the class one or two times during a lesson, was observed in ten (35%) observations. Thirteen (57%) of the observations coded as having no feedback incidences directed to the total class were attributed to beginning Teachers A, C, and D.

Closure

The teachers presented a lesson closure in 16 (56%) of the lessons (see Table 31). The most experienced teacher (E) ended all of her lessons with an organized review. Two beginning teachers (A and D), frequently ended their lesson with a closure. Teachers B and C represented 11 of the 13 observations which had no observed closure.

Interview/Fieldnote Data

Facilitating Sources of Influence

The interview results reveal that teachers' pedagogical behaviors were influenced by numerous variables (see Table 32). Two variables, however, accounted for over half (52%) of the teachers identified sources of influence. These variables were "my own ideas" and "my undergraduate coursework/training

Table 30
PEDAGOGICAL BEHAVIOR CHECKLIST RESULTS
PROMPT AND SPECIFIC FEEDBACK PRESENTED TO THE TOTAL CLASS

		Yes	No	Partial
All Teachers	# of lessons	2	17	10
	% of lessons	7%	57%	36%
Teacher A	# of lessons	0	4	1
	% of lessons	0%	80%	20%
Teacher B	# of lessons	0	2	4
	% of lessons	0%	33%	67%
Teacher C	# of lessons	0	5	1
	% of lessons	0%	83%	17%
Teacher D	# of lessons	0	4	2
	% of lessons	0%	67%	33%
Teacher E	# of lessons	2	2	2
	% of lessons	33%	33%	33%

Table 31

**PEDAGOGICAL BEHAVIOR CHECKLIST RESULTS
CLOSURE TO THE LESSON**

		Yes	No	Partial
All Teachers	# of lessons	16	13	
	% of lessons	55%	45%	
Teacher A	# of lessons	4	1	
	% of lessons	80%	20%	
Teacher B	# of lessons	0	6	
	% of lessons	0%	100%	
Teacher C	# of lessons	1	5	
	% of lessons	17%	83%	
Teacher D	# of lessons	5	1	
	% of lessons	83%	17%	
Teacher E	# of lessons	6	0	
	% of lessons	100%	0%	

TABLE 32
INTERVIEW RESPONSE RESULTS INDIVIDUAL TEACHERS

	TEACHER					
	A	B	C	D	E	ALL
my gender	0	0	0	0	0	0
my age	0	0	0	0	0	0
my maturity	0	0	0	0	0	0
my experience	1 (3%)	1 (4%)	0	0	8 (36%)	10 (8%)
my own ideas	7 (18%)	10(35%)	6 (26%)	11 (52%)	3 (13%)	37 (28%)
my personal skill ability	0	0	0	0	0	0
my family	0	0	0	0	0	0
my former teachers/coaches	0	0	1 (4%)	1 (5%)	0	2 (1%)
my undergraduate coursework/ training experiences	11 (28%)	8 (28%)	7 (31%)	4 (19%)	2 (9%)	32 (24%)
my cooperating teacher during student teaching	2 (2%)	2 (7%)	2 (9%)	0	0	6 (5%)
my colleagues teaching in the same school	0	0	0	0	0	0
my colleagues in physical education	0	0	0	1 (5%)	4 (18%)	5 (4%)
my principal	0	0	0	0	0	0
my students	4 (10%)	0	1 (4%)	1 (5%)	1 (5%)	7 (5%)
parental/home environment of students	0	0	0	0	0	0
my schedule and time of classes	2 (5%)	1 (4%)	1 (4%)	1 (5%)	0	5 (4%)
class size	1 (3%)	4 (14%)	4 (18%)	1 (5%)	0	10 (8%)
facilities	4 (10%)	0	1 (4%)	1 (5%)	0	6 (5%)
the program requirements established by the central office	1 (3%)	0	0	0	2 (9%)	3 (2%)
evaluation procedures	0	0	0	0	0	0
the researcher videotaping	0	0	0	0	0	0
equipment	1 (3%)	1 (4%)	0	0	1 (5%)	3 (2%)
specific activities	2 (5%)	1 (4%)	0	0	1 (5%)	4 (3%)
fatigue	2 (5%)	0	0	0	0	2 (1%)
teacher's cognitive ability	1 (3%)	0	0	0	0	1 (<1%)
	39	28	23	21	22	133

experiences." Of the 133 variables enumerated in the interviews/field notes as sources of influence, 28% (37) were attributed to "my own ideas" and 24% (32) to "undergraduate coursework and training experiences". Both variables were regarded as positive sources of influence by all five specialists (see Table 32). The four beginning teachers (A, B, C, and D) identified both these variables as being the two dominant sources of influence on their observed pedagogical behaviors. Teacher E, who had the most experience, indicated that her "past experience" was her primary source of influence.

All five teachers identified their "own ideas" as having a significant influence on their pedagogical behavior patterns. This variable was regarded by some of the teachers as having an influencing effect on how they provided: class rules (A, B, C, D), visual demonstration of the skill being taught (B, C, D, E), warm-ups at the beginning of class (B, C, D), positive general feedback (B, C, D, E), and specific corrective social behavior feedback (B, D, E).

Undergraduate coursework/training experiences were considered important by each teacher. However, the only pedagogical behavior which all five teachers attributed to learning during their undergraduate program was providing students with cognitive knowledge pertaining to the skill (see Table 32).

It was noted that undergraduate coursework/training experiences had a special influence on the three teachers (Teachers A, B, C) who received specific pedagogical training in teacher effectiveness techniques. Teachers A, B, and C accounted for 26 (81%) of the 32 references to undergraduate coursework/training experiences as a source of influence. All three teachers identified their training programs as the influencing variable which taught them to provide

students with increased amounts of ALT-PE, have equipment pre-arranged, provide students with adequate opportunities to practice a skill, and give individual skill feedback.

Other variables were identified as positive but less important sources of influence. These included cooperating teachers, former teacher/coaches, students, colleagues in physical education, equipment, specific activities, program requirements established by the central office and parental/home environment (see Table 32).

Teachers A, B, and C mentioned their cooperating teacher as an influencing factor six times (5%). Former teacher/coaches were identified only two times (2%) during interviews by Teachers C and D. No specific pedagogical behaviors were consistently attributed to the cooperating or former teachers. Students (5%) were regarded as influencing their teachers when to give rules (A, E) and visual demonstrations (D). Colleagues in physical education (4%) were especially important to Teacher E who was influenced by her student teachers to provide specific types of warm-ups, have equipment pre-arranged, provide minimum management time and maximum number of student trials. Teachers A and E were also the only specialists influenced by the requirements established by the central office (2%). This factor was responsible for Teacher E providing closure at the end of each lesson, and Teacher A providing a warm-up. The teachers didn't explain how equipment (2%), specific activities (3%) or parental/home environment (1%) influenced their teaching.

Inhibiting Sources of Influence

Three variables were identified by the beginning physical education specialists (A, B, C, D) as having an inhibiting effect on how they performed.

These negative sources of influence were all contextual factors relating to workplace conditions and included: class size (8%), facilities (5%) and the schedule/time for class (3%). These variables accounted for 17% (21) of the total number of teacher responses. The teachers indicated during interviews that the size of class, sharing of facilities, and lack of time scheduled for physical education prevented them from providing greater trial opportunities and increased student waiting time (see Table 32).

Sources of Influence Questionnaire Data

The results of the Sources of Influence Questionnaire corroborate with the interview responses. Based on a five-point Likert scale, the teachers rated their "own ideas" (4.8) and "undergraduate coursework/training experiences" (4.8) as strong sources of influence. Teacher E indicated her past experience (5) was a strong source of influence (see Table 33).

The four beginning teachers (A,B,C,D) regarded the lack of time scheduled for physical education and facilities as negative sources of influence. Teachers B, C, and D also ranked class size as a variable having a strong inhibiting effect on their pedagogical behaviors. Teacher E, however, rated all three variables as slightly positive (see Table 33).

As a final point of interest, the interview and questionnaire results both identified several presage and context variables which had no expressed influence on the pedagogical behaviors of the five teachers. These included: gender, age, principal, colleagues in the same school, evaluation procedures and the researcher (see Tables 32 and 33).

In conclusion, the primary positive sources of influence on the pedagogical behavior patterns of the five specialists in this study were presage

Table 33

SOURCE OF INFLUENCE QUESTIONNAIRE RESULTS INDIVIDUAL TEACHERS
(Likert Scale: 5 = most influential; 1 = least influential)

	TEACHER					MEAN
	A	B	C	D	E	
my gender	3	5	4	3	3	3.6
my age	3	4	3	3	3	3.2
my maturity	5	4	2	5	5	4.2
my experience	5	4	2	5	5	4.2
my own ideas	5	5	4	5	5	4.8
my personal skill ability	4	4	5	5	4	4.4
my family	4	4	3	5	5	4.2
my former teachers/coaches	5	5	5	5	4	4.8
my undergraduate coursework/ training experiences	5	5	5	5	4	4.8
my cooperating teacher during student teaching	5	5	5	5	5	5.0
my colleagues teaching in the same school	4	3	1	3	3	2.8
my colleagues in physical education	4	3	5	4	5	4.2
my principal	3	3	4	3	4	3.4
my students	5	4	3	5	5	4.4
parental/home environment of students	3	4	3	5	4	3.8
my schedule and time of classes	2	1	1	1	4	1.8
class size	4	1	1	1	4	2.2
facilities	2	2	2	2	4	2.4
the program requirements established by the central office	4	4	5	5	4	4.4
evaluation procedures	3	2	2	4	4	3.0
the researcher videotaping	3	3	2	2	3	2.6
equipment	3	2	5	5	4	3.8
specific activities	x	x	x	x	x	x
fatigue	x	x	x	x	x	x
teacher's cognitive ability	x	x	x	x	x	x

variables consisting of their own ideas, undergraduate coursework/training and experience (Teacher E). The sources which inhibited the beginning teachers from performing specific behaviors consisted of workplace conditions, including the context variables of large class size, inadequate facilities, and limited time for physical education classes.

Discussion

The teaching research literature suggests that a person's repertoire of teaching behaviors originates from multiple sources of influence, many of which are presage and context related (Clark, Smith, Newby, & Cook, 1985; Dunkin & Biddle, 1974; Hoffman & O'Neal, 1985; Templin & Schempp, 1989). In this study, five elementary physical education specialists identified 15 variables which they believed had a direct influence on their use of certain pedagogical behavior patterns. Of these 15 variables, only "my own ideas" and "my undergraduate coursework/training experiences" were consistently identified as being influential by all five teachers.

This finding is similar to those reported by Clark, Smith, Newby, and Cook (1985). That study likewise reported that teachers perceived their "own ideas" and "an instructor or class within the teacher education program" as the primary sources of their instructional behavior.

Why did the teachers depend so heavily on these two variables as sources of influence? Several explanations can be given. First, many of the teachers' "own ideas" were actually the results of their own natural initiative. This view supports the "evolutionary" theory purposed by Stephens (1976) which suggests individuals have an ingrained habit to correct and teach one another. Providing class rules, giving positive general feedback to a student when a skill is

performed correctly and providing corrective specific feedback when the skill is performed incorrectly are natural behaviors for an individual to implement.

Thus, teachers regard some behaviors as a result of their "own ideas."

Second, many of the teachers' "own ideas" may have originated both consciously and subconsciously from observing numerous teachers while they were students. This view supports the belief (Feiman-Nemser, 1985; Goodlad, 1982; Lortie, 1975; Tabachnick & Zeichner, 1985) that many pedagogical behaviors are internalized over years when these teachers were students. Subsequently, several of the behaviors attributed to one's "own ideas" in this study may actually have been influenced by former teachers and educational experiences. Individual teachers implemented specific pedagogical behaviors which they observed and experienced for years, eventually deciding to incorporate them into their own teaching, thereby taking ownership of these behaviors.

A third possible reason for the teachers' heavy dependence on their own ideas may be due to their isolation in the school. Physical education researchers suggest that teacher isolation is a significant problem in physical education (Locke, 1975; Templin, 1988). Both physical and psychological isolation restrained the specialists from consulting with other physical educators, principals, and experienced colleagues within the building. The physical education teachers in this study experienced such isolation. As a result, they were forced to solve pedagogical problems based on their own instincts, trial/error experiences, and knowledge gained during their undergraduate training programs.

A final reason why the teachers regarded their "own ideas" as a major

source of influence may relate to their undergraduate coursework/training experiences. As Locke (1984) suggested, if teachers haven't learned any specific pedagogical behaviors during their preservice training, then specific behaviors shouldn't be expected to transfer. Hence, the teachers would depend on their own ideas and trial/error experiences as important sources for learning how to teach. In this study, Teachers D and E indicated they hadn't received any training which utilized the teacher effectiveness research. As a result, Teacher D was forced to rely heavily on her own ideas while Teacher E relied on her previous teaching experiences.

An encouraging finding in this study was the evidence which suggests that undergraduate courses/training experiences were regarded as important sources of influence. Teachers A, B, and C, who came from an undergraduate program which incorporated systematic observation based on the teacher effectiveness literature, regarded their preparation programs as influential in their use of selected pedagogical behaviors.

This finding has two important implications. First, it contradicts the reports that undergraduate programs have little influence on pedagogical behaviors of teachers (Grant, 1981; Hodges, 1982). Second, it suggests that development programs utilizing teacher effectiveness techniques do have some influence on beginning teachers. At the very least, the three beginning teachers who had specialized training understood the terminology and attempted to implement certain pedagogical behaviors. Without this educational preparation, such fundamental teaching skills may never be introduced.

Unfortunately, several of the pedagogical behaviors taught to Teachers A, B, and C during their pre-service education did not transfer easily into specific

school environments (e.g. visual demonstrations, modeling organizational patterns, feedback to total class, cognitive information). This finding is consistent with other research which reports beginning teachers often have difficulty transferring behaviors taught during their professional development programs into a new environment (Borg, 1972; Dodds, 1984; Gusthart & Rink, 1983; Locke, 1984).

This finding suggests the need for teacher preparation programs to not only instruct their students in how to perform effective behaviors but also inform the students of alternative strategies to accommodate unique contextual conditions. For example, Teachers B and C found large classes to be a significant hindrance on their ability to implement specific behaviors. Teacher A discovered sharing her facilities during a noisy lunch period was a situation with which she was unfamiliar and needed advisement. Realizing and knowing which alternative strategies should be implemented would have been beneficial to all three teachers.

Three contextual variables - large classes, sharing of facilities, and a limited time scheduled for physical education instruction - were identified in this study by the four beginning teachers as having an inhibiting effect on their use of certain pedagogical behaviors. These three contextual variables, often found in children's physical education classes, influence teachers' instructional abilities (Morgenegg, 1978; Tobey, 1974), and consequently affecting teacher enthusiasm and commitment to their programs (Faucette & Graham, 1986). These negative factors can be classified as workplace or context variables.

Dunkin and Biddle (1974) suggest that contextual variables are difficult to change. This was found to be especially true for the teachers in this study who

were hired to establish a new program and who desired to make good first impressions. As a result, the beginning teachers suppressed their concerns involving workplace conditions and developed their "own" coping strategies in order to deal with these negative influences. In doing so some pedagogical behaviors learned during undergraduate training may have been abandoned.

Two groups within the school who could have assisted the beginning teacher to adjust to, or perhaps even rectify the workplace conditions, are teacher colleagues and principals. An important finding in this study however, indicates that principals and colleagues within the same building had no obvious influence on the five physical education teachers in this study. These results contradict classroom research which reports principals (Blank, 1987; Good & Brophy, 1986; Sweeney, 1982) and experienced colleagues (Feiman-Nemser & Floden, 1986; Pataniczek & Isaacson, 1981; Wildman, Niles, Magliaro, McLaughlin, & Drill, 1989) as having considerable influence on teachers. This finding may suggest that in order to change workplace conditions, physical educators need to take strong proactive positions. Principals and teachers need to be informed of the inhibiting influence large classes, shared facilities, inadequate class time, and teacher isolation can have on the pedagogical behaviors of physical educators.

Another contradiction was found in this study in regarding to the influence students have on teachers. Research completed on classroom teachers report that students have a powerful influence on how teachers conduct classes (Rosenshine, 1976; Tindall, 1975; Wildman, Niles, Magliaro, & McLaughlin, 1989). However, during the interview sessions, only Teacher A indicated more than once that her students had an influence on her teaching behaviors. Two

reasons for this difference may be the large number of students a physical educator deals with weekly, and the infrequent amount of time specialists have contact with individual students. It seems that the gymnasium setting closely resembles a factory assembly line with classes rushing in and out, thus allowing little time for the specialist to develop personal relationships with students.

A final point of interest focuses on reasons for the differences in the sources of influence between the beginning teachers and the experienced teacher. Beginning teachers A, B, and C were recent college graduates. Thus, their undergraduate training/coursework experiences were still powerful sources of influence. Beginning Teacher D had graduated eight years previous to obtaining her first full-time position. Many pedagogical behaviors she learned during her undergraduate program were apparently forgotten, assuming they were learned, because they were not practiced over time. She therefore depended on her own ideas as her central source of influence. It seems logical that Teacher E was influenced by her nine years of teaching experience. Interestingly, Teacher E regarded her student teachers as dissemination vehicles from which she learned current and effective teaching techniques.

In conclusion, these results indicate that several presage and context variables exist which have both an influencing and inhibiting effect on the use of specific teaching behaviors. More specifically, the elementary physical education specialists in this study seemed to rely primarily on their own ideas, knowledge learned during their undergraduate education programs, teaching experience and workplace conditions as the key variables influencing their use of certain teaching skills.

Chapter 5

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS FOR FUTURE RESEARCH

This chapter summarizes the purpose of the study, the data collection methods employed during the investigation, and the results. It then presents conclusions before making recommendations for future research.

A Summary of the Study

Recently the global question of where and how teachers learn to teach has begun to emerge as a major focus for research in teacher education (Doyle, 1985). The primary purpose of this study followed that emerging trend and investigated variables which teachers perceived as being influential in their use of certain pedagogical behaviors or teaching skills.

This study specifically addressed two research questions:

1. What pedagogical behavior patterns, as determined through the analysis of teaching/learning processes, are commonly employed by the five elementary physical education teachers in this study?
2. What sources of influence (presage and context variables) are identified by teachers as contributing to their use of these teaching behaviors?

To assist in answering these questions, data were collected on five elementary physical education specialists hired to start a physical education program in Progress County during the 1985-86 school year. Specific techniques used to gather data included systematic observations, field notes, structured interviews, and a questionnaire. Once the data were collected, they were

triangulated to determine if the various data sources corroborated the reasons the teachers used or did not use the teaching skills identified through systematic observation. The teaching skills were identified by videotaping each teacher six times, except for Teacher A, who was taped on five occasions. Each tape was systematically coded using the ALT-PE Microcomputer Data Collection System (MCDCS), Student Teachers Observing Peers System (STOP), and a Pedagogical Behavior Checklist.

Qualitative data were collected from two structured interviews. The first interview focused on developing interviewer/client rapport, understanding the perceived teacher roles of new teachers and identifying the pedagogical behaviors the teachers regarded as being important in facilitating student learning. In the second interview, each teacher was asked to identify presage and context variables which he or she considered to be the source of influence which inspired the use of specific teaching behaviors, or ways of organizing instruction, that were identified in the first part of the study through videotape analysis.

In order to heighten confidence in the responses given during interviews, each subject also completed a questionnaire rating the amount of influence specific presage and context variables had on their teaching. The results of each teacher's questionnaire were compared to his/her interview responses to determine if the identified presage and context variables established through the interviews and questionnaires corroborated.

The data from the analyzed videotapes, field notes, interviews, and questionnaires were compiled into individual teacher profiles. Each profile identified factors which the teachers perceived as influencing their pedagogical

behavior patterns.

Several presage and context variables were identified by the teachers as influencing them in their decisions to perform specific pedagogical behaviors. All five teachers identified their "own idea" and "undergraduate coursework/training experiences" as being positive sources of influence. Large classes, inadequate facilities, erratic schedules, and time designated for classes were regarded by Teachers A, B, C, D as having an inhibiting effect on specific behavior patterns.

Findings

The first research question of this study focused on determining, through videotape analysis, the pedagogical behavior patterns commonly employed by the five elementary physical education teachers hired by Progress County to implement a new physical education program.

These data suggest four conclusions. Each conclusion is derived from systematic observations of the teachers and the students in their respective classes.

First, the students in-class behavior patterns were similar to those observed in other descriptive studies (Anderson, 1978; Godbout, Brunelle, & Tousignant, 1983; McLeish, 1981; Metzler, 1979; Pieron, 1980; Siedentop, 1983). However, the students in this study differed in the amount of class time they spent in each function. When compared to other descriptive studies the students taught by the teachers in this study typically spent more time engaged in motor activities. Students taught by Teachers A, C, and D were observed in more management. Students of all teachers did not spend as much time waiting. However, the students taught by the beginning teachers received less

instructional information.

Second, feedback behaviors of the five teachers were similar to that of other physical education specialists reported in the literature (Cheffers & Mancini, 1978; Pieron, 1983; Quarterman, 1978; Tobey, 1974). Feedback rates per minute were within the previously reported frequency range of one to four. Feedback about skill was given more frequently than social feedback. Most feedback was provided individuals. When positive feedback was provided, it was evaluative and general. Corrective feedback was specific and descriptive.

The third conclusion reveals that the teachers in this study demonstrated similar teaching patterns. The Pedagogical Behavior Checklist identified four commonly employed behaviors for all teachers. These behaviors included: providing students with the purpose of the lesson, providing class rules before the start of class or during class, providing students with warm-ups, and furnishing adequate opportunities to practice skills. All the teachers, with the exception of Teacher D, had equipment pre-arranged and provided minimum waiting time.

The Pedagogical Behavior Checklist also identified three behaviors which all teachers seldom exhibited. They were providing a complete visual demonstration of the skill to be learned, furnishing a model of the organizational patterns to be used, and giving prompt specific feedback directed to the total class. In addition, the four beginning teachers had difficulty presenting complete cognitive information pertaining to the skill to be practiced.

Fourth, individual teachers in this study demonstrated variability in their use of various teaching skills when compared to one another. Factors associated with variability include numerous presage and context variables as identified by

Dunkin and Biddle (1974), and Denham and Michael (1981).

The second research question of this study examined the sources of influence that teachers identified as having either a contributing or inhibiting effect on their use of teaching skills. Four findings stand out based on the data collected in this study.

First, the teachers identified their "own ideas" and "undergraduate coursework/training experiences" as having the greatest influence on their pedagogical behaviors. There is ample reason to believe that these two variables were in fact predominant since the teachers easily identified 13 other variables which they regarded as having some influence on their observed behaviors.

The evidence clearly indicates that the four beginning teachers (A, B, C, D) regarded both their own ideas and undergraduate training as very persuasive sources of influence. However, the teacher with the most experience (E) reported both these factors to be of secondary importance. Her primary source of influence was her experience as a teacher.

In terms of one's own ideas, individual teachers regarded this variable as a major source of influence which persuaded them to provide students with class rules (A, B, C, D), warm-ups at the beginning of class (B, C, D), positive general feedback (B, C, D, E), and specific corrective social behavior feedback (B, D, E). Own ideas were also considered as being the persuasive influence explaining how they provided students with visual demonstrations (B, C, D, E).

All five teachers indicated that their physical education methods classes influenced them to provide students with cognitive information pertaining to the skill being taught. The three subjects who received specific pedagogical training based on teacher effectiveness research attributed their undergraduate

coursework/training experiences as the influencing variable which persuaded them to have their equipment pre-arranged, provide students with adequate opportunities to practice skills, give individual skill feedback and increased the amount of ALT-PE in each lesson.

A second finding focuses on variables which had an inhibiting effect on how the teachers taught. These factors related to the workplace and included large classes, inadequate facilities, erratic scheduling, and limited time for classes. The beginning teachers indicated that these factors had an inhibiting influence and prevented them from providing students with more practice opportunities and feedback to the entire class. They also reported that these factors caused their students to spend more time in management.

The third finding focuses on several presage and context variables that individual teachers regarded as being potential but less important sources of influence. These variables included: cooperating teachers, former teacher/coaches, students, colleagues in physical education, equipment, program requirements established by the central office (see Tables 32 and 33).

There were also several variables which had no apparent influence on the pedagogical behaviors used by five teachers and were mentioned in the interviews. Variables in this category included: gender, age, maturity, personal skill ability, family, building principal, evaluation procedures, colleagues in the same school, and the researcher videotaping (see Table 32).

Conclusions

Based on the findings of this study, it seems reasonable to conclude that:

1. Pedagogical behaviors that the five specialists commonly employed included providing students with the purpose of the lesson, class rules, warm-ups, and furnish adequate opportunities to practice skills.

2. Teaching behaviors which the five specialists did not employ on a regular basis included providing visual demonstrations of the skills to be learned, models of organizational patterns and prompt feedback directed to the total class.
3. A teacher's "own ideas" have a significant influence on their pedagogical behavior patterns.
4. Their "own ideas" and undergraduate coursework/training experiences. are a primary source of influence for beginning teachers.
5. Experience is a major source of influence for veteran teachers.
6. Undergraduate programs which employ teacher effectiveness research in their pedagogical courses have an influence on their graduates.
7. Workplace conditions, including class size, schedule/time for classes and facilities, have an inhibiting influence on beginning teachers.

Recommendations for Future Research

This study contributed to the limited amount of research which attempts to tie teaching performance to various presage and context variables. The research methodology allowed the researcher to examine evidence of contradiction and corroboration between selected teaching skills, previous experience (presage variables), and the specific teaching situation (context variables). Simply stated, the focus of this research was on teacher performance and the variables which influence the selection and use of pedagogical behavior patterns.

Future researchers who examine the influence certain variables have on the behaviors of teachers will want to consider using several data collection techniques and then triangulating the data to determine corroboration or disconformity. As in this study, measurement techniques that might be used include systematic observation, questionnaire, interviews, document analysis, and participant observation (Templin, 1983).

As Dobbert (1982) states, "Multiple methods enhance validity and reliability through increasing the number of perspectives employed. Multiple

perspectives permit cross-checking of all types of data for accuracy and completeness. They also add to depth and breadth of interpretation." (p. 265).

The results of the present study apply only to the five elementary physical education specialists in Progress County. While the conclusions may not be applicable to all physical education specialists, they nevertheless shed greater light on the question "why teachers teach as they do." Further studies are needed however, so that generalizations can be made regarding the effects of the different sources of influence on pedagogical behaviors of teachers.

First, there is a great need for future research which examines both beginning and experienced teachers separately. This would be beneficial in determining if teachers with varying years of experience have similar sources of influence on pedagogical behavior patterns.

A similar research effort might also be undertaken focusing on teachers employed at different grade levels including elementary, junior, and senior high. This research could examine which variables have a consistent influence upon pedagogical behavior patterns of all teachers, and may be directly related to grade-context variables.

Another investigation might take the form of a longitudinal research effort. The primary purpose of that study would be to determine if the sources of influence change over time. If it was determined that teachers are influenced by different variables during their careers, it would be interesting to learn which variables are responsible for the change and when.

The educational literature strongly suggests that teachers' beliefs about teaching are developed both consciously and subconsciously as a result of their many years of observing teachers (Feiman-Nemser, 1985; Goodlad, 1982; Lortie,

1975). Very little, however, is understood about the beliefs or ideas physical education teacher recruits bring with them into their undergraduate programs. A study which examines how 10,000-12,000 hours (Lortie, 1975) as students, observing teachers and coaches, influence the beliefs of future teachers would also provide unique insights. It is critical that teacher educators understand the beliefs of recruits before conducting formal education programs. The results of such a study would be useful in understanding which beliefs and pedagogical ideas are typically pre-established in recruits and which beliefs and ideas that need to be critically examined and understood.

A related area of study would be to critically examine the influence that undergraduate physical education teacher education programs have on teachers. Do teacher education programs which employ teacher effectiveness research, as the basis for their pedagogy course, actually have an influence on their graduates as suggested in this study. If the programs are in fact influential, what are the longitudinal effects that teachers graduating from such programs have on their children?

The teachers in the present study indicated that they received very little assistance from principals and colleagues within the same school. A research effort in the form of a case study might examine the interactions of physical educators with colleagues and administrators. Such a study would be beneficial in helping to understand the isolation issue and the problems physical educators are confronted with each day.

A final recommendation would be to study the influence student teachers have on the behaviors of their cooperating teachers. The current literature in physical education has only examined the influence that cooperating teachers

have on student teachers (Locke, 1979; Templin, 1979). It has been suggested in this study that well-prepared student teachers can have a reciprocal influence on the behaviors of experienced teachers. It would be interesting to determine if effective teaching behaviors can transfer from student teachers to cooperating teachers?

In conclusion, how teachers learn to teach is an extremely complex question. Numerous sources of influence exist which determine how individuals teach. It is evident that more studies are needed in order to fully understand the reality of where and how teachers learn to teach, and the influence of specific variables on pedagogical behavior patterns.

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APPENDIX A
INFORMED CONSENT FORM

INFORMED CONSENT FORM

I, _____, agree to participate in the research project which is being conducted by Glenn Reif during the 1985-86 school year.

I understand that:

- I will be interviewed two times for approximately 60 minutes each. Each interview will be audiotaped for the purpose of tape analysis.
- I will be asked to complete a questionnaire requiring approximately 15 minutes.
- My responses on the questionnaire will be compared with those given of other physical education specialists.
- I will be videotaped while teaching six elementary physical education classes (as unobtrusively as possible).
- All data will be kept completely confidential and pseudonyms will be used in all publications and presentations.
- This participation is entirely voluntary and I may choose to leave the study at any time.

Participant

Date

Participant Signature

Investigator Signature

APPENDIX B
CRITERIA FOR LESSON ACCEPTANCE

CRITERIA FOR LESSON ACCEPTANCE

Dear

I hope your school year is going well.

As we discussed early this year, one of my responsibilities in the project being carried out by Virginia Tech is to videotape each teacher several times during this school year. I would like to begin videotaping each of you as soon as possible. While I'm at your school I would like to videotape two lessons: one for primary students (K-3) and one for intermediate students (4-6). During each videotaping, I will ask each teacher to wear a wireless microphone and I will position the camera in a corner of the gym to remain as unobtrusive as possible.

In order for the videotape to be of maximum value to the project, there needs to be some consistency in the lesson content. For this reason, I am asking each teacher to follow these guidelines:

- Each lesson should be taught indoors and last 30 minutes.
- Each lesson should have the objective of teaching a specific skill. Appropriate skill teaching lessons would include teaching skipping, jumping and landing, balancing, stretching, throwing, catching, dribbling, transferring weight, dodging, effort concepts, relationship concepts, space awareness concepts, etc.
- Avoid teaching lessons which have as the main objective using a specific piece of equipment such as the parachute or scooter boards, etc.
- Avoid teaching or playing specific games such as dodgeball, kickball, or low organization games such as Duck, Duck, Goose and Brownies and Fairies, etc.
- Avoid doing testing such as the AAHPERD Physical Fitness Tests.

The tentative date and time for me to videotape your classes is _____ . I will call to confirm this date and time for videotaping and I will continue to follow this policy for future observations.

If you have a problem with any observation date or have any questions or concerns please call me.

Thank you very much for your assistance in this worthwhile project.

Sincerely,

APPENDIX C
MICROCOMPUTER DATA COLLECTION SYSTEM PRINTOUT

ACADEMIC LEARNING TIME
PHYSICAL EDUCATION

TEACHER: TEACHER A

SCHOOL:

S'S: 25

CONTENT:

DATE:

GRADE:

TIME:

	<u>ST 1</u>	<u>ST 2</u>	<u>ST 3</u>	<u>TOTAL</u>
#INTS	111	110	110	331
S-PACE	0/0	0/0	0/0	0/0
T-PACE	111/100	110/100	110/100	331/100

MANAGE	0/0	2/1.8	2/1.8	4/2.4
WAIT	2/1.8	4/3.6	2/1.8	8/4.8
TRANS	6/5.4	10/9	8/7.2	24/14.4
REST	3/2.7	0/0	0/0	3/1.8
CONTENT				
GENERAL	11/9.9	16/14.5	12/10.8	39/23.4

SK.PRAC	34/30.6	32/29	36/32.7	102/61.4
GAME	0/0	0/0	0/0	0/0
SCRIM	0/0	0/0	0/0	0/0
KNOW	26/23.4	20/18.1	24/21.8	70/42.1
	0/0	0/0	0/0	0/0
	0/0	0/0	0/0	0/0
	0/0	0/0	0/0	0/0
NON FOC	40/36	42/38.1	38/34.5	120/72.2
CONTENT				
P.E.	100/90	94/85.2	98/89	292/175.7

NOT ENG/PAUSE		6/5.4	6/5.4	4/3.6
	16/9.6			
WAITING	12/10.8	6/5.4	10/9	28/16.8
OFF TASK	2/1.8	0/0	2/1.8	4/2.4
NOT ENG	20/18	12/10.9	16/14.5	48/28.9
(TOTAL)				
NOT ENG	20/20	12/12.7	16/16.3	48/16.4
(LEVEL)				

ENG MOT	54/48.6	62/56.3	60/54.5	176/106
ENG COG	26/23.4	20/18.1	22/20	68/40.9
ENG IND	0/0	0/0	0/0	0/0
ENGAGED	80/72	82/74.5	82/74.5	244/146.9
(TOTAL)				
ENGAGED	80/80	82/87.2	82/83.6	244/83.5
(LEVEL)				

ALT(M)	52/46.8	54/49	50/45.4	156/93.9
NON ALT	2/1.8	8/7.2	10/9	20/12
%EASY	(96.2)	(87)	(83.3)	(88.6)
MOTOR				

APPENDIX D
ALT-PE CODING FORM

ALT-PE MICRO COMPUTER DATA COLLECTION SYSTEM

SCHOOL _____ TEACHER _____ DATE _____ PAGE ___ of ___

OBSERVER _____ REL OBSERV. _____ CLASS SIZE/GRADE _____

TIME BEGIN _____ TIME END _____ ELAPSED _____ INTERVALS _____ ALLOCATED _____

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
P																															
S																															
C																															
E																															
D																															

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
P																															
S																															
C																															
E																															
D																															

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
P																															
S																															
C																															
E																															
D																															

PACING	CONTENT GENERAL	CONTENT PHYSICAL EDUCATION	ENGAGEMENT	DIFFICULTY
Teacher (T)	Wait (W)	Practice, unspecified (P)	NOT ENGAGED	APPROPRIATE (A)
Student (S)	Transition (T)	Scrimmage (S)	Pause (P)	INAPPROPRIATE (N)
	Management (M)	Game (G)	Waiting (W)	
	Rest (R)	Knowledge (K)	Off Task (O)	
		Non-focused (N)	Motor (M)	
			(X) after Cont. Gen.	(X) after all but Motor Engagement

APPENDIX E
STUDENT TEACHER OBSERVING PEERS CODING FORM

Behavior Analysis Systems

Skill Feedback						Totals	SKFB
	Positive		Corrective		Negative		
	Specific	General	Specific	General	Specific	General	TOTALS
Class							
Group							
Individual							

Social Behavior Feedback						Totals	SBFB
	Positive		Corrective		Negative		
	Specific	General	Specific	General	Specific	General	TOTALS
Class							
Group							
Individual							

APPENDIX F
DEFINITIONS FOR PEDAGOGICAL BEHAVIOR CHECKLIST

DEFINITIONS FOR PEDAGOGICAL BEHAVIOR CHECKLIST

Behavior	Definition	Example
Provide the students with the purpose/objectives of the lesson.	Teacher verbally explains the purpose of the lesson at the beginning of class or immediately after the introductory activity.	<p>Yes -- At the start of class, or one minute after the completion of the introductory activity, the teacher verbally explains to the students the purpose or objective of the class. Example: "Today we're going to work on the overhand throw." No -- The teacher does not verbally explain the purpose or objectives of the lesson to the students at the beginning of class or within one minute of the conclusion of the introductory activity. Example: "Let's get started, everyone begin working at your station."</p>
Provide students with class rules.	Teacher verbally explains his/her rules pertaining to their expectations of student behavior.	<p>Yes -- At the beginning of class, or before starting a new activity, the teacher verbally reviews previous class rules or explains specific rules relating to that activity. Example: "One rule you must remember before we start the game is..." No -- The teacher does not explain any rules regarding student behavior at the beginning of a class or before starting a new activity. However, the teacher may explain rules after the activity has already begun. Example: "Stop! You cannot touch anyone in this game."</p>

DEFINITIONS FOR PEDAGOGICAL BEHAVIOR CHECKLIST (continued)

Behavior	Definition	Example
<p>Provide students with cognitive knowledge pertaining to the skills and strategy.</p>	<p>Teacher verbally presents cognitive information to students explaining the process/mechanics of the skill or strategy.</p>	<p>Yes -- Teacher's verbal explanation of the skill included at least one procedural/mechanical aspect of the movement or game strategy. Example: "When you throw overhand, you need to stand sideways facing your target, rotate your hips and step forward with your opposite throwing foot." No -- Teacher's verbal explanation of the skill includes no information on the procedural/mechanical aspects of the movement or game strategy. Example: "Practice throwing overhand to a partner."</p>
<p>Provide students with a demonstration of the skill.</p>	<p>Teacher presents a visual demonstration using either teacher modeling, student modeling, and/or visual aids. The demonstrator stresses how to perform the movement correctly.</p>	<p>Yes -- Students are given a complete demonstration relating to all aspects of the movement. Example: Teacher demonstrates the overhand throw by standing sideways facing the target, hip rotation, stepping with the opposite foot to the throwing arm, extending the elbow while throwing. Partial -- A partial demonstration is given to students, leaving out an important aspect of the desired movement. Example: Teacher demonstrates standing sideways facing a target, and stepping with the opposite foot to the throwing arm, but fails to demonstrate proper hip rotation and full extension of the elbow of the throwing arm. No -- Students are not presented with a visual demonstration relating to performing the movement correctly. Example: Students are told to practice throwing to a partner without demonstration.</p>

DEFINITIONS FOR PEDAGOGICAL BEHAVIOR CHECKLIST (continued)

Behavior	Definition	Example
<p>Provide students with a clear model of the organizational pattern to be used.</p>	<p>Teacher presents visually a model which demonstrates the organizational pattern to be used by students while participating in practice or activity situations. Modeling may include teacher, students, or visual aids.</p>	<p>Yes -- Students are presented with visual models of all organizational patterns to be used in the lesson. Example: Teacher uses students to demonstrate each new organizational pattern used during the lesson. Partial -- Students are presented with a visual model of at least one organizational pattern, but not all organizational patterns used in the lesson. Example: Teacher uses student to demonstrate an organizational pattern, but when a new activity starts which requires a different organization, no demonstration of new patterns is given. No -- Students are not given a visual model which demonstrates the organizational patterns of the practice or activity situation. Example: Teacher tells students to find a partner and practice throwing to each other somewhere in the gym, but does not show them how this is to be accomplished.</p>
<p>Provide students with a warm-up.</p>	<p>Teacher includes a warm-up activity at the beginning of class. Warm-ups include fitness-related activities or a short activity unrelated to the purpose or objective of the lesson.</p>	<p>Yes -- Students begin class by participating in a warm-up activity. Example: Students participate in an aerobic exercise. No -- Students are not involved in any type of warm-up activity. Example: At the beginning of class, the teacher gives a verbal and visual demonstration of the skill to be practiced. Students are told to go practice that skill.</p>

DEFINITIONS FOR PEDAGOGICAL BEHAVIOR CHECKLIST (continued)

Behavior	Definition	Example
<p>Provide students with equipment that has been pre-arranged.</p>	<p>Teacher has previously spread out and set up equipment which is to be used in class, in specific areas of the gym so students can quickly obtain or report to it efficiently.</p>	<p>Yes -- Equipment can be visually observed as being ready and positioned in a specific area of the gym before students are asked to retrieve specific pieces of equipment or apparatus. Example: Teacher has lined up and spaced playground balls around the perimeter of the gym. No -- Equipment is stored or set up in a fashion which requires students to retrieve equipment one at a time, wait while equipment is handed out individually, or wait while apparatus is properly set up and adjusted. Example: Students form a line behind each other and retrieve balls one student at a time from a ball bag.</p>
<p>Provide students with adequate opportunity for practice of skills.</p>	<p>Teacher provides students with maximum practice opportunities to learn objectives. This judgement takes into consideration cognitive information needed, activity, class size, and the amount of equipment/facilities available.</p>	<p>Yes -- Students are provided with maximum learning opportunities considering all variables. Example: Teacher has available three tumbling mats; three students are rolling on each mat at the same time. No -- Students did not receive adequate practice time due to poor teacher instructional management, or organizational techniques involving students, equipment, and facilities. Example: Teacher has available three tumbling mats; one student is rolling on each mat while the other students wait and watch.</p>

DEFINITIONS FOR PEDAGOGICAL BEHAVIOR CHECKLIST (continued)

Behavior	Definition	Example
<p>Provide students with minimum waiting time.</p>	<p>Teacher provides students with minimum waiting time by keeping students actively involved in the elements of instruction, management, or skill practice.</p>	<p>Yes -- This judgment is characterized by class starting within one minute of the scheduled time, teacher's ability to control periods of interruption to less than 30 seconds, and class ending at the designated time, but not sooner. Example: Teacher gives the class an additional task to practice while he/she establishes a conference with a parent (total time less than 30 secs.).</p> <p>No -- This judgement is characterized by class starting more than one minute after the arrival of the students, interruptions have occurred which require stopping class for more than 30 seconds and/or class ending early. Example: The teacher tells the students to sit down and do nothing as he/she talks to another teacher for more than 30 seconds.</p>
<p>Provide students with minimum management time.</p>	<p>Teacher provides students with minimum opportunities in which learning is not present. Specific management tasks include: numbering off, getting out and putting away equipment, getting into lines, changing formations.</p>	<p>Yes -- This judgment is characterized by infrequent (three or less) periods in which students are involved in management tasks. Example: Students use the same piece of equipment in two different formations during the total class period.</p> <p>No -- This judgment is characterized by frequent (four or more) periods in which students are involved in management tasks. Example: Students are required to change practice formations twice. Each change necessitates getting in line, numbering off, and getting out new equipment.</p>

DEFINITIONS FOR PEDAGOGICAL BEHAVIOR CHECKLIST (continued)

Behavior	Definition	Example
<p>Provide prompt and specific feedback directed to the total class.</p>	<p>Teacher provided the total class with specific verbal information pertaining to the mechanics of movement immediately following a practice attempt.</p>	<p>Yes -- Three or more incidences were evident when the teacher stopped the total class and gave specific verbal feedback relating to the mechanics of a specific movement. Example: Teacher interrupts the class on three occasions to give the total class corrective specific feedback and twice to give positive specific feedback. Partial -- One or two incidences were evident. No -- The teacher did not provide the total class with specific feedback. Example: During the class, the teacher gave only individual feedback.</p>
<p>Provide students with a closure to the lesson.</p>	<p>Students are provided the opportunity, at the end of the lesson, to explain what they learned during class.</p>	<p>Yes -- Teacher leads a discussion with students pertaining to the skills practiced or concepts covered. Example: The teacher calls on a specific student to demonstrate how to dribble a basketball. No -- Teacher does not review skills practiced. Example: Teacher ends the lesson by telling the students they did a good job and will see them on Friday.</p>

APPENDIX G

PEDAGOGICAL BEHAVIOR CHECKLIST FORM

PEDAGOGICAL BEHAVIOR CHECKLIST

Pedagogical Behavior	Yes	No	Partial
Provide student with:			
purpose of lesson			
class rules			
cognitive knowledge pertaining to skill			
a demonstration			
model of the organizational pattern to be used			
warm-ups			
equipment pre-arranged			
adequate opportunity to practice skills			
minimum waiting time			
minimum management time			
prompt and specific feedback to the total class			
closure to the lesson			

APPENDIX H
COMPONENTIAL ANALYSIS INTERVIEW CODING FORM

APPENDIX I
SOURCES OF INFLUENCE QUESTIONNAIRE

SOURCES OF INFLUENCE QUESTIONNAIRE

Social Security Number _____

Read each phrase, then ask yourself:

How much of an influence does this factor have on how I teach?

1. strongly negative
2. slightly negative
3. no influence
4. slightly positive
5. strongly positive

1. My gender	1	2	3	4	5
2. My age	1	2	3	4	5
3. My maturity	1	2	3	4	5
4. My experience	1	2	3	4	5
5. My own ideas	1	2	3	4	5
6. My personal skill ability	1	2	3	4	5
7. My family	1	2	3	4	5
8. My former teachers/coaches	1	2	3	4	5
9. My undergraduate coursework and training experiences	1	2	3	4	5
10. My cooperating teacher during student teaching	1	2	3	4	5
11. My colleagues teaching in the same school	1	2	3	4	5
12. My colleagues in physical education	1	2	3	4	5
13. My principal	1	2	3	4	5
14. My students	1	2	3	4	5
15. Parental/home environment of students	1	2	3	4	5
16. My schedule and time of classes	1	2	3	4	5
17. Class size	1	2	3	4	5
18. Equipment and facilities	1	2	3	4	5
19. The program requirement established by the central office (teacher manual, curriculum guide)	1	2	3	4	5
20. Evaluation procedures	1	2	3	4	5
21. The researcher videotaping me	1	2	3	4	5
22. Other (explain)	1	2	3	4	5

APPENDIX J
INTERNAL RELIABILITY PROFILE LETTER

INTERNAL RELIABILITY PROFILE LETTER

May 22, 1988

Dear

It's been a long time since I collected data for my dissertation. However, I am now in the final stages of rewriting the results and conclusions. As I explained to you during our interview, my study involves examining sources of influence on specific teacher behaviors. In order to explain the results in an interesting and concise manner, a profile was written for each teacher. A profile is an attempt to present the observational data, plus your perceived sources of influence as you talked about them in the interviews. Please bear in mind that I am interpreting data and interviews which took place two years ago during your first year in Progress County. Since that time, your teaching behaviors as well as your sources of influence may have changed. However, I am only concerned with the data collected during the 1985-86 school year. I have included a copy of the interview transcript to help you recall your responses.

I constructed the profile using your own words from the interviews. Your identity will be kept strictly anonymous.

As you read through your profile, think about the following questions:

1. Do you feel comfortable with the interview excerpts that I have selected for your profile?
2. Does any part of the profile appear to be distorted because you believe it was taken out of context?
3. Do you have any further comments?

Please indicate with an arrow in the margin of the profile wherever you have a response to any of the above questions. I would appreciate you using the enclosed response sheet for any specific comments.

Due to the time constraints under which I am working, I would appreciate your returning the profile and comments sheet in the stamped, self-addressed envelope within two weeks. If you have any specific questions, please call me at home collect. My home phone number is _____.

Thank you for the time and effort you have given to participating in the study. If you are ever planning a trip to Maine, you're welcome to stay with us.

Sincerely,

Glenn Reif

APPENDIX K
INTERVIEW ANALYSIS AND RESULTS
TEACHER A

INTERVIEW ANALYSIS AND RESULTS
Teacher A

Process Behaviors	Observation Results --Based on 5 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
Provide students with:				
Purpose of lesson	yes 100%	At the start of each class, you explain briefly the purpose of the lesson.	My undergraduate coursework and training experiences. My own idea (I need to)	5
Class rules	yes 60% no 40%	In some of your lessons, you explained or reviewed specific class rules. What factors do you think would cause teachers <u>not</u> to cover rules?	My own idea	5
Cognitive knowledge pertaining to skill	partial 40% Mean score of instructional intervals per lesson -	In your throwing and catching lesson, you gave partial information explaining how to throw.	Adequate working space (facilities) Students Previous experience with the skill.	2 5 5
	no 60%	What are some factors that would cause teachers <u>not</u> to explain or give cognitive information to their students?	My undergraduate coursework and training experiences. My own idea.	5 5
A demonstration	yes 40% partial 60%	Often you provide students with a full or partial visual demonstration of the skill being taught. Why did you give a partial demonstration?	Time Students' inability to understand Teacher's inability to give cues about a specific skill.	2 5 Not listed
			My undergraduate coursework and training experiences.	5
			Too tired	Not listed

INTERVIEW ANALYSIS AND RESULTS (continued)
Teacher A

Process Behaviors	Observation Results --Based on 5 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
<p>Provide students with: Model of the organizational pattern to be used</p>	<p>yes 40%</p>	<p>Sometimes you provide students with a model of the organizational pattern to be used.</p>	<p>My undergraduate coursework and training experiences. My experience (summer camp) Time</p>	<p>5</p>
<p>Warm-ups</p>	<p>no 60%</p>	<p>What factors would cause teachers <u>not</u> to model organizational patterns?</p>	<p>Students can understand verbal directions Teacher's own idea</p>	<p>5 5</p>
<p>Equipment already spread out and set up</p>	<p>yes 100% Mean score of non-focus intervals per lesson - 26% (highest of 5 subjects)</p> <p>yes 100%</p>	<p>You spend a lot of time in warm-ups or activities unrelated to the major skills being taught that day.</p> <p>In each of your lessons, you have your equipment already spread out and set up.</p>	<p>Cooperating teacher Fatigue Central office (fitness tests)</p> <p>My undergraduate coursework and training experiences</p>	<p>5 Not listed 4 5</p>

INTERVIEW ANALYSIS AND RESULTS (continued)
Teacher A

Process Behaviors	Observation Results --Based on 5 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
<p>Provide students with: Adequate opportunity to practice skills</p>	<p>yes 100% Mean score of activity intervals per lesson - 33% Mean score of engaged motor intervals per lesson - 45% Mean score of ALT-PE interval per lesson - 38%</p>	<p>You provide your students with adequate opportunities to practice skills and above average ALT-PE.</p>	<p>My undergraduate coursework and training experiences.</p>	<p>5</p>
<p>Minimum management time</p>	<p>yes 100% Mean score of management intervals - 24%</p>	<p>You spend a minimum amount of time as possible on management tasks. Are there some factors that could cause teachers to have higher amounts of management time in certain lessons?</p>	<p>My undergraduate coursework and training experiences. Facilities and the amount of equipment.</p>	<p>5 2</p>

INTERVIEW ANALYSIS AND RESULTS (continued)
Teacher A

Process Behaviors	Observation Results --Based on 5 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
Provide students with: Minimum waiting time	yes 80% Mean score of waiting interval per lesson - 8% no 20%	Where did you learn to keep waiting time low? What are factors that would cause teachers to have more waiting time in some lessons than in other lessons? Where did you learn to design lessons?	My own idea My students (only there for half an hour) Specific activity and method of instruction. My undergraduate coursework and training experiences.	5 5 Not listed 5
Verbal skill feedback	71%	Where did you learn to give skill feedback?	My undergraduate coursework and training experiences.	5
Skill feedback directed to individual	88%	How did you learn to give skill feedback to individuals?	My undergraduate coursework and training experiences.	5
Prompt and specific feedback to the total class	no 80% partial 20%	Sometimes teachers stop the total class and give skill feedback to the total class. You don't.	Facilities are too noisy.	2
More positive general skill feedback than positive specific skill feedback	positive general 43% positive specific 21%	You give more positive general skill feedback than positive specific skill feedback.	Class size Facilities	4 2

INTERVIEW ANALYSIS AND RESULTS (continued)
Teacher A

Process Behaviors	Observation Results --Based on 5 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
Provide students with: More corrective specific skill feedback than general corrective skill feedback	corrective specific 33% corrective general 4%	You give more corrective specific skill feedback than general corrective skill feedback	My own idea	5
More corrective specific social feedback than corrective general social feedback	corrective specific 50% corrective general 14%	You give more corrective specific social feedback than corrective general social feedback.	My undergraduate coursework and training experiences (child development).	5
Closure to the lesson	yes 80%	You close your lessons by briefly reviewing the purpose of the lesson.	Cooperating teacher My undergraduate coursework and training experiences.	5

APPENDIX L
INTERVIEW ANALYSIS AND RESULTS
TEACHER B

INTERVIEW ANALYSIS AND RESULTS
Teacher B

Process Behaviors	Observation Results --Based on 6 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
Provide students with:				
Purpose of lesson	yes (4) 67% no (2) 33%	You started four of your lessons, two throwing/catching, balance beam and tripod class by explaining the purpose of the lessons to your students. What are some factors that would cause teachers not to explain the purpose of a lesson?	Cooperating teacher Time Number of students Teacher's own idea (waste of time)	5 1 1 5
Class rules	yes (1) 17% partial (5) 83%	You like to explain specific rules pertaining to the lesson while the students were performing the skills. Why?	My own idea But indirectly related to undergraduate coursework and training experiences	5
Cognitive knowledge pertaining to skill	yes (1) 17% partial (3) 50% Mean score of instructional interval per lesson - 11.2% no (2) 33%	In three of your lessons (two throwing/catching and tripod) you stated how to perform part of the movement while students were practicing. Why? What are some factors that would cause teachers not to explain or give cognitive information to their students?	Undergraduate coursework (peer teaching) Own idea	5 5

INTERVIEW ANALYSIS AND RESULTS (continued)
Teacher B

Process Behaviors	Observation Results --Based on 6 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
Provide students with: A visual demonstration	yes (3) 50%	Sometimes you give a visual demonstration to the class. Why and where did you learn to do this?	Cooperating teacher	5
	no (3) 50%	Would there be times when you would not give a visual demonstration?	Own idea (to evaluate student skills)	5
Model of the organizational pattern to be used	no (5) 83%	You chose not to give a demonstration of the exact organizational pattern. Why not?	Number of students Skill being taught	1
Warm-ups	yes (6) 100% Mean score of non-focus interval per lesson - 10.9%	You begin each lesson by spending a small amount of time in warm-ups, jogging and doing callsthenics.	Own idea	5
Equipment already spread out and set up	yes (6) 100%	In each of your lessons, you have your equipment already spread out and set up.	My undergraduate coursework and training experiences	5

INTERVIEW ANALYSIS AND RESULTS (continued)
Teacher B

Process Behaviors	Observation Results --Based on 5 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
Provide students with: Adequate opportunity to practice skills	Mean score of activity interval per lesson - 52.4% Mean score of engaged motor intervals - 40.9% Mean score of ALT-PE intervals per lesson - 29.1%	You provide your students with a lot of activity time. You provide your students with average amounts of academic learning time compared to the other teachers. What factors would cause you to have lower amounts of academic learning time?	My undergraduate coursework and training experiences. Number of students	5 1
Minimum management time	yes (6) 100%	You spend a minimum amount of time in management tasks such as getting out and putting away equipment, getting into lines, and changing formations.	My previous experience (recreation department)	4
Minimum waiting time	yes 100% (lack of equipment)	Your waiting times are rather high, especially in your kicking (39.1), balance beam (35.5), and tripod lessons (31.3).	My undergraduate training Number of students Equipment Teacher's own idea of organization of lesson	5 1 2 5

INTERVIEW ANALYSIS AND RESULTS (continued)
Teacher B

Process Behaviors	Observation Results --Based on 6 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
<p>Provide students with:</p> <p>Verbal skill feedback</p> <p>Total number of feedbacks</p> <p>Skill feedback directed to individual</p> <p>Prompt and specific feedback to the total class</p> <p>More positive general skill feedback than positive specific skill feedback</p> <p>More corrective specific skill feedback than corrective general skill feedback</p>	<p>Skill feedback 80%</p> <p>2.38 per minute 79 per class</p> <p>78% skill feedback directed to individual</p> <p>16% skill feedback to the total class 23% behavior feedback to the total class partial (4) 67% no (2) 33%</p> <p>positive general 44% positive specific 9%</p> <p>corrective specific 37% corrective general 3%</p>	<p>What influenced you to give such a high percentage of skill related feedback?</p> <p>You are above average in the number of total feedbacks you give to students.</p> <p>You give a lot of skill feedback directed to individuals.</p> <p>Sometimes teachers stop the class and give skill feedback to the total class, rather than to individuals. You do this sometimes but not often.</p> <p>You give more positive general feedback than positive specific skill feedback.</p> <p>You give more corrective specific skill feedback than corrective general skill feedback.</p>	<p>My undergraduate coursework and training experiences.</p> <p>My undergraduate coursework and training experiences.</p> <p>My undergraduate coursework and training experiences.</p> <p>My own idea</p> <p>My own idea</p> <p>My undergraduate coursework and training experiences.</p>	<p>5</p> <p>5</p> <p>5</p> <p>5</p> <p>5</p> <p>5</p>

INTERVIEW ANALYSIS AND RESULTS (continued)
Teacher B

Process Behaviors	Observation Results --Based on 6 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
<p>Provide students with:</p> <p>More corrective specific social feedback than corrective general social feedback or positive specific social feedback</p> <p>Closure to the lesson</p>	<p>corrective specific 51% corrective general 29% positive specific 0% no 100%</p>	<p>You give more corrective specific social feedback than corrective general social feedback.</p> <p>Some teachers end their lessons by reviewing the purpose of what was taught. You didn't do that.</p>	<p>My own idea</p> <p>My own idea</p>	<p>5</p> <p>5</p>

APPENDIX M
INTERVIEW ANALYSIS AND RESULTS
TEACHER C

INTERVIEW ANALYSIS AND RESULTS
Teacher C

Process Behaviors	Observation Results --Based on 6 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
Provide students with:				
Purpose of lesson	yes (5) 83%	You usually start your classes by explaining the purpose of the lesson to your students.	My cooperating teacher Facilities	5 2
Class rules	yes (2) 33%	Some teachers like to start class by explaining or reviewing class rules at the beginning of the lesson. You did this during dribbling lessons.	My own idea	4
	partial (3) 50%	At times, you chose to explain some rules as the lesson was in progress (throwing, striking, dribbling).	My own idea	4
	no (1) 17%	What are factors that would cause teachers not to explain rules?	My students	3
Cognitive knowledge pertaining to skill	yes (1) 17% partial (5) 83%	In most of your lessons, you gave a partial explanation of how to perform the movement while students were practicing.	My undergraduate coursework and training experiences My former coaches	5 5
A visual demonstration	yes (1) 17% partial (2) 33%	Sometimes you give a partial visual demonstration of the skill to your students.	My own idea	4
	no (3) 50%	At other times, you chose not to give a visual demonstration.	My own idea	4

INTERVIEW ANALYSIS AND RESULTS (continued)
Teacher C

Process Behaviors	Observation Results --Based on 6 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
Provide students with:				
Model of the organizational pattern to be used	yes (2) 33% no (4) 67%	Some teachers like to give a demonstration of the exact organizational pattern students will be in. You chose not to do this.	My own idea	4
Warm-ups	yes (5) 83% Mean score of non-focus intervals per lesson - 9.1%	In the beginning of your lessons, you spend time doing callsthetic type warm-ups.	My own idea	4
Equipment already spread out and set up	yes (6) 100%	In each of your lessons, you have your equipment already spread out and set up.	My undergraduate coursework and training experiences.	5
Adequate opportunity to practice skills	yes (5) 83% Mean score of activity intervals per lesson - 31.5% Mean score of of ALT-PE intervals per lesson - 21.5%	You provided your students with adequate activity time by giving them their own piece of equipment. Sometimes students have limited amounts of activity even though they have their own piece of equipment. What are some factors that cause teachers to have lower amounts of ALT?	My undergraduate coursework and training experiences My cooperating teacher My class size	5 5 1
			My class size	1

INTERVIEW ANALYSIS AND RESULTS (continued)
Teacher C

Process Behaviors	Observation Results --Based on 6 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
Provide students with:				
Minimum management time	no 67% Mean score of management intervals per lesson - 41.6%	What are the specific factors which cause you to have higher amounts of management time in certain lessons?	My students My class size	3 1
Minimum waiting time	yes 100% Mean score of waiting intervals per lesson - 12.0%	Your waiting times are below average compared to the other teachers.	My undergraduate coursework and training experiences. My own idea	5 4
Verbal skill feedback	62% skill related	A large portion of your verbal feedbacks were skill related.	My undergraduate coursework and training experiences	5
Skill feedback directed to individuals	75% directed to individuals	You give a lot of skill feedback to individuals.	My undergraduate coursework and training experiences	5
Prompt and specific skill feedback directed to the whole class	22% directed to the whole class no 83%	Sometimes teachers stop the lesson and give total class skill feedback rather than give it to individuals. You chose not to do this.	My class size	1
More positive general than positive specific skill feedback	37% positive general	When you give skill feedback, you give more positive general feedback than positive specific feedback.	My own idea	4

INTERVIEW ANALYSIS AND RESULTS (continued)
Teacher C

Process Behaviors	Observation Results --Based on 6 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
<p>Provide students with:</p> <p>More corrective specific skill feedback than corrective general skill feedback</p> <p>More corrective specific social feedback than corrective general social feedback or positive specific social feedback</p>	<p>corrective specific 54%</p> <p>corrective general 5%</p> <p>corrective specific 62%</p> <p>corrective general 12%</p> <p>positive specific 5%</p>	<p>When you give corrective skill feedback, it's much more specific than general.</p> <p>In terms of social behavior feedbacks, some teachers like to give positive specific feedback directed to the class or individuals. You give more corrective specific directed to individuals.</p>	<p>My undergraduate coursework and training experiences.</p> <p>My class size</p>	<p>5</p> <p>1</p>
<p>Closure to the lesson</p>	<p>no (5) 83%</p>	<p>What are factors that would cause you not to go over the purpose of the lesson?</p>	<p>Time</p>	<p>1</p>

APPENDIX N
INTERVIEW ANALYSIS AND RESULTS
TEACHER D

INTERVIEW ANALYSIS AND RESULTS
Teacher D

Process Behaviors	Observation Results --Based on 6 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
Provide students with:				
Purpose of lesson	yes (6) 100%	At the start of each class, you briefly explain the purpose of the lesson.	My own idea My undergraduate coursework and training experiences.	5
Class rules	yes (4) 67% partial (1) 17% no (1) 17%	You explained or reviewed specific class rules with your students in a majority of your lessons.	My own idea	5
Cognitive knowledge pertaining to skill	yes (1) 17% no (2) 33% partial (3) 50% Mean score of instructional intervals per lesson - 1.5%	You use a problem-solving approach to teaching by allowing students to practice a skill without an explanation of how to perform the skill.	My undergraduate coursework and training experiences.	5
A visual demonstration	no (4) 67% partial (2) 33%	There are numerous methods for teaching a skill. Some teachers use a visual demonstration performed by either a student or the teacher. You chose not to use a visual demonstration. Why do you give a partial demonstration?	My own idea	5
	partial (2) 33%		My students	5

INTERVIEW ANALYSIS AND RESULTS (continued)
Teacher D

Process Behaviors	Observation Results --Based on 6 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
Provide students with: Model of the organizational pattern to be used	no (4) 67% partial (2) 33%	Some teachers like to give a demonstration of the exact organizational patterns students will be in. You chose not to do this.	My students	5
Warm-ups	yes (6) 100%	You begin each lesson by having students practice dribbling with a playground ball.	My own idea	5
Equipment already spread out and set up	no (6) 100%	You give out equipment in an orderly fashion, either giving it out yourself or letting several students at a time retrieve equipment from boxes or bags.	My own idea	5
Adequate opportunity to practice skills	yes (6) 100% Mean score of activity interval per lesson - 45.5% Mean score of engaged motor intervals per lesson - 41.1% Mean score of ALT-PE interval per lesson - 34.6%	You provide your students with a lot of activity time by giving them their own piece of equipment.	Time My own idea	5 5

INTERVIEW ANALYSIS AND RESULTS (continued)
Teacher D

Process Behaviors	Observation Results --Based on 6 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
Provide students with: Minimum management time	no (6) 100%	You place a lot of emphasis on class management.	My undergraduate coursework and training experiences.	5
Minimum waiting time	no (5) 83% yes (1) 17% Mean score of waiting time per lesson - 21.1%	Are there factors that cause you to have more waiting time in some of your classes than in others?	Facilities Number of students (class size)	2 1
Total number of feedbacks	3.08 per minute 104 per class Skill 66% Social 34%	You are above average in the number of total feedbacks that you give students.	My own idea	5
Skill feedback directed to individual	Skill 89%	You give a lot of skill feedback directed to individuals.	Former teachers and coaches.	5
Prompt and specific feedback to the total class	no (4) 67% partial (2) 33% Skill feedback to the total class 9% Social feedback to the total class 19%	Sometimes teachers stop the class and give the whole class skill feedback rather than feedback to individuals.		
More positive general skill feedback than positive specific skill feedback	positive general - 35% positive specific - 4%	You give more positive general feedback than positive specific skill feedback.	My own idea	5

INTERVIEW ANALYSIS AND RESULTS (continued)
Teacher D

Process Behaviors	Observation Results --Based on 6 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
<p>Provide students with:</p> <p>More corrective specific skill feedback than corrective general skill feedback</p> <p>More corrective specific social feedback than corrective general social feedback or positive specific social feedback</p>	<p>corrective specific - 55%</p> <p>corrective general - 3%</p> <p>social behavior - 34%</p> <p>corrective specific - 46%</p> <p>corrective general - 20%</p> <p>positive specific - 2%</p> <p>yes (5) 83%</p> <p>no (1) 17%</p>	<p>You give more corrective specific skill feedback compared to corrective general feedback.</p> <p>You give a lot of social behavior feedback.</p> <p>Some teachers like to give positive social feedback.</p> <p>You give more corrective social feedback.</p> <p>You end your lessons by reviewing briefly the purpose of the lesson.</p>	<p>My own idea</p> <p>My own idea My undergraduate coursework and training experiences.</p> <p>My undergraduate coursework and training experiences.</p> <p>My colleagues in P.E.</p>	<p>5</p> <p>5</p> <p>5</p> <p>5</p> <p>4</p>

APPENDIX O
INTERVIEW ANALYSIS AND RESULTS
TEACHER E

INTERVIEW ANALYSIS AND RESULTS
Teacher E

Process Behaviors	Observation Results --Based on 6 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
Provide students with:				
Purpose of lesson	yes (6) 100%	At the start of each class, you established a time to explain the purpose of the lesson.	Program requirement established by the central office.	4
Class rules	yes (3) 50% partial (1) 17% no (2) 33%	In some of your lessons, you explained or reviewed specific class rules. What are some factors that would cause teachers not to cover rules?	My undergraduate coursework and training experiences Activity and my students	4 5
Cognitive knowledge pertaining to skill	yes (6) 100% Mean score of instructional interval per lesson - 23.9%	In each of your lessons, you provide students with cognitive information which explains how to perform the skill correctly.	My undergraduate coursework and training experiences.	4
A visual demonstration	yes (1) 17% partial (3) 50% no (2) 33%	You give a partial visual demonstration of the skill in some of your lessons. Why do you use students as demonstrators?	My own idea My experiences	5 5
Model of the organizational pattern to be used	yes (2) 33% no (4) 67%	Some teachers like to give a demonstration of the exact organizational pattern students will be in. In the majority of your lessons, you chose not to demonstrate the organizational pattern.	My experiences	5

INTERVIEW ANALYSIS AND RESULTS (continued)
Teacher E

Process Behaviors	Observation Results --Based on 6 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
Provide students with:				
Warm-ups	yes (6) 100%	In the beginning of each lesson, you spend time in either fitness or activities unrelated to the major skill being taught that day.	Student teacher	5
Equipment already spread out and set up	yes (6) 100%	In each of your lessons, you have your equipment already spread out and set up.	Student teacher	5
Adequate opportunity to practice skills	yes (6) 100%	You provide your students with adequate activity time by providing each student with their own piece of equipment.	Student teacher	5
Minimum management time	yes (4) 67% no (2) 33%	Your students spend a minimum amount of time in management tasks such as getting out and putting away equipment, getting into lines, and changing formations.	My experience in teaching	5
Minimum waiting time	yes (6) 100%	What are factors that might influence teachers to have more waiting time in some classes?	My limited amount of equipment My experience	4 5

INTERVIEW ANALYSIS AND RESULTS (continued)
Teacher E

Process Behaviors	Observation Results --Based on 6 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
Provide students with: Verbal feedback	1.66 59 mean per class	Some teachers give a lot of feedback to students during class. Your feedback rates are below the mean.	My undergraduate coursework and training experiences	5
Verbal skill feedback	skill feedback 79%	A large portion of your verbal feedbacks are skill related.	My experiences	5
Skill feedback directed to individual	Skill feedback directed to individuals - 56%	You give a lot of skill feedback directed to individuals.	My experiences	5
Prompt and specific feedback to the total class	yes (2) 33% no (2) 33% partial (2) 33%	Sometimes you stopped the lesson and gave the total class skill feedback.	My experiences	5
More positive general skill feedback than positive specific skill feedback	positive general - 32% positive specific - 10%	You give more positive general skill feedback than positive specific skill feedback.	My own idea	5
More corrective specific skill feedback than corrective general skill feedback	corrective specific - 58% corrective general - 0%	You give more corrective specific skill feedback than corrective general skill feedback.	My experiences	5

INTERVIEW ANALYSIS AND RESULTS (continued)
Teacher E

Process Behaviors	Observation Results --Based on 6 Observations	Interview Question (What influenced you to do this?)	Source of Influence	Questionnaire Rating of Source of Influence
<p>Provide students with:</p> <p>More corrective specific social behavior feedback than corrective general social feedback or positive specific social feedback</p> <p>Closure to the lesson</p>	<p>corrective social - 69%</p> <p>corrective general social - 6%</p> <p>positive specific social - 6%</p> <p>yes 100%</p>	<p>You give more corrective specific social behavior feedback than positive specific social behavior feedback.</p> <p>At the close of your lesson, you bring your students back to the squad and review in detail what was taught.</p>	<p>My own idea</p> <p>Standards of Learning (program requirement established by the central office)</p>	<p>5</p> <p>4</p>

VITA

VITA

I was born on March 8, 1949. I attended the Philadelphia Public Schools and graduated from Olney High School in 1966.

After working two years, I decided to return to school and enrolled at the University of Dubuque. I graduated in 1971, with a B.A. degree in physical education. Upon graduating, I was hired by the Dubuque Community School System where I taught grades K-6 and adaptive physical education for three years.

In 1975, I entered the University of Maine's physical education internship program and taught grades K-6 while working on my Master's degree.

After graduating in 1976, I was hired by the University of Maine to teach method classes in physical education and supervise student teachers. In 1983, I was granted a three year leave of absence to pursue an Ed.D. in Curriculum and Instruction at Virginia Tech. I completed my degree in 1990.

Currently, I am employed at the University of Maine and live in Brewer, Maine, with my wife, Amy, and three daughters, Lindsay, Gretchen and Michaela.