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THE EFFECTS OF JOINT SUPERVISION ON THE TEACHING EFFECTIVENESS OF ELEMENTARY PHYSICAL EDUCATION STUDENT TEACHERS

The Ohio State University Ph.D. 1983

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THE EFFECTS OF JOINT SUPERVISION ON THE
TEACHING EFFECTIVENESS OF ELEMENTARY
PHYSICAL EDUCATION STUDENT TEACHERS

DISSER TATION
Presented in Partial Fulfillment of the Requirements for
The Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

by
Robin Diane Reese, B.S., M.S., M.A.

* * * * *
The Ohio State University
1983

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Dr. Edward Coates

Department of Physical
Education, School of
Health, Physical Educa-
tion and Recreation
To elementary school children everywhere.

It is for all of you that I continue to grow professionally.
ACKNOWLEDGEMENTS

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Dorothy Geiger deserves recognition for typing this manuscript. It certainly was not an easy task.

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CHAPTER I

INTRODUCTION

Education and educators have a long history of low status and are continually under attack in our society. Until recently, this was partly attributable to an insufficient scientific basis for the art of teaching (Gage, 1978). That is, we lacked knowledge of functional, replicable relationships among teaching and learning variables, classified by Duncan and Biddle (1974) as presage, context, process, and product variables. During the last fifteen years, however, more has been accomplished in terms of understanding these relationships and the essence of effective teaching in schools than was achieved during the previous one hundred years (Siedentop, 1983). This breakthrough resulted when strategies were developed and utilized by researchers to systematically observe teachers in schools, secure reliable data, and describe actual situations.

While the search for more effective teaching practices continues, teacher educators presently have access to results that are reasonably consistent, and, according to Siedentop (1983):
... come together to form a fairly conclusive portrait of what constitutes effective teaching in today's schools, if academic achievement in basic skills and positive attitudes toward school and self are used as criteria by which to judge effectiveness. The amount of confirming evidence from different studies has grown sufficiently to begin to warrant the generalization of this pattern of effective teaching to different subject matters and different kinds of settings than the ones in which the results were originally determined.

The effective teacher is one who finds ways to keep students appropriately engaged in the subject matter a high percentage of the time and does so without resorting to coercive, negative, or punitive classroom techniques (p. 41).

Thus, the main ingredients of effectiveness appear to be those that keep students appropriately engaged in the learning task a high percentage of the available time, within a generally positive climate. A variety of teaching techniques could be used by preservice and inservice teachers to achieve these goals.

Unfortunately, dissemination of research is slow and many teachers simply have not sought out the information on teacher effectiveness that is available. "The hoary myth that teachers will read research and devise applications for the decisions they must make, is discredited by simple observation" (Locke, 1977, p. 3). Even those who have the potential to influence teacher behavior (teacher educators, supervisors, textbook authors, and administrators) seldom keep current. Those who do, often
share the knowledge with students in the form of a lecture or discussion with the underlying assumption that it will be applied in the practice teaching situation.

While practice teaching may have unique value in confronting beginning teachers with reality, promoting professional identity, and/or testing a commitment to teaching, there is little evidence that teaching improves with experience alone (Gage and Berliner, 1979). If it did, "... teachers would automatically improve in performance as they gained more years on the job" (Gage, 1978, p. 45). At least nine studies have shown only a very low correlation, if any, between years of teaching experience and the average achievement of the teacher's students (Rosenshine, 1971).

If teaching were defined more narrowly as the performance of a set of specific teaching skills, teacher preparation programs would need to be structured in a way that would help preservice teachers master these skills. In recent years, attempts to do this have led to the use of microteaching (Allen and Ryan, 1969), videotaping (Phillips, 1972; Tuttle, 1972), minicourses (Borg, Kelley, Langer and Gall, 1970), discrimination training (Wagner, 1973), interviews (Good and Brophy, 1974), and teacher training products (Gage, 1978). The intent of each is to
equip prospective teachers with a clear understanding and a working knowledge of the teacher effectiveness skills they should utilize during student teaching so that their teaching style might become more consistent with what current research says about effective teaching. The underlying assumption is that student teachers who understand teaching skills and are able to perform them in a peer-teaching or laboratory setting, will be able to transfer their knowledge and ability to the public school setting. In the end, the critical test will be their performance during student teaching.

Research on student teacher supervision, therefore, needs to focus on what might be the most efficient means of achieving and then maintaining those desired behavior changes. This is especially important in lieu of Mosher and Purpel's (1972) review of supervision research which led to the inescapable conclusion "that there is virtually no research suggesting that supervision of teaching, however defined or undertaken, makes any difference" (p. 50). Since then, the research base for teacher effectiveness has grown (Gage, 1978; Berliner, 1980), and supervisors have access to findings that demonstrate meaningful relationships between select teacher behaviors and student achievement. The impact has been great
(McNeil, 1982). Informed supervisors now emphasize staff development programs aimed at getting teachers to utilize direct instruction and maximize time spent on meaningful and comprehensible tasks.

Since 1972, a large part of the Behavioral Analysis Research Program in Physical Education and Sport at The Ohio State University focused on the student teaching experience and eventually led to the development of a data based supervision system. The major results from the set of related doctoral dissertations that were completed by Ph.D. students in physical education who were specializing in teacher education have been summarized by Siedentop (1981). The series of studies showed that teacher behavior can be defined clearly enough to be observed reliably by supervisors, cooperating teachers or peer intern students. Teacher behavior skills can be mastered in a short period of time if the training program is well prepared, and changes can be typically achieved in the first two teaching sessions after intervention. Maintenance of intervention is best achieved through follow-up programming and feedback. The individual student teacher, and the frequency of supervision will determine the number of changes that can be achieved within a given time period. Interns can utilize behavior change programs themselves
while they are involved in their student teaching experience. The data based approach to supervision was generally well received by interns and cooperating teachers. As a result of the Behavioral Analysis Research Program, Siedentop (1981) was convinced:

... that there is a vast reservoir of supervision talent waiting to be trained and utilized. For universities to persist in neglecting this talent is economically foolish and pedagogically counterproductive (p. 36).

**Purpose and Significance of the Study**

The purpose of this study was to analyze the effects of joint supervision on the teaching effectiveness of elementary physical education student teachers.

Joint supervision involved the university supervisor, trained assistant, cooperating teacher, peer observer, and student teacher in a close working relationship. Each was responsible for collecting data and providing feedback on designated teacher behaviors. The need for joint supervision arose from the commonsense realization that a weekly visit by the university supervisor was not sufficient. Student teachers have a strong desire for help, for involvement with other professionals, for feedback on instructional processes and outcomes, and for new ideas. Student teachers typically receive too little instructional
supervision and what they do receive is often of limited use. According to Eisner (1982),

Our most ingrained habits, the things we do because of the kinds of needs we have, are not likely to be changed by a brief conversation or a paragraph or two of recommendations prepared by a supervisor. Such change requires substantial attention and support (p. 61).

The concept of peer supervision, though still underdeveloped, provides one solution. Student teachers, placed in pairs, would be able to provide each other with immediate help, practical suggestions, and support in times of difficulty and uncertainty. The advantage would be proximity, immediacy, and a first-hand understanding of the other's situation (Alfonso and Goldsberry, 1982). Frequently, student teachers in elementary schools have cooperating teachers who are not skilled in the performance of those tasks most directly related to teaching physical education and the improvement of it. Thus, student teachers who need help or wish to seek an opinion have no one to turn to.

Recognition by supervisors that student teachers turn to each other with problems and new ideas is long overdue; it is time for supervisors to explore the value of this peer approach to professional growth by organizing
and coordinating these collaborative efforts. The value of observing another teacher has long been recommended as a professional development tool for teachers (Wiles, 1955). When combined with post-observation conferences, it might become an even more powerful tool for enhancing the effectiveness of student teachers.

A peer supervision model alters, but does not diminish, the role of the university supervisor. Alfonso and Goldsberry (1982) have described the supervisor's role as follows:

The supervisor must provide training in observation and conferral techniques, must model both the techniques and colleagueship, and must arrange time for training and for peer review and conferral. As peer review is implemented, the supervisor serves both as a resource for process improvement and as the initiator and model for evaluation of the process. . . . The payoff is active involvement in a collaborative effort to improve instruction--to think that meaningful improvement can occur without such an investment is truly wishful thinking (p. 102).

In terms of teacher effectiveness, student teachers in the present study were encouraged to establish a positive learning environment and keep students "on-task" by distributing their attention equally among students, using student names in interactions, and positively reinforcing those students who followed designated rules, behaved appropriately, and performed skills correctly or solved
movement problems creatively. Student teachers were also encouraged to increase the percent of time their students were actively involved in the learning tasks by decreasing the percent of time spent in transition and/or management.

The intent of this study was to utilize joint supervision, a package of detailed lesson plans, and applied behavior analysis technology to help student teachers acquire and maintain the designated teacher effectiveness skills and techniques described above.

**Research Questions**

There are eight specific questions this study attempted to answer through joint supervision of elementary physical education student teachers.

1. Can peer observers be trained to collect reliable data on ten designated teacher behaviors?

2. Will graphic analysis of data reveal observable changes in eleven designated teacher behaviors, following intervention, for eight student teachers in an experimental group?

3. Can student teachers in an experimental group achieve significantly higher mean rates or percentages of desirable teacher behaviors following planned intervention?
4. Can student teachers in an experimental group demonstrate significantly lower mean rates or percentages of undesirable teaching behaviors following planned intervention?

5. Will mean rates and percentages for ten teacher behaviors change significantly for six members of a control group during their student teaching experience?

6. Can student teachers in an experimental group achieve significantly higher mean rates or percentages for desirable teaching behaviors, than student teachers in a control group?

7. Can student teachers in an experimental group demonstrate significantly lower mean rates or percentages for undesirable teaching behaviors, than student teachers in a control group?

8. Will use of a Quality Instruction Profile by the university supervisor, cooperating teacher, peer observer and student teacher provide feedback that can result in more effective teaching?

Limitations

1. The study was limited to the observation of eight student teachers in an experimental group and six student teachers in a control group.
2. The study was limited to the observation of student teachers in six suburban and two urban settings.

3. The study was limited to the observation of physical education student teachers in the primary grades.

4. The observation of teacher and student behavior was limited to specific and precisely defined behaviors.

5. Objective observation procedures were limited to interval recording, duration recording, and group time sampling.
CHAPTER II

REVIEW OF RELATED LITERATURE

The growing concern over the state of public education in the past two decades has had an impact on the quality of teacher effectiveness and supervision research. A resultant trend has been the training of preservice and inservice teachers in specific skills that correlate with student achievement.

The purpose of the present study was to analyze the effects of joint supervision on the acquisition and maintenance of selected teacher behaviors by elementary physical education student teachers. This chapter will show how the study evolved from teacher effectiveness research and a supervision research program that has been successful in changing student teacher behaviors in naturalistic settings (Siedentop, 1981). The chapter is divided into two sections:

1. Synthesis of recent research on teacher effectiveness and implications for supervision
2. Review of contemporary supervision practices and programs
Synthesis of Recent Research on Teacher Effectiveness and Implications for Supervision

A research basis for guiding supervisors has been slow in coming. Following forty years of inconclusive teaching effectiveness research, Barr (1961) finally recognized the need for educators to identify the criterion that constitutes effective teaching. One of his most important conclusions was that the constituents are not in teacher, pupil, or situation, but in the relationships that exist among the three at any given time and place. Gage (1978), a proponent of this approach, recommended instructional treatments that combine teacher variables found to correlate with pupil achievement. He believed that such combinations would help overcome the failure of finding significant correlations due to small sample size. Combinations that were found to improve achievement were further analyzed to show the relative influence of the individual components.

In the last several years teacher effectiveness research utilizing this process-product paradigm has expanded, yielding consistent, sensible, replicated findings for classroom researchers investigating the liaison between teacher behavior and student achievement (Brophy and
This greatly improved research effort began in the early 1970s with several large scale field correlational studies that were funded by the National Institute of Education (Stallings and Kaskowitz, 1974; Soar and Soar, 1972; McDonald and Elias, 1976; Tikunoff, Berliner, and Rist, 1975; Brophy and Evertson, 1974, 1976; Good and Grouws 1975).

These studies varied in the types of teachers and students included and the kinds of variables addressed and methods used, but there was sufficient overlap and replication to provide dependable knowledge about relationships between types of teaching, . . . and student learning of basic skills in the elementary grades. . . . (Brophy, 1979a, p. 1)

Taken together, all of the references cited earlier provide strong support for the contention that teachers make a difference. That is, certain teachers have been found to elicit more learning than others, and their success is tied to consistent differences in teaching behavior. (Rosenshine 1976, 1979; Medley, 1977, 1979; Berliner, 1979; Borich, 1977; Good, 1979; and Brophy, 1979). Most of these differences involve relatively specific methods that can be observed objectively and
maximize what Brophy and Evertson (1976) referred to as "pupil engaged time," Hall and his colleagues (1977) named "opportunity to respond," and Berliner and his coworkers (1976) called "academic learning time." Utilizing different scientific orientations, these three groups of researchers reached the same conclusion: a key variable in student achievement is the amount of time a student is successfully engaged in making academic responses. Research conducted through the Juniper Garden's Children's Project, affiliated with the Bureau of Child Research at the University of Kansas, was rooted in applied behavior analysis. Results of the data showed that low income minority children with low IQ's and achievement scores received infrequent opportunities to respond academically, but that direct intervention could result in increased academic engaged time and that this increase would lead to increases in student achievement (Hall, Delquadri, and Harris, 1977).

In the final report of the Texas Teachers Effectiveness Program, Brophy and Evertson (1976) cite "keeping students actively engaged" as one of the most consistent variables across socio-economic status and age levels.

Berliner's (1979) inquiry into the use of instructional time, from which the concept of academic learning
time emerged, was influenced by the research literature and those methodological paradigms for research that were available in the middle of the 1970s. During that time, a cluster of variables that related consistently to achievement in reading and math were identified and have since been labeled direct instructional variables (Berliner, 1979; Medley, 1979; Rosenshine, 1979). They include the following:

1. **Strong teacher leadership qualities** that are manifested in clear, direct statements informing students what they should do, where they should do it, and for how long.

2. **Increased time and feedback** focused on academics.

3. **Increased coverage of context.**

4. **Careful teacher monitoring** that kept children engaged in their assigned tasks.

5. **Factual, concrete, low-level questioning.**

6. **A warm, democratic, convivial and orderly learning environment.**

7. **Teacher and student attendance**

Scrutiny of these variables led the researchers (Berliner, 1979) to the conclusion that:
Elementary school teachers who find ways to put students into contact with the academic curriculum and to keep them in contact with that curriculum while maintaining a convivial classroom atmosphere are successful in promoting achievement in reading and mathematics (p. 122).

That summary statement led to a large scale investigation of various aspects of instructional time and was named the Beginning Teacher Evaluation Study (BTES). BTES was funded by the National Institute of Education, administered by the California Commission for Teacher Preparation and Licensing, and conducted by the Far West Laboratory for Educational Research and Development (Fisher et al, 1978). Three measures of time were identified as the important variables through which teacher behavior and classroom characteristics influence student achievement. The first of these, allocated time, refers to the time a teacher designates for instruction and/or practice in a given subject matter area. The second measure of time, engaged time, refers to that portion of allocated time that a student is paying attention or is engrossed in the subject matter. And the third measure of time, academic learning time (ALT), refers to that portion of engaged time when the student is involved with materials or participating in activities that are appropriate to his/her abilities and easy enough to insure a high success rate.
The teaching behaviors that influence student learning involved five interrelated functions identified by Fisher et al (1981) as:

1. diagnosis--assessing the current knowledge, skill levels, strengths and weaknesses of students
2. prescription--choosing appropriate instructional goals, activities, groupings and scheduling
3. presentation of learning tasks
4. monitoring student's work
5. providing feedback

The researchers stressed the fact that each of these functions could be fulfilled by a number of different behaviors.


The amount of time that teachers allocate to instruction in a particular content area is positively associated with student learning in that content area (p. 6).

The proportion of allocated time that students are engaged is positively associated with learning (p. 6).

The proportion of time that reading or mathematics tasks are performed with high success is positively associated with student learning (p. 6).
The proportion of time that reading or mathematics tasks are performed with low success is negatively associated with student learning (p. 7).

Increases in Academic Learning Time are not associated with more negative attitudes toward mathematics, reading, or school (p. 7).

The teacher's accuracy in diagnosing student skill levels is related to student achievement and academic learning time (p. 7).

The teacher's prescription of appropriate tasks is related to student achievement and student success rate (p. 8).

More substantive interaction between the student and an instructor is associated with higher levels of student engagement (p. 8).

Academic feedback is positively associated with student learning (p. 8).

Structuring the lesson and giving directions on task procedures were positively associated with high student success (p. 8).

Explanation specifically in response to student need is negatively associated with high student success (p. 8).

More frequent reprimands for inappropriate behavior are negatively associated with student learning (p. 8).
The teacher's value system is related to Academic Learning Time and to student achievement. Teacher emphasis on academic goals is positively associated with student learning (p. 9).

A learning environment characterized by student responsibility for academic work and by cooperation on academic tasks is associated with higher achievement (p. 9).

Rosenshine (1979) expanded on the importance of student engaged time in the results of a correlational study that compared the engaged time of students of two different teachers with their achievement in reading. Both teachers allocated different amounts of time per day for reading. The first allocated thirty minutes and her students were recorded as engaged 80 percent of the time. The second allocated sixty minutes, with student engagement recorded for only 65 percent of the time. Yet, when the number of engaged minutes per day was computed, students of the second teacher were found to be engaged for fifteen minutes more each day and, during ten weeks, covered proportionally more books than did equally bright children of the first teacher. Rosenshine concluded that the total number of academically engaged minutes and total content covered are actually more critical than maintaining high engagement of skills at all times. The message, he wrote, is clear:
"What is not taught and attended to in academic areas is not learned" (Rosenshine, 1979, p. 36).

Stallings, Needles and Stayrook (1979), working with remedial reading classes, divided student engaged time into two student behavior categories. The first, Interactive On-Task, required student interaction with the teacher while the second, Noninteractive On-Task, did not. Correlation with student achievement was positive for Interactive On-Task instruction and negative for Noninteractive On-Task instruction. Based on these findings workshops were held, followed by observation, data collection, and feedback. The results of a quasi-experimental design showed significant changes in teacher behavior with resultant increases in student engaged time that were maintained throughout the school year.

A current trend in educational research has been to integrate existing correlational findings and probe the limits of their generalization to other contexts (Brophy, 1979a). Siedentop and his associates (1982) believed that the BTES paradigm in which student activity, in the form of ALT, stood between the teacher's activities and subsequent student achievement, provided the key for generalizing beyond the classroom to a gymnasium setting. The necessity of finding valid, reliable, and static measures
of student achievement in physical education had, up until this point, posed a particularly thorny problem for researchers, because the performance product was often a unique, temporary or nonproductive series of movements. The Academic Learning Time Model (Fisher, et al, 1981) helped circumvent this troublesome situation and the concept of Academic Learning Time in Physical Education, ALT-PE (Siedentop, Birdwell and Metzler, 1979) was born.

In physical education, ALT-PE examines relationships between what teachers do and the amount of time students spend engaged with specific movement tasks. ALT-PE observation instruments were designed to collect information about teacher behavior and students' time-on-task, with the working hypothesis that students of effective teachers would spend significantly more time on learning tasks than the students of ineffective teachers.

Metzler's (1979) descriptive study of physical education teachers using the ALT-PE system was the first to demonstrate the utility of the ALT-PE observation instrument in the physical education complex. A similar study was then conducted in interscholastic athletic settings (Rate, 1980). Birdwell (1980), Whaley (1980) and Beamer (1982) followed with experimental studies designed to modify teacher behavior in an attempt to increase the time
students spent engaged in physical education subject matter at an easy level of difficulty (ALT-PE). Following intervention, Birdwell (1980) decreased teacher's management time and student non-engaged time, while increasing teacher feedback. Whaley (1980) and Beamer (1982) were unsuccessful in bringing about similar changes. In 1981, Aufderheide, Olson and Templin integrated ALT-PE observation with ethnography and the OSIA-PE observation system (Olson, 1979) to verify the degree to which mainstreamed students had equal access to learn. In 1982, Placek, Silverman, Shute, Dodds, and Rife utilized the ALT-PE instrument to provide a data-based descriptive analysis of a traditional elementary physical educator's interactions with students. Data were analyzed to provide relative percentages in various ALT-PE categories showing differences in learning opportunities for (a) girls and boys; (b) high, medium, and low-skilled students; and (c) for different instructional units taught. Results indicated that this teacher provided remarkably equal opportunities for all students to be engaged in learning activities with large differences occurring only when data were analyzed for different instructional units.

The current study under investigation did not utilize the ALT-PE observation instrument. The preceding section
on academic learning time research was included by the investigator and thought to be relevant due to the nature of the study. An attempt was made to help preservice teachers learn how to organize and maintain a positive learning environment in physical education that would maximize the time spent engaged in productive activities and minimize the time lost during transitions or management. Direct instruction, classroom management techniques and the use of positive reinforcement to establish a positive learning environment were also utilized in an attempt to reach this goal.

**Direct Instruction**

Direct instructional variables include the concept of Academic Learning Time. Recent reviews by Brophy (1979a), Medley (1980) and Berliner (1980) of educational research have highlighted those teacher behaviors that correlate consistently with student achievement. Those considered to be direct instructional variables are discussed here. Brophy (1979a) asserts that

... students taught with a structured curriculum (by teachers who are able to give clear directions concerning lesson structure) do better than those taught with individualized or discovery learning approaches, and those that receive much instruction directly from the teacher do better than those expected to learn on their own or from one another. (p. 2).
Medley (1979) also found that effective teachers structure a larger part of pupils' time with relevant tasks than ineffective teachers do. And, according to Berliner (1979), this time has an academic, rather than affective, orientation.

The instruction that seems most efficient involves the teacher working with the whole class. The studies reviewed by Brophy (1979a) advocate the lecture/demonstration method, followed by monitored student practice. Berliner (1979) found that when monitoring acts were high, teachers were able to keep the children engaged in their assigned tasks during practice. Medley (1979) also discovered that the more effective teachers spend more time teaching large groups and that the number one task of a teacher appears to be maximizing pupil involvement in activities related to the material and skills to be learned. They do this by rapid pacing and maintaining high rates of verbal interaction. Success rates in answering teacher questions during lessons should approximate 75%, while success on practice assignments should approach 100%.

These specific behaviors vary somewhat, depending on the student's grade level, socioeconomic status, and ability level. More specifics about grade level
differences can be found in Evertson, Anderson and Brophy (1978), McDonald and Elias (1976) and Fisher et al (1978).

In low socioeconomic classes, the teacher needs to initiate more contact with students and encourage them to initiate more contacts as well (Medley, 1979). Specifics about ability level are summarized by Brophy (1979a):

Within any given grade level, teachers working with low ability students need to move at a slower pace and provide more repetition and individualized monitoring, to make sure that overlearning is attained before moving on to objectives that assume prior mastery of present objectives, and to supply greater warmth, encouragement, and personalized teaching generally, but less challenge (although not less than the students can handle), and less demandingness/criticism. . . . (p. 2).

Classroom Management

Classroom management was a focus of this study.

Effective teachers know how to organize and maintain a classroom learning environment that maximizes the time spent engaged in productive activities and minimizes the time lost during transition, periods of confusion, or disruptions that require disciplinary action. (Brophy, 1979a, p. 2).

Recent publications by Brophy and Putnam (1978) and Evertson and Anderson (1978) discuss the constituents of effective classroom management and how they interact with effective instruction. Brophy and Putnam's review of
studies on classroom management shows strong support for the following variables stressed by Kounin (1970):

1. **Withitness.** The degree in which the teacher communicates to his/her students that he/she knows what is going on in the class.

2. **Overlapping.** The teacher's ability to deal with two separate issues simultaneously.

3. **Smoothness.** The teacher's ability to maintain a continual flow within the lesson from one activity to the next.

4. **Momentum:** The teacher's ability to keep the students engaged on the material at an appropriate pace (p. 124).

Brophy and Putnam (1978) note that recent studies have not supported Kounin's variables of group alerting (the degree to which teachers can keep students alert) or accountability (the degree to which the teacher holds the students responsible for their performance on assigned tasks). These variables, which call for the teacher to be random and unpredictable in their questioning, to call on nonvolunteers frequently, and to comment on one another's responses, either correlate negatively or show curvilinear relationships with learner gains.
Apparently, teachers who do all the other things that Kounin stresses, and therefore are successful in maximizing student attention and engagement, should not need to use group alerting and accountability behaviors very often. (Brophy, 1979a, p. 3).

Results of studies by Evertson and Anderson (1978) concerning the specifics involved in organizing and managing the classroom led to the general conclusion that classroom organization and management skills are intimately related to instruction skills. That is, good instructors tend to be good managers and spend a great deal of time early in the year conducting semiformal lessons to familiarize students with rules and procedures.

The importance of rule setting, teacher sanctioning behavior, and socialization of students to the teacher's rules and procedures was supported by Tikunoff, Ward, and Dasho (1978). The importance of utilizing the first several days to develop an efficient managerial system was supported by Maskowitz and Hyman (1976). It seems that the "best" teachers used the initial days to establish control. Emmer, Evertson and Anderson (1980) discovered that efficiency and effectiveness resulted when a workable system of rules were presented systematically and thoroughly. The most effective managers monitored pupil behavior carefully and reacted quickly to stop inappropriate behavior.
In a study conducted by Emmer and Evertson (1980) more effective managers were found to have an established set of rules and procedures that were clearly communicated to students, practiced, and consistently reinforced. They also monitored compliance with the rules and utilized consequences for inappropriate behavior, when necessary.

Several educators have emphasized the importance of management routines (Yinger, 1979; Soar and Soar, 1979; and Clark and Elmore, 1979). Maximizing student opportunity to respond to the subject matter of the lesson and stay on task is achieved when management time and continual teacher interactions concerning inappropriate behavior are reduced. Minimizing disruptive pupil behavior provides a learning environment that is free from distractions and disturbances (Medley, 1979). This, in turn, creates an environment in which teachers have the opportunity to teach and students have the opportunity to learn.

**Positive Reinforcement**

The use of positive reinforcement to encourage appropriate behavior, reinforce skillful or creative motor responses, and establish a positive learning environment was another focus of this study.
According to Siedentop (1983):

The best way to motivate your students to behave appropriately is to interact with them in a positive manner when they are showing appropriate behavior (p. 93). . . . The effective teacher uses several ways of interacting. This means diversifying the kind of verbal interaction, using frequent nonverbal interactions, spreading interactions among many individual students, using occasional group interactions, and varying the delivery of the interaction. Varying the delivery means using different voice levels, different degrees of enthusiasm, and different physical characteristics in the nonverbal interactions (p. 96).

Brophy (1979a) emphasized the importance of providing feedback to each individual student. Fisher et al (1981) found that academic feedback (letting the students know whether their response was right or wrong, or providing them with the correct response) was more strongly and consistently related to achievement than any of the other teaching behaviors. According to these researchers, the more frequently academic feedback is provided, the more students pay attention and learn.

Studies show that teacher praise can function as a reinforcer by increasing specific student behavior when made contingent upon performance of that behavior (Lipe and Jung, 1971; O'Leary and O'Leary, 1977). To function effectively as a reinforcer, however, O'Leary and O'Leary (1977) indicated that practice should have the following qualities:
1. **Contingency:** the praise must be contingent on the performance of the behavior to be reinforced.

2. **Specificity:** the praise should specify the particulars of the behavior being reinforced.

3. **Sincerity/variety/credibility:** the praise should sound sincere. Among other things, this means that the content will be varied according to the situation and the preferences of the student being praised.

Several studies using class means have suggested that, in the early elementary grades, praise correlates weakly but positively with student achievement in low SES or low ability classes (Brophy and Evertson, 1976; Cantrell, Stenner, and Katzenmeyer, 1977; Good, Ebmeier and Becker­man, 1978; Stallings and Kaskowitz, 1974), but does not correlate at all or correlates weakly, but negatively, in high-SES or high-ability classes (Anderson et al, 1979; Brophy and Evertson, 1976; Good et al, 1978; and Martin, Veldman and Anderson, 1980).

Studies of how teachers use praise in the classroom were reviewed by Brophy (1981).

These studies indicate that teacher praise typically is infrequent, noncontingent, global rather than specific, and determined more by students' personal qualities or teachers' perceptions of students' need for praise than by the quality of student conduct or achievement. (p. 8).
This review indicates that teachers may use praise for a variety of reasons in addition to reinforcement. Research on praise is not likely to reveal much unless the different functions of praise are built into coding systems (Brophy, 1981).

Although reinforcement was the primary goal, research efforts at The Ohio State University in physical education led to the development and utilization of coding instruments that distinguished between teacher verbal statements that were directed toward a child's movement (skill feedback) and toward his conduct (behavioral feedback) (Siedentop, 1983). Each category has several subdivisions depicting the general or specific nature of the feedback and whether it was positive, corrective or negative. The study currently under investigation added a third category that distinguished teacher verbal interactions that were directed toward enforcing rules from other behavioral interactions.

To summarize, the effects of praise seem to be determined by its frequency, distribution, quality and function, as well as by other classroom behaviors.

Praise by a well-organized and successful classroom manager is likely to be an expression of admiration or a well-phrased attempt to encourage or reinforce, but praise by a poor classroom
manager in danger of losing control may be a desperation attempt to 'do something'. Ultimately, then, the effects of praise will be affected by the context in which it occurs (Brophy, 1981, p. 27).

Reactions to Recent Research Efforts

In the past few years the yield of research on teaching has been extraordinary. There has been a convergence of thought about variables or concepts that can guide classroom practice. These findings will, hopefully, influence the choice of what is taught in teacher education programs and provide empirical underpinnings for efforts to improve instruction. . . . The implications of this body of research for instruction go well beyond the elementary classroom and beyond the reading and mathematics outcomes that have been the focus of most of the studies (Berliner, 1980, p. 302).

Most of the reactions to recent teacher effectiveness research efforts have expressed equal optimism. It is, no doubt, this overwhelming optimism that has prompted words of caution from others concerning prescription and implementation. There is a belief among some that educational research typically slights the problem of how teachers think about their pupils and instructional problems (Shulman and Elstein, 1975; Shulman and Lanier, 1977). Others believe that the teacher's perspective needs to be taken into account more, especially when attempting to implement programs, so that new procedures
are congruent or not too far out of line with teacher ideas and attitudes (Hunt, 1976; Fenstermacher, 1979). Teachers will adopt new behaviors only when skills are specifically described, when the behaviors are familiar, and when a rationale is given that is acceptable to the teacher. New ideas must be useable, must fit the teacher's role definition, and must be cost effective in time and energy. Muir (1982) and Noli (1982) believe the BTES framework could be utilized most effectively in staff development programs that encourage teachers to experiment with the findings in their own classrooms, using their own styles.

Fenstermacher (1982) says that:

In the absence of unattainable certainty about the best way to teach efficiently, rules should be sparse (and) evidence plentiful. . . . This would prevent the conversion of research findings into ideology or dogma (p. 12).

His sentiments are echoed by Confrey (1982) who recommends further scrutiny of research results in an attempt to prevent the creation of distorted or oversimplified policy decisions. Frieberg (1982) believes that it is because the research is so highly specific and directed at observable teaching behaviors, that people have tended to view the results as prescriptive. This, he says, was not
the intent of the researchers or the journals which reported their work. Perhaps Medley and Crook (1980) have said it best:

The basic assumption underlying process-product research is that the best teachers in the field know more about effective teaching than any existing theory or research can tell us. The idea of observing them at work is a sound one; the idea of correlating what they do with pupil learning is open to question. What we are proposing here, and have tried to approximate after the fact, is to observe the pupils' behavior to find out which teaching tasks (when successfully performed) are associated with maximum pupil gains, and to observe the teachers' behavior to ascertain which teacher competencies are needed to perform each task successfully (p. 300).

Implications of Teacher Effectiveness Research for Supervision

In a recent attempt to review the literature linking teacher effectiveness and supervision research, O'Sullivan (1983) was surprised to find so little. She discovered that many well known authors on supervision have not demonstrated an interest in the recent teacher effectiveness research findings (Smyth, 1981).

Both areas of research are necessary if teachers are to become more effective. Research on teaching has yielded various clusters of behaviors that consistently distinguish effective teachers from ineffective ones. Research on
supervision could expose effective and efficient means of helpings teachers acquire and/or maintain these behaviors across time, settings, and levels of teacher experience.

Contemporary supervision literature was reviewed in an effort to identify current trends in preservice supervisory practices and/or programs that are relevant to the study under investigation.

Review of Contemporary Supervision
Practices and Programs

The contemporary view of supervision is that a supervisor's main objective is to help teachers improve instruction and increase student achievement (O'Sullivan, 1983). The purpose of this section is to review contemporary supervision practices and programs that are concerned with preservice supervision, as distinct from inservice supervision, particularly in the field of physical education.

Many college and university teacher education programs have begun to focus their attention toward helping preservice teachers acquire specific teacher effectiveness behaviors. Unfortunately, these programs have had little impact on the behavior of teachers once they have left the training program. Even during student teaching, college
and university supervisors have little effect on the behavior of the student teachers. Numerous studies document the fact that cooperating teachers are the dominant source of influence on student teacher behavior (Evans, 1976; Friebus, 1977; Funk et al, 1980; Heitzmann and Staropolit, 1975; Hoffman et al, 1982; Karmos and Jacko, 1977). Peers or relatives generally hold second place. In the majority of the studies, university personnel ranked last or, in significant other surveys, were not even included. The most recent survey of student teachers, concerning the effectiveness of existing supervision arrangements, was conducted by Yates (1982). The findings suggest, once again, that it is the cooperating teacher who provides them with the greatest amount of help. Student teachers felt that the cooperating teachers' evaluations were more valid than those of the university supervisor, because the cooperating teachers were able to give more time for observation and discussion. They viewed their relationship with the cooperating teacher as "supportive," and their relationship with the university supervisor as "evaluative." The cooperating teachers who were surveyed felt that more communication with the university supervisor was necessary. Data showed that they felt less clear about their role than the
university supervisors realized and would appreciate special training or an opportunity to discuss supervisory expectations.

The frequency and limited length of visits makes effective communication with university supervisors difficult. Yates (1982) recommended a three-way meeting with the university supervisor, cooperating teacher and student teacher. The purpose would be to establish a "job description" that clarified roles and was agreed upon by all. Yates (1982) also recommended inservice on supervision for cooperating teachers.

Doctoral students involved in ongoing supervision research efforts in physical education at The Ohio State University, recognized the potential of training cooperating teachers as behavior change agents in physical education settings.

Hutslar (1976) trained elementary level cooperating teachers in the use of applied behavior analysis. The cooperating teachers learned to provide daily feedback, select behaviors for modification, and intervene on target behaviors using a "package intervention." A multiple baseline design across behaviors and a comparison of mean performance scores for an experimental and control group were used to analyze the results. The findings
showed that the "package intervention" was responsible for significant changes in the behaviors being modified in 23 out of 24 cases. Differences among groups were statistically significant in four of the thirteen behaviors studied.

Replication of the Hutslar study by Cramer (1977) at the secondary level produced similar results. Cramer reported that student teacher behaviors changed significantly in the desired directions and between group comparisons revealed statistically significant differences between the control and experimental group in eight of the thirteen behaviors studied.

The study under investigation was conducted in California where classroom teachers are generally expected to teach physical education. Unfortunately, most have only one, if any, methods classes to prepare them for this responsibility. Elementary physical education student teachers may be placed with as many as four different cooperating teachers. Often these teachers lack expertise in physical education and/or have too little time for feedback and discussion. The combination of all of these factors makes it difficult for the student teacher/cooperating teacher bond to form that was discussed previously. The university supervisor's weekly visits are usually no more valuable than in any other situation. The concept of peer supervision provides a possible solutation. Placing student
teachers in pairs would enable each to receive immediate help, practical suggestions, and support in time of difficulty and uncertainty. The advantages would be proximity, immediacy, and a first-hand understanding of the other's situation (Alfonso and Goldsberry, 1982).

Johnson, Cox and Wood (1982) experimented with paired placements in a secondary school. The purpose was to provide student teachers with a support system. The data encouraged further consideration of pairing as a placement technique. In addition, constructive implications for budget and more responsive peer relationships in school environments were discussed.

Dodds (1975) used a multiple baseline design across subjects to test the effectiveness of a combined reciprocal peer assessment competency-based model in elementary physical education student teaching. As one person taught, his/her peer used observational recording techniques to monitor the student teacher's teaching skills. Results demonstrated that peer-provided feedback was effective in changing student teachers' behaviors.

McKenzie (1976) adopted a peer feedback model as a means of providing daily feedback to student teachers assigned to elementary schools where cooperating teachers in physical education were not available. The study was limited by the A-B research design that was utilized. Some desirable changes in student teacher behavior were
observed, but a cause and effect relationship between a "package intervention" and changes in teaching behaviors was not established.

McMillan (1978) implemented a peer feedback system in an early field experience setting in an attempt to hold pre-student teaching interns accountable for skills developed in previous instructional blocks. The analysis of the data, limited by the A-B design chosen for the study, revealed that in 69% of the cases the behaviors intervened upon changed. McMillan concluded that the peer feedback system was implemented efficiently and effectively in the field setting.

The success of research efforts utilizing cooperating teachers or peers to effect change in student teacher behavior, and Yates' (1982) plea for increased communication between the university supervisor and cooperating teacher, led to the idea of joint supervision. This term, used throughout the study under investigation, refers to a close working relationship among the university supervisor, peer observer, cooperating teacher and student teacher to enhance the teaching effectiveness of the student teacher. Alfonso and Goldsberry (1982) cite three advantages of developing what they refer to as colleagueship in supervision:
1. Human resources are mobilized in a joint effort to improve instruction.
2. Recognition and increased responsibility contribute to job satisfaction.
3. Collaboration efforts may well enhance teachers' perceptions of their own professional competence be reinforcing their belief that they can positively influence the achievement of their students.

**Behavior Change and Supervision in Physical Education**

Three supervisory models currently used in physical education include the interaction analysis model developed by Cheffers, the behavioral analysis model developed by Siedentop, and the traditional method, characterized by its emphasis on teacher weaknesses and feedback based on anecdotal or eyeballing techniques (O'Sullivan, 1983). Both the interaction analysis model and the behavior analysis model have produced significant changes in the behavior of student teachers (O'Sullivan, 1983). The behavior analysis model was chosen for the study currently under investigation.

The Ohio State University Student Teacher Supervision Model was conceived and advanced primarily as a set of
related doctoral dissertations completed by Ph.D. students in physical education who were specializing in teacher education (Siedentop, 1981). The model utilizes the principles of applied behavior analysis to modify target teacher behaviors that have been found to correlate with teacher effectiveness. A series of studies were conducted by Rife (1973); Hughley (1973); Darst (1974); Hamilton (1974); Boehm (1974); Dodds (1975); Dessecker (1975); Hutslar (1976); McKenzie (1976); Cramer (1977); Currens (1977); and McMillan (1978) to determine the effects of a "package intervention" technique on target skills of student teachers. The "package intervention" used by the researchers included varying combinations of written instructions, verbal and graphic feedback, positive reinforcement, cueing and modeling. All were single subject research studies using a multiple baseline design across behaviors, subjects, or settings. When the research effort began, it wasn't known whether important changes could be shown in chosen categories across a ten week intern experience (Siedentop, 1981).

The initial experiment (Hughley, 1973) utilized four student teachers whose daily rates of verbal feedback were monitored. The multiple baseline design demonstrated
rapid changes in student teacher behavior following application of the "package intervention".

In the next study (Rife, 1973), two student behavior categories were added to the coding system and supervision was reduced to twice weekly. It was hypothesized that increases in the teacher's verbal reactions to appropriate student behavior would be accompanied by increase in students' appropriate behavior. The multiple baseline design indicated that changes in student teacher behavior did occur, and Rife concluded that these changes were responsible for maintaining high rates of appropriate student behavior.

The next series of studies (Darst, 1974; Hamilton, 1974; and Boehm, 1974) utilized a competency based intervention package to effect change in student teacher and pupil behavior at elementary, junior high and senior high school levels. The target teaching skills being studied were rates of feedback statements and behavior interactions, and the use of students' first names. Analysis of the multiple baseline designs indicated significant changes, following intervention, in student teacher behavior in all three settings. Unfortunately, these positive changes were not maintained throughout the course of the study.
Currens (1977) used the competency-based program to modify teaching behaviors of eight student teachers. A multiple baseline design across subjects and settings was used, and a control group was employed for between group comparisons. Results reported by Currens supported the findings of Darst (1974), Hamilton (1974), and Boehm (1974) demonstrating significant changes in the behaviors of student teachers receiving the competency-based "package intervention."

Those studies involving the use of cooperating teachers or peers as behavior change agents were reviewed earlier. One study (Dessecker, 1975) focused on self management in student teaching. Cassette audiotapes were used by student teachers to record their lesson. Following the lesson, they coded the tape using event and duration recording techniques, and then returned the tapes to the university supervisor (investigator) for coding. Multiple baseline analysis across behaviors indicated that behavior change did occur, but subjects did not like devoting the necessary time to coding the tapes.

Summary

The series of studies utilizing the behavior analysis supervision model showed that teaching behavior can be
defined clearly enough to be observed reliably by super-
visors, cooperating teachers and peer observers. Teacher
behavior skills can be mastered in a short period of
time if the training program is well prepared, and
changes can be typically achieved in the first two
teaching sessions after intervention. Maintenance of
intervention is best achieved through follow-up program-
ing and feedback. The individual student teacher, and
the frequency of supervision will determine the number of
changes that can be achieved within a given time period
(Siedentop, 1981).
CHAPTER III

METHODS AND PROCEDURES

The purpose of this study was to analyze the effects of joint supervision for elementary physical education student teachers on the acquisition and maintenance of selected teacher behaviors that are characteristic of effective teachers. Joint supervision involved a close working relationship among the student teacher, peer observer, cooperating teacher, trained assistant, and university supervisor (investigator). Applied behavior analysis techniques were employed and the data, collected by the peer observer, trained assistant and investigator, provided each student teacher in the experimental group with objective information concerning their attempts to increase rates or percentages of seven desirable teaching behaviors: positive rule enforcement, positive behavioral feedback, activity time, positive skill feedback, corrective skill feedback, positive specific skill feedback, and "on-task" student behavior; and decrease rates or percentages of four undesirable ones: negative rule enforcement, negative behavioral feedback, transition time and management time. Reliability of data was established
through independent observation.

Data collected by the second grade cooperating teacher provided student teachers in the experimental group with objective information regarding the rate at which they interacted with the students and used their names, as well as the percent of students they interacted with at least once and whose names they used at least once. Reliability was not established for these behaviors. Data for all fifteen behaviors were analyzed in multiple baseline designs across behaviors for each subject in the experimental group. Data were collected on a control group—student teachers whose supervisor used the traditional method of supervision—by the trained assistant and investigator for the first eleven target behaviors.

The t-Test for Related Measures (McGee, 1971) was used to test significance among mean scores computed for the student teachers in the experimental group on all fifteen target behaviors during baseline, intervention and maintenance. This same test was used to compare initial and final mean scores for the student teachers in the control group on the first eleven target behaviors. The t-Test for Independent Measures (McGee, 1971) was used to compare final mean scores on the first eleven target behaviors for both groups.
A Likert-type rating scale, labeled the Student Teacher Quality Instruction Profile (QIP), was employed by the cooperating teacher, student teacher, peer observer and university supervisor to provide the student teachers in the experimental group with subjective information regarding eight additional teaching skills: (1) professional, positive, and genuine interactions; (2) clarity; (3) enthusiasm; (4) confidence with the lesson and interacting with the children; (5) pace of the lesson; (6) active supervision; (7) managing time efficiently; and (8) establishing and enforcing rules fairly and consistently.

**Single Subject Research Designs**

Applied behavior analysis utilizes single subject, \( n = 1 \), research designs to show functional relationships between a behavior (dependent variable) and an intervention (independent variable). In this study, a multiple baseline design was utilized. Eleven of fifteen target teaching behaviors (dependent variable) were measured simultaneously, prior to implementing the experimental procedure or intervention (independent variable). With this design, as with any empirical design, the conditions of causality, reliability, significance and generalization must be satisfied. The researcher shows a functional relationship if
the behavior under intervention changes in the desired direction, while the other behaviors remain in baseline. Repeated application demonstrates causality.

The data for most single subject research designs are collected through observational recordings and must, therefore, be reliable if they are to be believable. Reliability is determined by the amount of agreement between two independent observers using the same procedure for gathering data. Independence is achieved if the actions of one observer do not influence the actions of the other. Reaching acceptable reliability levels, even when using the same instrument or procedure, is often difficult. According to Siedentop (1976), definitions must be operationally defined so observer inference is minimal and revised if reliability becomes a problem for a given behavior category. Johnson and Bolstad (1973) recommend continuous reliability checks throughout each phase of a study, combined with verbal feedback on the observer's reliability, to minimize or prevent the effects of time, fatigue, new learning and/or forgetting on the observational skills of the observer.

In the current study, supervisor-peer reliability measures were used to determine agreements between the trained supervisors (investigator and trained assistant)
and the trained peer observers. Reliability between the trained assistant and the university supervisor was also figured. A reliability criterion was established at .80 and computed for each subject by totaling the number of agreements and disagreements for each teacher behavior and inserting the sums in the formula:

\[
\frac{\text{Agreements}}{\text{Agreements + Disagreements}}
\]

Significance in single subject research is determined both experimentally and therapeutically (Craighead, Kazdin and Mahoney, 1976). The extent of experimental significance is determined by the magnitude of the desired behavior change when compared to baseline levels prior to intervention. Therapeutic change is determined by the degree to which the behavior change allows the person to operate more competently in the setting. In this study, experimental significance was determined by statistical tests and by inspecting graphic records of the target teaching skills to evaluate the degree of change toward desired levels. Therapeutic change was determined by the student teachers' reported feelings of satisfaction or success on daily and weekly evaluations, as well as on a final evaluation. It was also determined by the degree to
which their behaviors moved toward desired directions or stabilized in a desirable pattern over the course of their student teaching experience and by improved ratings on the QIP. According to Baer, Wolf and Risley (1968), the degree to which these behavior changes are considered important by the student teacher and their degree of satisfaction determines the extent of internal significance that can be attached to the results of studies like the current one. One assumes that the more satisfied they were with the teaching skills acquired during their student teaching experience, and the more they viewed these changes as significant, the more likely they will be to use these same skills in the future, hopefully throughout their teaching careers.

In single subject research, generalizability refers to the extent to which a behavior change is noted within subjects across situations outside the immediate controls of the study and across subjects within situations. Both kinds of generalization are desirable. For student teachers, different classes can serve as different situations in which generalization effects might be expected. In the current study, those student teachers in the experimental group who taught a primary class in addition to the second grade class under study, were unexpectedly coded by the
university supervisor (investigator) during a regular observation of that class. This was done in an attempt to determine whether the skills they were learning to use with their second graders were also being used with other primary age children.

Within the same situation, student teachers might acquire teaching behaviors by observing their peers teaching. Modeling of this type could contribute to generalization of experimental effects across subjects in the same situation. In this study, generalization across subjects was expected because of the peer observation procedure instituted. In single subject research, statements of generalization are best made through replication. The use of eight student teachers in the present study actually represented eight replications within a multiple baseline design.

Subjects

The fourteen student teachers who participated in this study during the Spring Semester of 1982 were all in Phase II—the elementary phase of the fifth year teacher credential program in physical education—at California State University, Sacramento. Thirteen of these students had, or were nearly finished with, their undergraduate degree
in physical education. One student teacher, a member of the experimental group, had an undergraduate degree in criminal justice, but had passed the National Teacher's Examination in physical education. That, in combination with acceptable grades and a good interview, had gained him admission to the program. All fourteen student teachers successfully completed Phase I before entering Phase II. In addition, all reported some teaching and/or coaching experience prior to Phase II. Twelve reported experiences that involved working with elementary school age children in one or more of the following areas: swimming instruction, special olympics, basic motor skill programs for the handicapped, little league coaching, elementary physical education--part time, sports camps, camp counseling, recreation and parks programs, coaching children's track, football, soccer, basketball, softball and/or swimming. General characteristics of the student teachers for both the experimental and control groups are shown in Table 1.

Student teachers were assigned to the experimental or control group depending on the school in which they were placed. The investigator, a Phase II supervisor, was to supervise student teachers, assigned to the experimental group, in the four schools that were able to adjust
TABLE 1
CHARACTERISTICS OF STUDENT TEACHERS

<table>
<thead>
<tr>
<th>Subject</th>
<th>Age</th>
<th>Sex</th>
<th>Undergraduate Major</th>
<th>Earned Bach. Degree</th>
<th>Previous Teach. Exp. w/Children</th>
<th>Time Elem. S.T.</th>
<th>At Least Two Prim. Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>28</td>
<td>M</td>
<td>Phys. Ed.</td>
<td>Yes</td>
<td>Yes</td>
<td>AM</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>24</td>
<td>M</td>
<td>Phys. Ed.</td>
<td>Yes</td>
<td>Yes</td>
<td>AM</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>22</td>
<td>F</td>
<td>Phys. Ed.</td>
<td>Yes</td>
<td>Yes</td>
<td>AM</td>
<td>No</td>
</tr>
<tr>
<td>4</td>
<td>30</td>
<td>M</td>
<td>Phys. Ed.</td>
<td>Yes</td>
<td>Yes</td>
<td>AM</td>
<td>No</td>
</tr>
<tr>
<td>5</td>
<td>23</td>
<td>M</td>
<td>Phys. Ed.</td>
<td>No</td>
<td>Yes</td>
<td>PM</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>26</td>
<td>M</td>
<td>Crim. Ju.</td>
<td>Yes</td>
<td>No</td>
<td>PM</td>
<td>Yes</td>
</tr>
<tr>
<td>7</td>
<td>24</td>
<td>F</td>
<td>Phys. Ed.</td>
<td>Yes</td>
<td>Yes</td>
<td>AM</td>
<td>Yes</td>
</tr>
<tr>
<td>8</td>
<td>23</td>
<td>F</td>
<td>Phys. Ed.</td>
<td>Yes</td>
<td>Yes</td>
<td>AM</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Experimental

<table>
<thead>
<tr>
<th>Subject</th>
<th>Age</th>
<th>Sex</th>
<th>Undergraduate Major</th>
<th>Earned Bach. Degree</th>
<th>Previous Teach. Exp. w/Children</th>
<th>Time Elem. S.T.</th>
<th>At Least Two Prim. Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24</td>
<td>M</td>
<td>Phys. Ed.</td>
<td>Yes</td>
<td>Yes</td>
<td>AM</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>28</td>
<td>F</td>
<td>Phys. Ed.</td>
<td>Yes</td>
<td>Yes</td>
<td>AM</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>23</td>
<td>F</td>
<td>Phys. Ed.</td>
<td>Yes</td>
<td>Yes</td>
<td>Both</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>23</td>
<td>F</td>
<td>Phys. Ed.</td>
<td>No</td>
<td>No</td>
<td>Both</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>23</td>
<td>F</td>
<td>Phys. Ed.</td>
<td>Yes</td>
<td>Yes</td>
<td>AM</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>24</td>
<td>M</td>
<td>Phys. Ed.</td>
<td>Yes</td>
<td>Yes</td>
<td>Both</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Control
their schedules to accommodate peer observation and provide second grade cooperating teachers that were willing to participate in the study. The other Phase II supervisor was to supervise student teachers, assigned to the control group, in the remaining four schools.

Student teaching placements were made by the two Phase II supervisors on the basis of the student teachers' schedules or the proximity of the schools to their homes. The names of those student teachers who did not fall into either category were placed in a hat and drawn at random. All fourteen student teachers were assigned to their schools during the second week of the semester and were required to complete ten hours of observation and an equipment inventory during the succeeding six weeks. Student teachers in both groups began teaching at the start of the ninth week. They taught for one half day, four days a week, for seven weeks. The majority pursued coursework at the university during the other half day.

**Experimental Group**

The experimental group of student teachers consisted of three women and five men whose ages ranged from twenty-three to thirty. The eight student teachers were assigned in pairs to four schools that had been the most able to
accommodate the scheduling requests made by the investigator and those whose second grade teachers had expressed a willingness to participate in the data collection process. The schools to which they were assigned included Sierra View and Hillsdale Elementary Schools in the Rio Linda School District, White Rock Elementary School in the Folsom Cordova Unified School District, and Del Dayo Elementary School in the San Juan School District. The eight student teachers were assigned to teach three different classes, one of which was a second or a second-third grade class. They were also assigned to observe their peer teach that same grade level. Six of the student teachers taught in the morning. The remaining two were at their schools in the afternoon.

Control Group

The control group consisted of four women and two men whose ages ranged from 23-28. The six student teachers were assigned to the following four schools: Oakdale Elementary School in the North Highlands School District, Peter Burnett and Caleb Greenwood Elementary Schools in the Sacramento School District, and Cordova Villa in the Folsom Cordova Unified School District. The student teachers in the control group were assigned to teach four
different classes. They were not scheduled to observe
their peers teach. Three of the student teachers taught
in the mornings. Due to scheduling difficulties at the
schools or with the student teachers, the other three
student teachers in the control group did some teaching in
the morning and the rest in the afternoon.

A formal application requesting permission to use
human subjects for this study was reviewed and approved by
the Committee on Protection of Human Subjects at Cali­
ifornia State University, Sacramento. The letter of con­
firmation that was sent to the investigator is located in
Appendix A.

Schools

Experimental Group

The four schools were located in suburban school dis­
tricts outside the city limits, but within the metro­
politan area of Sacramento, California. School popula­
tions ranged from 325 to 440 and included kindergarten
through sixth grade. Student populations in three schools
were comprised of children from low to lower-middle class
families. One school had a student population comprised
of students from upper-middle class families. All four
schools had multi-purpose rooms that were available for
the student teachers to use when teaching their second or
second-third grade classes. Outdoor blacktop and field
space was outstanding in three of the schools. The fields at the fourth school were undergoing construction and recess interfered with the most favorable blacktop areas. The schools were equipped to varying degrees with commercial and homemade equipment. Additional equipment could be checked out from the university by the student teachers.

In three of the four schools, physical education was taught by the classroom teachers, so schedules were easily arranged to accommodate the demands of this study. Student teachers taught classes that were twenty-five minutes in length and were given a minimum of fifteen minutes for a feedback session following the teaching of two second grade classes. In one school, the student teachers had to work into the existing schedule that included two closely scheduled second-third grade combination classes. The physical education teacher was an aide with an elementary classroom teaching certificate, rather than a physical education certificate. She assisted in the transportation of students to and from the multipurpose room so that the student teachers could utilize as much of the twenty-five minute time block as possible. She also served as the data collector for both student teachers' distribution of attention and use of names—
two target behaviors coded by the second grade cooperating teachers in the other three schools. In addition, she often met with the two student teachers during the feedback session that followed their teaching.

Control Group

Two of the four schools for the control group were located in suburban school districts. The other two were located in the city school system of Sacramento, California. School populations ranged from 236 to 380 and included kindergarten through sixth grade. Student populations in three schools were comprised of children from low to lower-middle class families. Like the experimental group, two student teachers in the control group taught at a school with a student population comprised of students from upper-middle class families. Only one of the schools had an indoor facility that was available for student teacher use on rainy days. Outdoor space was outstanding. The four schools were equipped to varying degrees with commercial and homemade equipment. Student teachers in the control group also had access to equipment from the university. None of the four schools had a physical education specialist, although one school did have an existing physical education schedule within which student teachers
had to work. In most cases, primary classes were scheduled for twenty-five or thirty minutes. The classroom teachers that served as cooperating teachers for the student teachers in the control group were not involved in data collection. Characteristics for the eight schools used in this study have been summarized in Table 2.

**Observational Techniques**

Event recording, duration recording, and group time sampling (GTS) are the three observational techniques that were utilized to record the fifteen target teaching behaviors of the Phase II student teachers. Event recording involves a frequency count of previously defined behaviors each time the behavior is observed within a given observation period (Cooper, 1974). In this study, the cooperating teachers utilized event recording by marking a tally beside the name of a child each time the student teacher interacted verbally or nonverbally with that child. The cooperating teacher was asked to circle the tally if the child's name was used in the interaction. The peer observer, trained assistant, and university supervisor used event recording to record rule enforcing statements, behavioral interactions, and skill feedback. Rather than marking tallies each time one of these pre-defined behaviors
### Table 2

**Characteristics of Schools**

<table>
<thead>
<tr>
<th>School</th>
<th>Location</th>
<th>Population</th>
<th>Socio-economic Background</th>
<th>Physical Education Schedule</th>
<th>Physical Education Specialist</th>
<th>Available Indoor Facilities</th>
<th>Available Outdoor Facilities</th>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Suburban</td>
<td>385</td>
<td>Low</td>
<td>Flexible</td>
<td>No</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Good</td>
</tr>
<tr>
<td>2</td>
<td>Suburban</td>
<td>325</td>
<td>Upper-middle Class</td>
<td>Rigid</td>
<td>Yes</td>
<td>Average</td>
<td>Excellent</td>
<td>Good</td>
</tr>
<tr>
<td>3</td>
<td>Suburban</td>
<td>440</td>
<td>Lower-middle Class</td>
<td>Flexible</td>
<td>No</td>
<td>Excellent</td>
<td>Poor</td>
<td>Average</td>
</tr>
<tr>
<td>4</td>
<td>Suburban</td>
<td>432</td>
<td>Low</td>
<td>Flexible</td>
<td>No</td>
<td>Good</td>
<td>Excellent</td>
<td>Good</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>School</th>
<th>Location</th>
<th>Population</th>
<th>Socio-economic Background</th>
<th>Physical Education Schedule</th>
<th>Physical Education Specialist</th>
<th>Available Indoor Facilities</th>
<th>Available Outdoor Facilities</th>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Urban</td>
<td>310</td>
<td>Lower-middle Class</td>
<td>Flexible</td>
<td>No</td>
<td>Not Available</td>
<td>Excellent</td>
<td>Average</td>
</tr>
<tr>
<td>2</td>
<td>Suburban</td>
<td>236</td>
<td>Low</td>
<td>Flexible</td>
<td>No</td>
<td>Not Available</td>
<td>Excellent</td>
<td>Average</td>
</tr>
<tr>
<td>3</td>
<td>Suburban</td>
<td>336</td>
<td>Lower-middle Class</td>
<td>Semi-flexible</td>
<td>No</td>
<td>Not Available</td>
<td>Excellent</td>
<td>Good</td>
</tr>
<tr>
<td>4</td>
<td>Urban</td>
<td>380</td>
<td>Upper-middle Class</td>
<td>Rigid</td>
<td>No</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Poor</td>
</tr>
</tbody>
</table>
occurred, a symbol was used to represent the type of interaction. During the first two weeks, the symbols for enforcing rules and reinforcing behavior were recorded on a coding sheet designed specifically for the peer observer (See sample coding sheet, Figure 1). Later, the symbol was placed along a time-line so the student teacher could see when each type of interaction occurred. (See sample coding sheet, Figure 2). Frequency counts of the five behaviors mentioned above were converted to rate per minute, percentages, or ratios according to the formulas found on the computation sheet (See sample computation sheet, Figure 3).

Duration recording is the percent of time an individual or group spends in a previously defined behavior. Duration recording was utilized by the peer observer, trained assistant, and university supervisor to do a cumulative time analysis of each student teacher's lessons. The observer used a continuously running digital stopwatch to time the duration of four different episodes. The time that the student teacher allowed the children to be active, as well as the amount of time the student teacher spent instructing, organizing or managing was recorded by drawing a horizontal line through the appropriate segment on the coding sheet to the nearest five seconds. Each
Student Teacher _____________________________ Date ____________ Lesson "_____
Time Started _____________ Time Finished _____________ Total Time _____________

R+ = student is complimented for remembering or adhering to a previously designated rule
R- = student is chastised, nagged, or given a time-out for not remembering or breaking a previously designated rule
B+ = teacher reactions to appropriate student behaviors (not skill)
B- = teacher reactions to inappropriate student behaviors ("=")

---

<table>
<thead>
<tr>
<th>RULE ENFORCEMENT</th>
<th>BEHAVIORAL FEEDBACK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total # R+ = ___</td>
<td>Total # B+ = ___</td>
</tr>
<tr>
<td>B+ = ___</td>
<td>B+ = ___</td>
</tr>
<tr>
<td>T.T.F. = ___ = ___ rate per min.</td>
<td>T.T.N. = ___ = ___ rate per minute</td>
</tr>
<tr>
<td>Total # R- = ___</td>
<td>Total # B- = ___</td>
</tr>
<tr>
<td>R- = ___</td>
<td>R- = ___</td>
</tr>
<tr>
<td>T.T.F. = ___ = ___ rate per min.</td>
<td>T.T.N. = ___ = ___ rate per minute</td>
</tr>
<tr>
<td>Ratio: R+ = ___</td>
<td>B+ = ___</td>
</tr>
<tr>
<td>R- = ___</td>
<td>B- = ___</td>
</tr>
</tbody>
</table>

Figure 1. Peer observer coding sheet for rule enforcement and behavioral feedback.
CALIFORNIA STATE UNIVERSITY, SACRAMENTO  
Physical Education Department  
R. Reese

<table>
<thead>
<tr>
<th>Time Started</th>
<th>Time Finished</th>
<th>Total Time</th>
<th>Lesson #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Analyzers: A = Activity; I = Instruction; T = Transition; M = Management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule Enforcement: R+ = Positive; R- = Negative/Corrective/Nagging</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavioral Feedback: B+ = Positive; B- = Negative/Corrective/Nagging</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skill Feedback: S+ = Positive; S- = Corrective</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Involvement: Record number of students &quot;off task&quot; or inappropriately engaged in motor activity.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 2. Coding sheet utilized by the university supervisor, trained assistant, and peer observer.
TIIE ANALYSIS

Total time in 5 second units = \( (\text{T.T.S.}) \); Total time in minutes = \( (\text{T.T.M.}) \)

\[-\text{FORMULA}\-\]

\[
\text{Total time in } 5 \text{ second units} * (\text{T.T.S.}) = \frac{\text{Total time in minutes}}{12} (\text{T.T.M.})
\]

\[
\text{of } 5 \text{ sec. units of } \frac{?}{\text{T.T.S.}} \times 100 = \frac{?}{12}; \text{ of } 5 \text{ sec. units of } ? = \text{# minutes of } ?
\]

\[
\begin{align*}
\text{Activity} & \times 100 = \frac{?}{12} = \text{Minutes of Activity} \\
\text{Instruction} & \times 100 = \frac{?}{12} = \text{Minutes of Instruction} \\
\text{Transition} & \times 100 = \frac{?}{12} = \text{Minutes of Transition} \\
\text{Management} & \times 100 = \frac{?}{12} = \text{Minutes of Management}
\end{align*}
\]

Total = \( \frac{?}{12} \) (Should = 100)

<table>
<thead>
<tr>
<th>RULE ENFORCEMENT</th>
<th>BEHAVIORAL FEEDBACK</th>
<th>SKILL FEEDBACK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total # R+ =</td>
<td>Total # B+ =</td>
<td>Total # S+ =</td>
</tr>
<tr>
<td>( \frac{?}{\text{T.T.M.}} ) = ( \frac{?}{\text{T.T.M.}} )</td>
<td>( \frac{?}{\text{T.T.M.}} ) = ( \frac{?}{\text{T.T.M.}} ) (rate per minute)</td>
<td>( \frac{?}{\text{T.T.M.}} ) = ( \frac{?}{\text{T.T.M.}} ) (rate per minute)</td>
</tr>
<tr>
<td>Total # R- =</td>
<td>Total # B- =</td>
<td>Total # S- =</td>
</tr>
<tr>
<td>( \frac{?}{\text{T.T.M.}} ) = ( \frac{?}{\text{T.T.M.}} ) (rate per minute)</td>
<td>( \frac{?}{\text{T.T.M.}} ) = ( \frac{?}{\text{T.T.M.}} ) (rate per minute)</td>
<td>( \frac{?}{\text{T.T.M.}} ) = ( \frac{?}{\text{T.T.M.}} ) (rate per minute)</td>
</tr>
<tr>
<td>Ratio: ( \frac{R+}{R-} = \frac{?}{?} )</td>
<td>Ratio: ( \frac{B+}{B-} = \frac{?}{?} )</td>
<td>Ratio: ( \frac{S+}{S-} = \frac{?}{?} )</td>
</tr>
</tbody>
</table>

DISTRIBUTION OF ATTENTION

Total time in minutes = \( (\text{T.T.M.}) \)

Total \# of interactions = \( \frac{?}{\text{T.T.M.}} \) (rate per minute of teacher/student interactions)

\# Students teacher interacted with at least once \( \times 100 = \frac{?}{?} \)

\# students in attendance \( \times \frac{?}{\text{T.T.K.}} \)

USE OF NAMES

Number of students in attendance \( \times \frac{?}{\text{T.T.K.}} \)

\# of times names were used \( \times \frac{?}{\text{T.T.K.}} \)

\# students whose names were used at least once \( \times \frac{?}{\text{T.T.K.}} \)

\# of students in attendance \( \times \frac{?}{\text{T.T.K.}} \)

\# of students whose names were used at least once \( \times \frac{?}{\text{T.T.K.}} \)

Figure 3. Computation sheet.
episode was marked with an A, I, T, or M to indicate activity, instruction, transition, or management (See sample coding sheet, Figure 2). The percent of time that the student teacher spent in each episode was derived by dividing the accumulated time for each by the total time observed, and multiplying by 100 (See sample computation sheet, Figure 3).

Group time sampling (Cooper, 1974) was used in this study to record the number of children within each class that were "off-task" immediately following the specified time intervals. Group Time Sampling occurred after one minute and every three minutes thereafter. For each one, the observer scanned the class from left to right, counted the number of children who were not doing what was expected of them at that moment, and recorded that number in the appropriate box. This was usually accomplished within ten seconds. If there were more students "off-task" than "on-task" the observer would count the number "on-task" and place a large plus sign beside the box the number was placed in. Although the percent of students who were "off-task" during the lesson was computed, this number was subtracted from 100 so that the student teachers could graph the number of students who were "on-task" during each lesson.
Data Collection

Cooperating Teachers

The second grade cooperating teachers, who were supervising student teachers in the experimental group, collected baseline data daily on their student teacher's distribution of attention and use of names during the first week. The information was shared with the student teachers at the end of the first week during seminar, became the target behavior for the second week, and was coded daily once again. The same information was collected three times during the third week, twice during the fourth week and once a week during the remaining three weeks. The student teachers were given the coding sheets following each lesson and were responsible for computing the rates per minute and percentages. In addition to the data they were collecting, the second grade cooperating teachers completed a Quality Instruction Profile (QIP) for their student teachers twice a week for the first two weeks and once a week for the remaining five weeks on a day they were not coding (See sample QIP, Figure 4).

The classroom teachers who were supervising the student teachers in the control group were not involved in the study.
**STUDENT TEACHER QUALITY INSTRUCTION PROFILE**

Please respond to the items below. For each item, place an **X** at the place on the continuum that best describes your observations concerning the student teacher. Please be honest. This evaluation will not affect your student teacher's grade. It was developed to help him/her become a better teacher. Place comments in the margins or wherever there is room for scores less than four.

1. **Student/Teacher Interaction:** S.T. interacted with students in a professional and genuinely positive way.
   - a. S.T. interactions lacked professionalism.
   - b. S.T. interactions lacked positiveness.
   - c. S.T. interactions lacked genuineness (appeared phony or were not deserved).

   S.T. interactions were very professional.
   S.T. interacted with the students in a very positive manner.
   S.T. interactions appeared genuine.

2. **Clarity:** Instructions and challenges were expressed in a way that was clearly understood by the students.
   - S.T. lacked clarity to the point of confusing the students or creating misunderstandings.
   - S.T. was extremely clear. Students responded with obvious understanding. Confusion non-existent.

3. **Enthusiasm:** S.T. displayed a personal commitment to the importance of the instruction by expressing a personal excitement about the concepts being taught and about sharing these concepts with the children.
   - S.T. lacked enthusiasm to the point of appearing preoccupied, apathetic or bored.
   - S.T.'s enthusiasm appeared contagious and motivating.

4. **Confidence:** S.T. displayed confidence in executing the lesson and interacting with the children.
   - a. S.T. lacked confidence with the lesson content and/or presentation of the lesson.
   - b. S.T. lacked confidence when interacting with the children.
   - S.T. displayed confidence with the lesson content and in presenting the lesson.
   - S.T. displayed confidence in his/her interactions with the children.

---

Figure 4. Student Teacher Quality Instruction Profile
5. Pace: S.T. presented instructions and challenges at a rate that gave students time to respond appropriately without waiting, becoming bored, or going "off-task."

   S.T. experienced difficulty pacing the lesson to the point of being inadequate: students were often restless or "off-task."

   S.T. paced the lesson appropriately to the point of being outstanding: students were challenged, motivated and "on-task."

6. Active Supervision: S.T. remained actively involved during the lesson and effectively monitored student activity on both class and individual performance levels.

   S.T. appeared to become lost in thought and/or got so involved with individuals that he/she lost touch with what was happening to the class as a whole.

   S.T. was actively involved, alert, and appeared to be continually aware of what was happening with all of the children throughout the lesson.

7. Time Management: S.T. gave only necessary instructions and organized students quickly and efficiently so that active learning time was maximized.

   a. S.T. spent unnecessary time "talking." Instructions impinged on active learning time.

   b. S.T. spent too much time getting students organized.

   S.T. gave Instructions without unnecessary teacher talk. Instructions did not impinge on active learning time.

   S.T. organized students quickly and efficiently.

8. Discipline: S.T. established rules in a firm, friendly and clear manner and enforced these rules fairly and consistently.

   a. S.T. failed to establish rules for appropriate behavior.

   b. S.T. corrected, nagged, warned and/or threatened students with punishment.

   S.T. clearly established rules for appropriate behavior.

   S.T. dealt with inappropriate behavior and rule infractions firmly, fairly and consistently.

Figure 4 (continued)
Peer Observers

The student teachers in the experimental group collected data for their peers daily utilizing a predetermined recording format. Rule enforcement and behavioral feedback, the target behaviors for the first week, were coded daily during the first four weeks and three times a week during the remaining three weeks. The use of class time was recorded beginning with the tenth lesson and was then recorded daily for the remainder of that week and during the fourth week. Coding the use of class time continued three times a week for the remaining three weeks. Skill feedback was collected daily during the fourth week and three times a week thereafter. The number of students "on-task" was recorded three times a week from the beginning of the fifth week until the end of the seventh week.

The peer observers gave their coding sheets to the student teachers immediately following each lesson. The student teachers were then responsible for computing all rates per minute, percentages, and ratios for the target behaviors. The information obtained was plotted on graphs. The graphic records were used to provide each student teacher with continuous feedback on his/her improvement in the target teaching skills they were learning to use. The math for every coding sheet was checked and corrected,
when necessary, by the investigator to insure the correctness of information.

The peer observers also completed a QIP on themselves and their peer, utilizing the same schedule that their cooperating teachers were following. The student teachers in the control group were not involved with data collection.

**Trained Assistant and University Supervisor**

The trained assistant and the university supervisor collected data on rule enforcement, behavioral feedback, use of class time, skill feedback and "on-task" student behavior periodically throughout the seven week student teaching experience for members of both the experimental and control groups.

From the experimental group, the data that were collected during the first five weeks served as a reliability check for some behaviors and indicated baseline level of behaviors prior to intervention for others. During this time, all rates per minute, percentages and ratios were computed by the data collector. The university supervisor collected data periodically, recording reliability checks with the peer observers, during the final two weeks. The peer observers were then responsible for the mathematical
computations so that they had immediate feedback on the accuracy of their coding. Reliability on the trained assistant's and supervisor's recording accuracy occurred periodically throughout each phase of the study.

The university supervisor completed a QIP for each student teacher twice during their student teaching experience. The first time occurred while the student teachers were teaching one of the packaged lesson plans. The second time was when they were teaching a lesson of their own design.

Data were collected by the trained assistant and the university supervisor for each student teacher in the control group a total of eight times, with the exception of one student teacher who was coded only seven times. The first four data points for the student teachers in the control group were collected during the first four weeks. An attempt was made to collect the four data points during the first two weeks, but the weather and absenteeism interfered considerably. The observers were able to collect the last four data points during the final two weeks. The trained assistant and university supervisor were responsible for all of the mathematical computations on the control group data. The Quality Instruction Profile was not used with the student teachers in the control group.
Experimental Conditions

Baseline

Baseline refers to the level of behavior recorded prior to an intervention (Cooper, 1974). It is important to determine what a behavior would look like if the intervention had not been introduced. The baseline phase usually consists of five behavioral assessments and an indication of stability before any instructions are given to the subject. In this study, baseline measurements and intervention followed a predetermined schedule for all eight student teachers, regardless of an indication, or lack of an indication, of baseline stability. The investigator felt this was best due to time constraints and the close working relationship that developed among the pairs as they strove to achieve the same new target behavior each week.

Intervention and Maintenance

The investigator designed a series of detailed second grade lesson plans for the student teachers in the experimental group to use during the first five weeks of their student teaching experience (Appendix B). These twenty-five minute lesson plans served as the primary intervention strategy for modifying and maintaining the target
teaching behaviors specified for this study. Each lesson plan was field tested by the investigator with a second grade class at Caleb Greenwood Elementary School before being duplicated and distributed.

Detailed lesson plans for a specified age group were designed for several reasons. In a similar study, Dodds (1975) found that teacher behaviors varied dramatically according to which situation they were in (primary or intermediate) and wide variability occurred among the student teachers' attempts to conceptualize and execute properly sequenced movement education lessons. Thus, she recommended extensive expansion of planning materials.

During the Fall Semester, 1981, the investigator encountered apprehension, insecurity and, in some cases, panic among the nine student teachers she supervised in Phase II concerning lesson planning for primary age children. Movement education was foreign to most of them until the eight weeks preceding their elementary student teaching. The majority of the energy they spent during their seven week student teaching experience appeared to be devoted to planning and discipline. The investigator believed that relieving the pressure of planning, for at least one of their primary classes, would enable the student teachers to concentrate on and devote more of
their energies toward mastering the target teaching skills they were to learn to use and record. The first two skills, positive rule enforcement and positive behavioral reinforcement, were built into early lesson plans designed to help the student teacher establish a positive and productive learning environment. Five rules were set forth that were to be consistently enforced by each student teacher. Suggested consequences for breaking rules and a reward for those who followed all the rules during a lesson were included. The student teachers were shown how to present the rules and subsequently guide the children through a series of tasks that lent themselves to positive rule enforcement and behavioral feedback. Due to the practicality and necessity of helping the student teachers establish the learning environment as soon as they encountered their class, the investigator did not attempt to collect baseline data on rule enforcement or behavioral feedback. The first four days of student teaching followed this initial intervention.

Dodds (1975) also discovered that the subject matter content contributed to data variability, even within subjects. Controlling the subject matter with detailed lesson plans allowed recorded behaviors to be compared across subjects for the same lesson.
Positive student/teacher interaction, combined with cognitive and psychomotor objectives, comprised the major focus for the first two weeks. The lessons were also structured for efficient transitions and minimal unproductive management time. The student teachers were often reminded to roam among the children reinforcing positive behavior, novel responses, and skill attempts. A block plan was developed for the final two weeks. Student teachers were asked to develop the major theme and subthemes through lessons of their own design. Members of the control group did not have access to either the lesson plans or the block plan.

In addition to the twenty detailed lesson plans, other intervention and maintenance techniques were employed in the independent variable package and included the following: (1) explanations and materials; (2) modeling/peer teaching; (3) graphic and verbal feedback; (4) data comparison; (5) goal setting; and (6) reinforcement.

Explanations and Materials:

Each time a new target behavior was introduced, the investigator explained what the behavior was and why it was considered to be an important teaching skill. An
effort was made to help the student teachers understand the value of mastering each skill for their students' benefit, as well as for their own. Written materials were also available for each of the target behaviors under investigation. These materials, taken from the text *Developing Teaching Skills in Physical Education* (Siedentop, 1976) and the manual *Academic Learning Time - Physical Education* (Siedentop, Tousignant and Parker, 1982), contained the rationale underlying the use of the new skill, precise operational definitions, examples, observation techniques and/or specific coding instructions.

**Modeling/Peer Teaching:**

The investigator taught Lesson 1, modeling acceptable levels of the first two target behaviors. Each of the student teachers then taught portions of the next seven lessons, attempting to emulate the initial demonstration. Peers practiced coding, with subsequent reliability checks with the supervisor, questions were asked and distinctions made between rule enforcement and behavioral interactions.

A videotape of the investigator teaching several different lessons to second graders was used to provide a model for several teaching behaviors. The station lessons provided examples of clear instructions, efficient
organization and management, as well as maximal activity
time. The videotape was also used to train the peer ob-
servers how to code the use of class time reliably.

Graphic and Verbal Feedback:

The supervisor kept a graphic record of the baseline
data collected for each target behavior for each student
teacher. During the weekly seminar, when the new target
behavior was presented, the supervisor gave each student
teacher the graphic record of their baseline performance
of that behavior, accompanied with a verbal explanation.

Daily feedback, both verbal and graphic, was provided
for the behaviors in intervention and maintenance by the
peer observers. The trained assistant and supervisor
provided verbal feedback on the same behaviors when they
were there, being careful not to provide feedback for
behaviors that were still being held in baseline. The
coded behavior was shared with the student teacher in the
feedback session that immediately followed the two second
grade classes. Each student teacher was responsible for
continually maintaining the graphs that were given to them
in seminar.

Data Comparison:

During each weekly seminar, the student teachers would
share the most favorable levels they had been able to achieve that week for each of the target behaviors. They then compared these levels with those that had been achieved by the other student teachers who had taught the same lesson. Baseline data were shared in the same manner. These comparisons gave the student teachers a good understanding of where they were in relation to their peers. There was no pressure to reach criterion levels, nor were their student teaching grades affected by the data collected. Those who did well were reinforced. Given the opportunity to see what was possible seemed to serve as an incentive for improvement among the others. But the knowledge that mastery of these skills would make them more effective teachers seemed to be the best motivator of all.

Goal Setting:

Maintenance goals were suggested for positive rule enforcement, behavioral feedback, distribution of attention and use of names for each student teacher by the supervisor following intervention. These goals were adjusted by the student teachers following a two week trial period for the first two behaviors and a one week trial period for the others. The goals they set were approved or modified
by the supervisor and remained the same for the duration of the study. The eight student teachers were constantly encouraged to keep all feedback ratios more positive than negative.

After several Quality Instruction Profiles had been completed by the cooperating teachers, peer observers, and student teachers and one by the supervisor, each student teacher was asked to select one area to focus their attention on that was shown to be weaker than the others. If there were no weaknesses indicated on the QIP, they could choose a data based goal. They were asked to submit written progress reports periodically concerning their performance in this area. The progress report included the behavior they had chosen to work on, what they were doing in their attempts to improve it, and the success or failure they were having. If they were not experiencing success, they were asked to analyze the problem they were experiencing.

Reinforcement:

The student teachers were praised by their peers and by the university supervisor and trained assistant, when present, for desired changes in each behavior category. Specific information was given when possible. Undesirable
changes were recognized and discussed in an effort to halt the decline.

Analysis and Research Design

The investigator and trained assistant recorded data for seven target behaviors during baseline. Eleven behaviors were recorded on a daily basis, during intervention and maintenance, by the peer observers. The cooperating teachers recorded the remaining four behaviors during all three phases on a predetermined schedule. The raw data were converted by the student teachers to rates per minute and percentages for the purpose of graphic comparison. The investigator collected the data from the student teachers at the end of each week, after they had graphed the information. All mathematical computations were checked by the investigator, and corrected when necessary. A separate graph was used for each of the target behaviors.

The data were analyzed with multiple baselines across behaviors for each student teacher. The study represents eight replications of a single organism design. Since this study was concerned with the effects of a single treatment and maintaining desirable changes in teacher behavior across time, the multiple baseline was
selected in preference to both the multi-element (Ulman and Sulzer-Azaroff, 1975) and reversal designs (Cooper, 1974).

In the current study, the twenty detailed lesson plans and the student teacher training program, that included the use of observational techniques, comprised the primary intervention. Eleven of the target behaviors were measured across time to establish a baseline measurement. The multiple baseline design demonstrated causality if the target behaviors changed markedly subsequent to the introduction of the intervention procedure. Further evidence of a functional relationship would be shown by similar changes in the behavior of all eight student teachers following intervention.

In addition to the multiple baseline analyses, the data were further analyzed to determine differences between baseline, intervention, and maintenance measures for members of the experimental group. Mean scores from all three phases were computed for each behavior of each student teacher. Differences were sought also between initial and final measures within the control group. Mean scores from the first four and last four data points were computed for each behavior of each student teacher for these comparisons. The t-Test
for Related Measures (McGee, 1971) was used to determine differences within groups, while the t-Test for Independent Measures was used to determine differences between the experimental and control groups on final measures.

The t-model is a statistical model that is used to conduct tests of significance to see if the value of the experimentally derived statistic could occur reasonably (allowing for sample fluctuation) within the framework of the model. The .05 level of significance is typically chosen as the boundary between reasonable and unreasonable. According to Lapin (1975), the Student t-distribution is used when the sample size is less than thirty, as it was in this study. Data collection in this study also met the assumptions necessary for using the t-model. The investigator could assume a normally distributed population and randomization was met in the way that the student teachers were assigned to their schools.
CHAPTER IV

ANALYSIS AND DISCUSSION OF DATA

The results of the study, showing the effect of joint supervision on the teaching effectiveness of elementary physical education student teachers, are presented and illustrated in this chapter. Behaviors that were selected for observation and analysis in this study are categorized into four components. Inter-observer agreement data for the principal observers are reported and discussed. Multiple baseline analyses are presented and illustrated for each of the eight subjects in the experimental group. Results of the statistical comparisons within the experimental and control groups and between these two groups are shown. A discussion concerning the use of the Quality Instruction Profile to improve teacher effectiveness is included. The chapter concludes with a discussion of the overall effect of the intervention on the teaching effectiveness of the elementary physical education student teachers in the experimental group compared with no intervention for the elementary physical education student teachers in the control group.

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Components of Teaching Effectiveness

The behaviors that were selected for observation and analysis in this study were categorized into the following four components:

1. Behavior/Human Relations Component
   a. Positive rule enforcing statements per minute
   b. Negative rule enforcing statements per minute
   c. Positive behavior statements per minute
   d. Negative behavior statements per minute
   e. Distribution of attention -- rate per minute
   f. Percent of students that the student teacher interacted with at least once during the lesson
   g. Use of names -- rate per minute
   h. Percent of students whose names were used at least once during the lesson

2. Time Analysis Component
   a. Percent of activity time per lesson
   b. Percent of transition time per lesson
   c. Percent of management time per lesson

3. Skill Feedback Component
   a. Positive skill statements per minute during activity
   b. Corrective skill statements per minute during activity
c. Percent of positive skill feedback with specific information

4. Student Behavior Component
   a. Percent of appropriate ("on-task") student behavior per lesson

Inter-Observer Agreement

Studies that utilize observational recordings to collect data must demonstrate that the data are reliable. In behavioral research, this is accomplished when two or more independent observers use the same procedures and obtain similar end results. High interobserver agreement indicates overall consistency between observers and the data are, therefore, considered to be reliable. Reliability, in turn, shows that changes in behavior that are recorded are not due to changes in the observer.

There are several factors that can influence reliability measures. The first of these concerns the number of decisions that an observer needs to make before categorizing the behavior. Observational decisions must be made almost instantaneously. The fewer underlying possibilities there are to consider before the behavior can be recorded, therefore, the better. In the current study, observers had to analyze each statement made by a student
teacher to determine the category to which it belonged, if any. When a reinforcing statement was identified, the type of behavior it reinforced became the next issue. The observer had to decide whether a rule, behavior or skill was being reinforced. A third decision determined whether the reinforcing statement was positive or negative. Then, if it was a positive skill statement, did it contain specific information? With behaviors that were clearly defined and easily distinguishable, the investigator felt this represented a reasonable degree of decision making, one that the peer observers could master without extensive training.

A second factor influencing reliability is a low frequency count in a behavior category. A low frequency makes it more difficult to attain reliability because errors in classification of behavioral events are inflated by the small numbers that are inserted into the formulas used to calculate reliability. In this study, low frequency counts for rule enforcing statements, negative behavior statements, and corrective skill statements quite often deflated the reliability measures even when the errors were very small. Reliability measures computed and reported for behaviors with a frequency count less than ten, therefore, have been identified in Table 3.
| SUBJECT | ACTIVITY | 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 |
|---------|----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Positive | Rain | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) |
| Enforcement | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) |
| 1 | (.43) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) |
| 2 | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) |
| 3 | (.75) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) |
| 4 | (.50) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) |
| 5 | (.37) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) |
| 6 | (.18) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) |
| 7 | (.09) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) |
| 8 | (.65) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) | (.00) |

**TABLE 3**

**RELIABILITY MEASURES FOR FREE OBSERVERS IN THE EXPERIMENTAL GROUP USING TRAINED OBSERVERS**

- Blocks indicate that no reliability checks were made.
- * Indicates that no behaviors were recorded by either observer.
- ** Indicates that only one observer recorded the behavior.
- () Indicates that few than ten behaviors were recorded.
Table 3 (Continued)

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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<td>0.76</td>
<td>0.76</td>
<td>0.81</td>
</tr>
<tr>
<td>Management Time</td>
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<td>0.83</td>
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<td>1.00</td>
<td>0.91</td>
<td>1.00</td>
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<tr>
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<tr>
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<td>0.96</td>
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<td>0.96</td>
</tr>
</tbody>
</table>

N = 20

*Blank* indicates that no reliability checks were made.
*O* indicates that no behaviors were recorded by either observer.
*X* indicates that only one observer recorded the behavior.
( ) indicates that less than ten behaviors were recorded.
A third factor that can result in reliability problems involves observer training. Behavior categories in which reliability scores are low must be discussed and the definition must be reviewed. During the present study, the peer observers experienced difficulty distinguishing between rule enforcing statements and behavioral statements. When the definition for rule enforcing statements was made more stringent, reliability improved. Additional difficulty was experienced when the student teachers were asked to distinguish between instruction time, transition time, and management time. Correcting this problem required further instruction, elaboration, numerous concrete examples, and practice.

Reliability checks in this study were made on the trained assistant, university supervisor, and peer observers. Reliability checks were not made on the cooperating teachers who collected data on the student teacher's distribution of attention and use of names. Neither the trained assistant nor the investigator knew the children well enough to record those interactions accurately.

**Trained Assistant Reliability**

The trained assistant received individual instruction
and surpassed the .80 criterion level for all behavior categories before data collection began. She then gathered data on student teachers in both the control and experimental groups, and made reliability checks on the investigator. When reliability checks were made on the investigator, both observers utilized the total observation format. These checks were done during baseline, intervention, and maintenance phases of the study. Except for low frequency categories (n<10), the .80 criterion level was exceeded during each check for each behavior.

Peer Observer Reliability

In addition to the reliability checks made on the investigator and trained assistant, it was necessary to determine the reliability of the peer observer's recording of their partner's teaching behaviors. Supervisor-peer reliability was used to determine the degree of agreement between the behavior recorded by the trained assistant or investigator and the peer observer. A reliability criterion was established at .80 and computed for each student teacher by totaling the number of agreements and disagreements for each behavior and inserting the sums in the formula:
Reliability measures for the peer observers in the experimental group are shown in Table 3. The number of reliability checks made on each of the peer observers varied due to scheduling difficulties or unforseen circumstances.

For rule enforcement and behavioral feedback, eight reliability checks were made on one peer observer, nine were made on two, ten were made on four, and eleven were made on one. A total of seventy-seven reliability checks were made for rule enforcement and behavioral feedback on the peer observers.

For class time utilization, four reliability checks were made on one peer observer, five on another, and six on the remaining six. A total of forty-five reliability checks were made for class time utilization.

For skill feedback, three reliability checks were made on two peer observers, four were made on three, and five were made on the remaining three for a total of thirty-three.

All of the reliability checks were spread across the three phases of the study — baseline, intervention, and
maintenance. Distributing the reliability checks in this manner and providing continuous feedback following each reliability check helped reduce problems of forgetting, new learning, and/or fatigue.

Reliability measures for the eight peer observers varied with each lesson across all ten behaviors and ranged from .13 to 1.00, with a group mean score of .86. Individual scores were summed and mean scores were computed for each behavior category. The results are as follows: one peer observer achieved the .80 level of acceptability on all ten behaviors, four on nine out of ten, two on seven out of ten, and one on six out of ten. Group mean scores were also computed for each behavior. It is encouraging to note that, although there were four low frequency categories, the group means met the established criterion level of .80 for 100% of the behaviors recorded. The investigator believes these results support a conclusion that the data collected in this study were reliable.

**Multiple Baseline Analysis**

Analysis of the data involved eight replications of single subject multiple baselines across behaviors. The purpose of the multiple baseline design was to demonstrate,
graphically, a causal relationship between the introduction of the independent variable and a resultant change in designated behaviors (dependent variable). According to Parsonson and Baer (1978), judgements of the adequacy and meaningfulness of the data, and the conclusions drawn from behavioral analysis research are all based on visual analysis of graphed data. A convincing demonstration of change is dependent on observable differences between baseline and experimental conditions. The change must be of sufficient magnitude to be clearly evident to the eye.

As was stated earlier, no baseline data were collected for rule enforcement or behavioral feedback in this study, due to the necessity of using these behaviors at the start of the student teaching experience to establish a positive learning environment. Without these baseline measurements, it was not possible to demonstrate control of these behaviors. Percentages and/or rates of occurrence for all fifteen target behaviors were shown in multiple baseline graphs, one for each student teacher in the experimental group. Parsonson and Baer's (1978) outline of the statistical properties of data that are relevant to visual analysis was used to analyze each multiple baseline graph across behaviors, for each subject in the experimental group. Mean rates or percentages and changes
between baseline, intervention, and maintenance for each behavior and for each subject are shown in Table 4.

Subject One

Analysis of the data indicate that subject one's use of positive rule enforcing statements was consistently better during intervention than during maintenance. Negative rule enforcing statements stayed below a rate of .1 per minute, and corrective skill feedback stayed below .9 throughout the study. Negative behavioral statements were at, or near, zero during intervention and remained below .5 during maintenance. The baseline measurements for distribution of attention and use of names all showed upward trends, with overlap during intervention, and slight improvement during maintenance. The percent of activity time increased somewhat during intervention. Increases and decreases during this phase were accompanied by corresponding decreases and increases in both transition time and management time. The percent of positive specific skill feedback showed the greatest improvement. Baseline data sloped downward, with a dramatic increase in level during intervention. With a single exception, maintenance scores returned to baseline. "On-task" student behavior showed a slight decrease during
### TABLE 4

**INDIVIDUAL AND GROUP MEAN RATES OR PERCENTAGES AND CHANGES BETWEEN BASELINE, INTERVENTION, AND MAINTENANCE FOR SUBJECTS IN THE EXPERIMENTAL GROUP**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Subject</th>
<th>Baseline</th>
<th>Intervention</th>
<th>B-I Change</th>
<th>Maintenance</th>
<th>I-M Change</th>
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<tbody>
<tr>
<td>Rate/Minute</td>
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<td>.345</td>
<td>.164</td>
<td>-.181</td>
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<td>.186</td>
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<td>Enforcement</td>
<td>4</td>
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<td>-4.27</td>
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intervention, but students were on-task from 85-97% of the
time throughout the study. Data for positive behavioral
feedback, positive skill feedback, transition time, and
management time were variable with significant overlap in
all phases.

Only the changes in activity time and positive
specific feedback appeared to correlate with the interven­
tion. Graphic presentation of the data for Subject One
can be found in Figure 5.

Subject Two

Data analysis showed scores near zero during interven­
tion for negative behavioral feedback and, although this
level was maintained through lesson 10, the remaining
scores in maintenance did show a slight increase. Base­
line measures for distribution of attention and use of
names were stable or showed a downward trend, followed by
a noticeable increase in trend and/or level during inter­
vention. Maintenance scores overlapped with those in
intervention. Positive skill feedback also increased
during intervention, but then returned to baseline. Five
positive specific skill feedback scores were higher dur­
ing maintenance than in the earlier two phases. Data for
rule enforcement, positive behavioral feedback, use of
Figure 5. Multiple Baseline Analysis Across Babaealors

STUDENT NAMES USED

AT LEAST ONCE

USE OF NAMES STUDENTS INTERACTED

WITH AT LEAST ONCE

Fsrcent Rate/Minute

TEACHER/STUDENT

INTERACTIONS

Rate/Minute

BEHAVIORAL FEEDBACK RULE ENFORCEMENT

Negative

Positive

Rate/Minute

0 >

0>

x* o

1

0

0
class time, corrective skill feedback, and "on-task" student behavior were variable with considerable overlap throughout.

Five behavior changes were attributed to the intervention. The multiple baseline analysis for Subject Two is shown in Figure 6.

**Subject Three**

Intervention and maintenance scores for positive rule enforcement overlapped throughout the study with the exception of three high scores in lessons 22, 23, and 25. Negative rule enforcement measures showed an upward trend during intervention, a downward trend and variability through lesson nine, then, consistently low scores (below .17) for the remainder of the study. Scores for positive behavioral feedback showed a slight upward trend during intervention, a sharp increase in level through lesson 14, in maintenance, followed by variable and overlapping scores. Negative behavioral feedback was consistently low (below .2) during intervention and still low (below .8), but more variable, during maintenance. Baseline measures for distribution of attention and use of names all showed upward trends, with an increase in level during intervention and a slight decrease during maintenance, with the exception of the percent of students that Subject
Figure 6. Multiple Baseline Analysis Across Behaviors
Experimental Group – Subject Two
Three interacted with at least once. Those scores remained consistently high. While activity time and transition time varied considerably, they did tend to counteract each other. When activity time increased, transition time decreased, and vice versa. A slight decrease in management time was observed during intervention. Data for skill feedback and "on-task" student behavior were variable and overlapping.

Only the change in management time could be attributed to the intervention. Graphic presentation of the data for Subject Three is shown in Figure 7.

Subject Four

Intervention and maintenance scores for positive rule enforcement overlapped throughout the study, with the exception of two high scores (lessons 23 and 25). Scores for negative rule enforcement were variable through lesson 8 and then remained consistently below .16 for the remainder of the study. Positive behavioral feedback showed scores exceeding intervention during the first seven lessons of the maintenance phase. Baseline rates for distribution of attention and use of names showed an upward trend, while those showing the percent of students interacted with and/or called by name showed a downward
Figure 7. Multiple Baseline Analysis Across Behaviors.

- STUDENT NAMES USED AT LEAST ONCE
- USE OF NAMES STUDENTS INTERACTED WITH AT LEAST ONCE

Rate/Minute Percent

<table>
<thead>
<tr>
<th>Rate/Minute</th>
<th>Rate/Minute</th>
<th>Rate/Minute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>Positive</td>
<td>Negative</td>
</tr>
</tbody>
</table>

Lesson
trend. The rate of student/teacher interactions showed some overlap and slight improvement during intervention, followed by a noticeable decrease during maintenance. The percent of students interacted with at least once stabilized at 100% during intervention and became variable, overlapping with baseline and intervention measures, during maintenance. The rate names were used showed an increase in level during intervention, followed by a return to baseline during maintenance. Scores showing the percent of students whose names were used at least once followed an upward slope in intervention with variability and some overlap in maintenance. Data for use of class time were generally variable and overlapping, although a pattern was observed between increases and decreases in activity time, and corresponding decreases and increases in transition and management time. The most substantial improvement was observed for positive specific skill feedback. Subject Four gave absolutely no positive specific skill feedback during baseline. This was followed by a dramatic increase in level during intervention and then variability during maintenance, with only one score in nine returning to baseline. Data for positive and corrective skill feedback and "on-task" student behavior were somewhat variable and overlapping, with corrective
feedback scores remaining below 1.8 and "on-task" student behavior ranging from 81-97%.

Three changes were observed that correlated with the intervention. The multiple baseline graph for Subject Four is shown in Figure 8.

Subject Five

Baseline data for distribution of attention and use of names showed downward trends. There were too few data points for distribution of attention during intervention and maintenance, however, to discern any improvement, since the cooperating teacher who observed Subject Five forgot to distinguish between interactions and use of names when coding. The post checks that were completed, following discovery of the error, showed that Subject Five consistently interacted with more than 84% of the students during each lesson. Intervention and maintenance data for use of names, rule enforcement, and behavioral feedback were variable and overlapping. Subject Five maintained consistently lower corrective skill feedback scores (1.8) than positive ones and students were "on-task" 77-96% of the time. The most noticeable improvement was in Subject Five's use of positive specific skill feedback during intervention and maintenance. Data for
Figure 8: Multiple Baseline Analysis Across Behaviors

Experimental Group - Subject Four

Use of Names
Students Interacted With at Least Once

Teacher/Student Interactions
Behav. Feedback
Rule Enforcement

LESSON
use of class time and positive skill feedback were variable and overlapping.

Only the change in positive specific skill feedback was of sufficient magnitude to warrant correlation with the intervention. Graphic presentation of Subject Five's data is shown in Figure 9.

Subject Six

Data for Subject Six were mostly variable and overlapping. There was an upward trend during intervention for positive rule enforcement, but very low scores from lesson 16 to the end of the study. Data for Subject Six showed consistently low negative rule enforcement (≤.24), negative behavioral feedback (≤.39), and corrective skill feedback (≤.8) throughout the study. During maintenance, Subject Six demonstrated his ability to consistently interact with 100% of the students in class and use their names when doing so. Students were "on-task" 78-97% of the time.

The only noticeable increase during intervention was the percent of activity time. The multiple baseline graph for Subject Six is shown in Figure 10.

Subject Seven

Data for Subject Seven showed an upward slope during
EXPERIMENTAL GROUP - SUBJECT TYPE

- STUDENT NAMES USED AT LEAST ONCE
  - Percent

- USE OF NAMES WITH AT LEAST ONCE
  - Rate/Minute

- STUDENTS INTERACTED WITH AT LEAST ONCE
  - Percent

- TEACHER/STUDENT INTERACTIONS
  - Rate/Minute

- BEHAVIORAL FEEDBACK
  - Rate/Minute

- RULE ENFORCEMENT
  - Rate/Minute
Figure 9 (continued)
intervention for both positive and negative rule enfor- 
cing statements, that decreased as soon as the intervention 
ceased. A higher rate of positive behavioral statements 
was observed during maintenance than during intervention. 
Subject Seven maintained consistently low negative be-
havioral feedback (4.28) and corrective skill feedback 
(4.9) throughout the study. Data for distribution of 
attention and use of names was generally variable, although 
Subject Seven was able to maintain 100% interaction and 
use of names for the final three post checks. Activity 
time showed an increase in level during intervention with 
a corresponding decrease in transition time. Both were 
maintained. There was also a noticeable increase in 
positive skill feedback during intervention. Subject 
Seven's use of positive specific skill feedback varied 
greatly. With one exception, students were "on-task" 
91-100% of the time.

Convincing demonstrations of change were observed 
during intervention for three behaviors. Graphic presenta-
tion of the data for Subject Seven is shown in Figure 
11.

Subject Eight

Data for rule enforcement and behavioral feedback were
Figure 11. Multiple Baseline Analysis Across Behavior

- Student Names Used at Least Once
- Use of Names
- Students Interacted With at Least Once
- Teacher/Student Interactions
- Behavioral Feedback
- Rule Enforcement
variable, with intervention scores sloping downward for positive and upward for negative rule enforcing statements. All four baselines for distribution of attention and use of names had an upward trend, which continued into intervention for the first two data points for rate of behavior. Scores stabilized at 100% interaction and use of names for seven of eight data points during intervention. Maintenance scores were variable and overlapped with the first two phases. Since all three baselines for use of class time decreased, the percent of time spent in instruction must have increased. There was a slight increase in activity time and decrease in transition time during intervention. The slope for management data points rose during intervention. Maintenance scores were variable. A definite increase in both positive skill feedback and positive specific skill feedback was evidenced during intervention and corrective skill feedback remained below 1.0 during intervention and maintenance. Students were "on-task" 79-97% of the time.

A total of four behaviors were correlated with the intervention. The multiple baseline graph for Subject Eight is shown in Figure 12.
Figure 22. Multiple Baseline Analysis Across Behaviors
Experimental Group - Subject Eight
Statistical Comparisons Within Groups

Experimental Group

The t-Test for Related Measures was used, in addition to the Multiple Baseline Design, to compare baseline, intervention, and maintenance scores for each student teacher in the experimental group. These scores included all the data collected during each phase, with the exception of the skill feedback given in lesson 16. These data were excluded from all mathematical computations because of the large decrease in positive skill feedback experienced by the eight subjects. The investigator felt that the decrease was directly related to the lesson content (parachute activities), and was not an accurate reflection of the student teacher's ability to give positive specific skill feedback. Hutslar (1976) also reported a decrease in feedback when the class activity included organized play on the part of the whole class.

The t-Test handles independent measures. Because scores for the same subjects are considered to be related measures, a difference measures \((X_2 - X_1)\) was obtained. The means were listed for each subject, behavior and phase in Table 4. Following subtraction of the means, the data were considered to be independent difference
measures. These measures were then used to calculate the mean difference ($\bar{X}_d$) and estimated population variance ($S_d$). The t-value was computed from these difference measures using the formula:

$$
t(n-1) = \frac{\bar{X}_d}{S_d/\sqrt{n}}
$$

Each of the difference measures, the t-value, and the level of significance are shown in Table 5.

**Statistical Findings for the Experimental Group**

The t-Test for Related Measures showed statistically significant group mean changes between baseline and intervention for ten of the eleven behaviors. Percent management time was the only behavior that did not show change at, or beyond, the .05 level of significance. All but one change was in the desired direction. The percent of students "on-task" was higher before than during or after intervention.

Desired changes were maintained for seven of the nine behaviors. Those reverting to baseline measures included percent transition time and rate/minute positive skill feedback during activity. Management time did show a statistically significant decrease between intervention and
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<th>INTERVENTION -- MAINTENANCE</th>
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**Table 5**

1-TEST FOR RELATED MEASURES -- EXPERIMENTAL GROUP
maintenance. A statistically significant increase between intervention and maintenance occurred for positive behavioral feedback. As a group, the subjects in the experimental group used more positive behavioral statements during maintenance, than during intervention. No significant differences were shown between intervention and maintenance for rule enforcement or negative behavioral feedback. The scores exhibited for these behaviors during intervention were maintained throughout the study.

Group mean changes in the desired direction between baseline and maintenance were significant for six of the eleven behaviors. These included distribution of attention, use of names, percent of students interacted with, percent of names used, percent activity time, and percent positive specific skill feedback. Those not showing improvement between these two phases were percent transition time, percent management time, rate/minute positive skill feedback, and rate/minute corrective skill feedback. Percent students were "on-task" changed significantly in the undesired direction. Students were "on-task" significantly less time after lesson 16 than they were before that time.

**Control Group**

The t-Test for Related Measures was used to compare
initial and final measures of the eleven behaviors coded for the six student teachers in the control group. Distribution of attention, use of names, percent of interaction, and percent of names used were not included.

Four initial measures were recorded during the first four weeks of student teaching. An attempt was made by the investigator and trained assistant to collect data during the first two weeks, but weather and absences interfered in thirteen of twenty-four cases. The final measures included four scores for each target behavior recorded during the final two weeks of student teaching for all but one student teacher who was only observed three times.

The group mean scores for initial and final measures are shown in Table 7. The difference measures, estimated population variance, t-value, and level of significance for each target behavior is shown in Table 6.

**Statistical Findings for the Control Group**

The t-Test for Related Measures showed statistically significant changes for three of the eleven behaviors. Over the course of the study, the control group significantly increased percent activity time and significantly decreased negative behavioral feedback and management time.
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<th>FINAL MEASURES —</th>
<th>Level of Significance</th>
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<td>Percent Management Time</td>
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<tr>
<td>Percent Positive Specific Skill Feed.</td>
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<td>-.3055</td>
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<tr>
<td>Percent Students &quot;On-task&quot;</td>
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<td>7.0054</td>
<td>.6994</td>
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</table>
Discussion of Multiple Baseline Analysis and Statistical Analysis Within Groups

The multiple baseline graphs showed considerable variability for all eight subjects across the following behaviors: positive rule enforcement, positive behavioral feedback, teacher/student interactions, use of names, student names used at least once, positive skill feedback, and positive specific skill feedback. Some variability was to be expected due to individual differences. Two other contributing factors were cited in the Hutslar (1976) study and supported by Cramer (1977). The first of these suggested that when more than one discrete behavior is included within a category, variability is to be expected. Secondly, Hutslar (1976) found that certain lessons and activities lend themselves more to teacher/student interactions than others. In this study, intervention and maintenance goals were not standardized. Student teachers were encouraged to do their personal best and work to improve low scores. This was done in an attempt to prevent non-genuine interactions. In achieving this goal, however, variability may have been affected.

It is encouraging to note, however, that the student teachers in the experimental group consistently maintained
higher positive interaction scores than negative or corrective ones throughout the study. This was supported graphically, as well as statistically. Statistical analysis of control group interaction data showed the reverse to be true. Initial and final group mean scores for negative rule enforcement and negative behavioral feedback were higher than for positive rule enforcement and positive behavioral feedback. Graphic and statistical analysis also showed that the student teachers in the experimental group learned to distribute their attention equally among their students, interacting with each child at least once during a lesson and, more often than not, using the child's name in the interaction.

It was interesting to note that, between baseline and intervention, an increase in activity time did occur for the experimental group as a direct result of a decrease in transition time. When transition time returned to baseline measures during maintenance, activity time remained high as a result of a decrease in management time. The fact that a significant increase in activity time was found without a corresponding decrease in either transition or management time between baseline and maintenance, may have been due to a decrease in instruction time during the latter part of the study. For the control group, the
significant increase in activity time appeared to be directly related to the significant decrease in management time.

One intervention that appeared to be strong in both graphic and statistical analyses was the use of positive specific skill feedback. Increases in the mean percent, following intervention, were apparent for seven of the eight student teachers in the experimental group. The group mean, following intervention, was statistically significant. Initial and final measures of this behavior for the control group remained virtually unchanged.

One might ask why the significant increase in the corrective skill feedback group mean between baseline and intervention was considered a change in the desired direction. The investigator feels this change was positive due to the reluctance of student teachers to use corrective skill feedback because of its negative connotations. The investigator explained the value of corrective feedback and encouraged its use, especially during the locomotor skills unit, as long as the ratio remained 2:1 in favor of the positive skill feedback. This was to insure a learning environment that was more positive than negative. Student teachers were also trained to pair corrective feedback with positive feedback, whenever possible.
The decrease in student "on-task" behavior that occurred may have resulted when direct instruction was replaced with station work. Lessons 8, 12, 18 and 19 were station lessons. In addition, during the last two weeks, many of the student teachers in the experimental group designed station lessons to develop the major and minor manipulative themes that were on the block plan. Although the evidence is not conclusive, it tends to support the use of direct instruction when time-on-task is a primary goal.

The behaviors intervened upon by the investigator, following baseline measures, showed unmistakable changes in the desired direction on the multiple baseline graphs in only 20 out of 88 cases. The multiple baseline analyses indicate that the strategies utilized by the investigator were not as effective in changing target behaviors as they might have been. One explanation for this is that many of the desired behaviors were built into the detailed lesson plans, and actually practiced and reinforced before becoming target behaviors. The upward trends in baseline and the fact that so many positive changes were maintained may tend to support this. Thus, the primary intervention may have superseded the others.

The absence of consistent graphic improvement and the obvious presence of statistical improvement between baseline
and intervention among subjects in the experimental group, however, does require further explanation. The apparent contradiction is not unusual. Parsonson and Baer (1978) believe that the effects of producing a change that is of sufficient magnitude to be clearly evident to the eye, probably needs to be more powerful than that required to produce statistically significant change. Jones, Weinrot, and Vaught (1975) have reached a similar conclusion—that visual appraisal appears to be more conservative than statistical analysis. The present study appears to support that contention.

Statistical Comparisons Between Groups

The t-Test for Independent Measures was used to test for significance between the experimental and control groups on final measures. Final measures included the final four scores collected on the eleven behaviors that were observed for members of both groups. Computation of the t-value utilized the following formula:

$$ t = \frac{\bar{X}_1 - \bar{X}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} $$
where . . .

$$s = \sqrt{\frac{(n_1-1)s_1^2 + (n_2-1)s_2^2}{n_1 + n_2 - 2}}$$

The means, standard deviations, t-values and levels of significance are shown in Table 7.

**Statistical Findings**

Analysis of the initial performance scores revealed statistically significant differences, in favor of the experimental group, for six of the eleven behaviors. The experimental group showed higher scores for positive rule enforcement, positive behavioral and skill feedback, and percent of students "on-task" and lower scores for negative behavioral feedback and management time.

Analysis of the final performance scores revealed statistically significant differences, in favor of the experimental group, for ten of the eleven behaviors. The student teachers in the experimental group gave more positive and corrective reinforcing statements, gave less negative reinforcing statements, spent more time in activity and less time in transition and management, and their percent of positive specific feedback was greater. The percent of student's "on-task" decreased for the student
### Table 7

**t-Test for Independent Measures**

<table>
<thead>
<tr>
<th>Behavior Categories</th>
<th>Final Measures</th>
<th>$\overline{x}_1$</th>
<th>$\overline{x}_2$</th>
<th>$s$</th>
<th>$t(12)$</th>
<th>Value</th>
<th>Level of Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate/Min. Positive Rule Enf.</td>
<td></td>
<td>.39</td>
<td>.05</td>
<td>.2781</td>
<td>2.2639</td>
<td>.025</td>
<td></td>
</tr>
<tr>
<td>Rate/Min. Negative Rule Enf.</td>
<td></td>
<td>.1013</td>
<td>.2783</td>
<td>.1538</td>
<td>-2.1312</td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td>Rate/Min. Positive Beh. Feed.</td>
<td></td>
<td>.6575</td>
<td>.2033</td>
<td>.3759</td>
<td>2.2372</td>
<td>.025</td>
<td></td>
</tr>
<tr>
<td>Rate/Min. Negative Beh. Feed.</td>
<td></td>
<td>.1988</td>
<td>.5883</td>
<td>.1979</td>
<td>-3.6432</td>
<td>.0025</td>
<td></td>
</tr>
<tr>
<td>Percent Activity Time</td>
<td></td>
<td>60.063</td>
<td>47.958</td>
<td>10.2</td>
<td>2.1972</td>
<td>.025</td>
<td></td>
</tr>
<tr>
<td>Percent Management Time</td>
<td></td>
<td>13.144</td>
<td>19.892</td>
<td>4.419</td>
<td>-2.8273</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>Rate/Min. Positive Skill F.</td>
<td></td>
<td>2.12</td>
<td>.9217</td>
<td>.6829</td>
<td>3.2491</td>
<td>.005</td>
<td></td>
</tr>
<tr>
<td>Rate/Min. Corrective Skill F.</td>
<td></td>
<td>.615</td>
<td>.2683</td>
<td>.2596</td>
<td>2.4730</td>
<td>.025</td>
<td></td>
</tr>
<tr>
<td>Percent Pos. Spec. Skill F.</td>
<td></td>
<td>37.438</td>
<td>10.175</td>
<td>15.12</td>
<td>3.3384</td>
<td>.005</td>
<td></td>
</tr>
<tr>
<td>Percent Students &quot;On-task&quot;</td>
<td></td>
<td>86.875</td>
<td>86.167</td>
<td>5.816</td>
<td>.2255</td>
<td>ns</td>
<td></td>
</tr>
</tbody>
</table>

$X_1$ Experimental Group Mean

$X_2$ Control Group Mean
teachers in the experimental group and increased slightly for the student teachers in the control group, resulting in no significant differences between the two groups on the final measures.

Discussion of the Statistical Analysis Between Groups

Analysis of initial performance scores between the two groups revealed statistically significant differences, in favor of the experimental group, for three of the four behaviors that were already in intervention and three additional behaviors. As was stated earlier, all of the student teachers who were registered for Phase II participated in the study. Each was assigned to either the control group or the experimental group on the basis of either the proximity of the school to their home or their school/work schedules. Placement of student teachers typically follows this procedure. Due to the nature of the study, the names of those student teachers who did not fall into either category were placed in a hat and drawn randomly. Although chance is always a factor, the investigator believes there is a logical explanation for differences. The student teachers in the experimental group were given twenty detailed lesson plans to follow. The first three lessons dealt specifically with establishing a positive and productive learning environment.
Techniques for presenting and enforcing rules, and reinforcing appropriate behavior were introduced in seminar. Each of the student teachers practiced teaching one of the first eight lesson plans to their peers and were videotaped doing so. The student teachers in the experimental group also learned to code rule enforcement and behavioral feedback reliably before beginning their student teaching experience. The control group did not receive any training in the use of feedback or other classroom management techniques. Thus, if the student teachers in the experimental group were not initially better than the control group in those behaviors that are directly related to classroom management, the intervention would not have been effective. The investigator believes that the statistically significant differences between the groups on the initial measures demonstrate the effectiveness of the intervention techniques that were instituted before student teaching began.

The initial differences found for positive skill feedback between the two groups, may have resulted from generalization. Once the student teachers learned to positively reinforce their students for appropriate behavior, they tended to use the same positive approach when reacting to their student's motor behavior. Skill
feedback was not one of the initial target behaviors, yet early lesson plans did encourage this kind of interaction.

The investigator believes that the ten statistically significant differences on the final measures between the experimental and control groups are impressive. The fact that the student teachers in the experimental group were able to maintain or improve designated teacher effectiveness skills throughout their student teaching experience is encouraging. Student teachers in both groups improved their rate/minute of positive rule enforcing statements, but the difference between the two groups remained statistically significant in favor of the experimental group. Student teachers in the experimental group gave less negative rule enforcing statements, but more negative behavioral statements from initial to final measures. Student teachers in the control group did the reverse. It is interesting to note that even though the student teachers in the control group decreased their use of negative behavioral feedback significantly over the course of the study, and the experimental group's use of negative behavior statements increased slightly, the experimental group's use of these statements was still significantly lower than the control group's at the end
of the study. The student teachers in the experimental group also maintained consistently lower rates of negative rule enforcing statements and higher rates of positive behavioral and skill feedback than members of the control group. The experimental group increased their percent of positive skill feedback with specific information significantly, while the control group did not. Thus, the experimental group was significantly better at giving this kind of feedback at the end of the study.

Both groups increased their percent of activity time significantly, yet members of the experimental group achieved a percent of activity time that was statistically higher than the control group on the final measures. Although transition time and management time were not significantly reduced across the course of the study for members of the experimental group, and management time was significantly reduced for members of the control group, the experimental group still maintained or achieved significantly lower final percentages in both of these areas.

The only discouraging factor was the drop in the percent of student "on-task" behavior for the experimental group at the conclusion of the study. This may have been due to removal of the detailed lesson plans or, as was
suggested earlier, a change in teaching methodology. Both
groups had nearly identical group mean scores for this
behavior at the end of the study.

Discussion Concerning the Quality Instruction Profile

The Likert-type rating scale, labeled the Quality
Instruction Profile (QIP), that was employed by the coop­
erating teachers, student teachers, peer observers, and
university supervisor to provide the student teachers in
the experimental group with subjective information regard­
ing additional teaching skills did not yield meaningful
data. Cooperating teachers in the elementary schools in
California are primarily classroom teachers. Most look
forward to receiving a student teacher from California
State University, Sacramento each semester. Due to their
lack of expertise in physical education, they are so im­
pressed with what our student teachers do with their
students, that they rarely give anything but praise. Con­
sequently, their ratings on the QIP were consistently
high across behaviors, with one or two exceptions. In
most cases, the peer observers also gave the highest
possible ratings on the profile. While each subject and
the university supervisor were able to use the QIP to
identify weaknesses, no interventions were introduced to
help the student teachers improve. Thus, the feedback was more informational than anything else. The Quality Instruction Profile was not used for the control group.

Summary

Answers to the research questions that were asked in this study are summarized in this section. The first question dealt with reliability. Peer observers were trained to collect data on rule enforcement, behavioral feedback, use of class time, skill feedback, and "on-task" student behavior. Reliability measures for the eight observers varied with each lesson across behaviors. Individual scores were summed and mean scores were computed for ten specific teacher behaviors. The results showed individual mean scores for each behavior at or above the .80 criterion level in 66 of 80 cases, with only three individual mean scores below .71. Group mean scores met the criterion level of .80 for 100% of the behaviors recorded. The investigator concluded that the majority of the data collected by the peer observers were, indeed, reliable.

Multiple baseline analyses for each of the eight student teachers in the experimental group were subjected to visual analysis across fifteen behaviors. Without
baseline measurements, it was not possible to demonstrate control of rule enforcing statements or behavioral feedback. Convincing demonstrations of change in the desired direction during intervention were sought for the remaining eleven behaviors. Only twenty changes, out of a possible 88, were determined to be of sufficient magnitude to warrant correlation with the intervention. These were:

Subject One -- percent activity time and positive specific skill feedback.

Subject Two -- Rate/minute student/teacher interactions, use of names, and positive skill feedback; percent students interacted with at least once and students whose names were used at least once.

Subject Three -- Percent management time.

Subject Four -- Percent students interacted with at least once, student names used at least once, and positive specific skill feedback.

Subject Five -- Percent positive specific skill feedback.

Subject Six -- Percent activity time.

Subject Seven -- Percent activity time and transition time; rate/minute positive skill feedback.

Subject Eight -- Percent activity time, transition time, and positive specific skill feedback; rate/minute positive skill feedback.
Statistical comparisons between baseline and intervention revealed statistically significant experimental group mean changes for ten of eleven behaviors. Percent management time was the only behavior that did not show change at, or beyond, the .05 level of significance. The percent of students "on-task" changed significantly in the wrong direction. Significant and desirable changes, therefore, occurred for nine of eleven behaviors during intervention. The absence of consistent graphic improvement and the obvious presence of statistical improvement between baselines and intervention, among subjects in the experimental group, supports the contention that visual appraisal is often more conservative than statistical analysis (Jones, Weinrot, and Vaught, 1975).

Statistical comparisons between initial and final measures for members of the control group showed statistically significant and desirable changes for percent activity time, percent management time and rate/minute negative behavioral feedback.

Statistical comparisons between experimental group means and control group means revealed statistically significant initial differences, in favor of the experimental group, for six of eleven behaviors: positive rule enforcement, positive behavioral feedback, positive skill
feedback, percent students "on-task", negative behavioral feedback and management time. The investigator believes initial differences occurred as a direct result of the primary intervention.

Analysis of the final performance means for the two groups, revealed statistically significant differences, in favor of the experimental group, for ten of eleven behaviors. There was no statistically significant difference between the two groups for student "on-task" behavior.

Use of the Quality Instruction Profile by the joint supervision team did not yield meaningful data.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

There is a pressing need to develop preservice supervision models that draw upon the findings of recent teacher effectiveness research efforts, in order to help student teachers acquire effective teaching behaviors and maintain these behaviors during their professional careers. Allowing student teachers to teach the way they were taught perpetuates a stereotype of physical education that is seldom positive, rarely valued, and too often accepted. If ever there was a time for change, that time is now.

We are in an era of financial difficulty and accountability. It is possible that only those who can convince administrators of the value of quality physical education, and only those who are willing to be held accountable for the outcomes of their program, will survive. Effective supervision might hold a key to survival. Student teachers whose supervisors are able to help them make changes in their behavior, that will impact positively on student behavior, may have a decided advantage.
Summary of Study

The main purpose of this study was to improve the teaching effectiveness of eight elementary physical education student teachers by:

(a) Providing them with a packet of detailed lesson plans that encouraged the use of selected teacher behaviors, and discouraged the use of others.

(b) Providing them with objective data, collected systematically and regularly, on their use of selected teacher effectiveness behaviors.

(c) Providing them with the opportunity to receive feedback and support from a team of supervisors composed of the university supervisor, trained assistant, cooperating teacher, and, most importantly, a peer.

The specific questions to be answered in the study were:

1. Can peer observers be trained to collect reliable data on ten designated teacher behaviors?

2. Will graphic analysis of data reveal observable changes in eleven designated teacher behaviors, following intervention, for eight student teachers in an experimental group?
3. Can student teachers in an experimental group achieve significantly higher mean rates or percentages of desirable teacher behaviors following planned intervention?

4. Can student teachers in an experimental group demonstrate significantly lower mean rates or percentages of undesirable teaching behaviors following planned intervention?

5. Will mean rates and percentages for eleven teacher behaviors change significantly for six members of a control group during their student teaching experience?

6. Can student teachers in an experimental group achieve significantly higher mean rates or percentages for desirable teaching behaviors, than student teachers in a control group?

7. Can student teachers in an experimental group demonstrate significantly lower mean rates or percentages for undesirable teaching behaviors, than student teachers in a control group?

8. Will use of a Quality Instruction Profile by the university supervisor, cooperating teacher, peer observer and student teacher provide feedback that can result in more effective teaching?
The literature review for this study involved a review of teacher effectiveness literature and contemporary supervision literature. The teacher effectiveness literature was reviewed to determine which process variables discriminated consistently between effective and ineffective teachers and the implications this had for supervision. Contemporary supervision literature was reviewed to determine the impact of various supervision models on teacher effectiveness, particularly in a physical education setting, and also to determine the effects of various supervisory relationships on student teacher growth.

The review of teacher effectiveness literature depicted a convergence of thought about the clusters of variables or patterns that consistently relate to student achievement and/or distinguish effective teachers from less effective ones. Classroom management techniques, teacher behavioral interactions, opportunity for active involvement with the subject matter, academic (skill) feedback, and student "on-task" or "engaged" behavior were the variables chosen from this review to be the focus of systematic observation and the targets for teacher change.

The major outcome of the supervision review was identification of contemporary supervision practices and
programs, including the data based supervision system that was used in this study.

The methodology chosen to improve the teaching skills of eight elementary physical education student teachers involved a close working relationship among the student teacher, peer observer, cooperating teacher, trained assistant, and university supervisor (investigator), for the purpose of systematically collecting data on specific teacher behaviors and providing the student teacher with regular feedback, encouragement and support. The primary intervention consisted of a series of detailed second grade lesson plans that encouraged the use of selected teacher behaviors, and discouraged the use of others.

Conclusions

The specific conclusions drawn from this research project are discussed below in relation to the research questions that were asked initially.

Question 1. Can peer observers be trained to collect reliable data on ten designated teacher behaviors?

High inter-observer agreement, individual mean scores greater than or equal to .80 in 66 of 80 cases, indicates that the peer observers were able to collect reliable data
a majority of the time. Individual mean scores exceeded the criterion level of .80 for all of the student teachers in the following behavior categories: negative rule enforcement, positive behavioral feedback, activity time, management time, and positive skill feedback. The investigator believes that Dodd's (1975) hypothesis and Siedentop's (1976) assertion that the strength and distinctiveness of behaviors aids the observer in the decision making process and results in higher interobserver agreement, applies to these results. The behaviors that yielded somewhat lower reliability scores included positive rule enforcement ($4 < .80$), negative behavioral feedback ($4 < .80$), transition time ($2 < .80$), corrective skill feedback ($1 < .80$), and positive skill feedback with specific information ($3 < .80$). Student teachers had difficulty distinguishing between rule enforcing statements and behavioral feedback. Discussion concerning low reliability for these behaviors led to the decision that a rule or part of a rule had to be specifically stated, not alluded to, to be coded as a rule enforcing statement. Student teachers sometimes confused negative behavioral and corrective skill feedback, as well. The definitions for these two behaviors needed to be made more stringent, or more discrimination training should have been done in
seminar. Student teachers tended to confuse transition time with instruction time. The mistake made most often was coding organizational instructions as instruction, rather than as transition. The problem with positive specific skill feedback might simply have been asking the student teachers to make one too many decisions in too short a period of time.

**Question 2.** Will graphic analysis of data reveal observable changes in eleven designated teacher behaviors, following intervention, for eight student teachers in an experimental group?

Visual inspection of eight multiple baseline graphs across eleven behaviors revealed only 20 of 88 unmistakable changes, following intervention. Observable changes for corrective skill feedback and "on-task" student behavior were non-existent. With the exception of positive specific skill feedback, individual strategies used by the investigator were generally not effective. An explanation for this was discussed in Chapter IV and led to the conclusion that the primary intervention package (detailed lesson plans) most likely superseded the others and effected change much earlier in the study than planned. Graphic analysis, therefore, did not reveal changes that were systematically attributed to the independent variable.
Question 3. Can student teachers in an experimental group achieve significantly higher mean rates or percentages of desirable teacher behaviors following planned intervention?

Statistical analysis revealed significantly higher mean rates or percentages for eight of nine desirable behaviors. The statistically significant lower mean percentage for "on-task" student behavior indicated fewer students were "on-task" following intervention than during baseline.

Although individual changes, following intervention, were too slight to be readily observed with visual analysis, group means indicated statistically significant changes. Thus, the intervention was successful in changing eight of nine behaviors in the desired direction for the group as a whole.

Question 4. Can student teachers in an experimental group demonstrate significantly lower mean rates or percentages of undesirable teaching behaviors following planned intervention?

Statistical analysis revealed a significantly lower percent of transition time following planned intervention.
There was no significant difference between baseline and intervention for percent management time. The intervention was, therefore, successful in lowering the percent of one of two undesirable behaviors.

**Question 5.** Will mean rates and percentages for eleven teacher behaviors change significantly for six members of a control group during their student teaching experience?

Statistical analysis revealed a statistically significant improvement in the percent of activity time for this group and a significant reduction in the amount of negative behavioral feedback and management time. Even without a planned intervention, the student teachers were able to make three significant changes. This may have occurred as rapport with their students improved, as a direct result of feedback from their supervisor, or from a combination of the two.

**Question 6.** Can student teachers in an experimental group achieve significantly higher mean rates or percentages for desirable teaching behaviors, than student teachers in a control group?

Statistical analysis between groups on initial
measures revealed significantly higher mean rates, for members of the experimental group, on positive rule enforcement, positive behavioral feedback, and positive skill feedback, and a higher percent of "on-task" student behavior. The investigator believes these initial differences were a direct result of the primary intervention package.

Statistical analysis between groups on final measures revealed significantly higher mean rates, for members of the experimental group, on positive rule enforcement, positive behavioral feedback, positive skill feedback and corrective skill feedback. Significantly higher percentages, in favor of the experimental group, were shown for percent activity time and percent positive specific skill feedback. There was no significant difference between the two groups for "on-task" student behavior.

It is important to note that, although a statistically significant increase in activity time was shown for the control group, when the two group's mean scores were compared at the end of the study, the experimental group's percent of activity time was significantly higher. Thus, the planned intervention appeared to be more effective in increasing activity time than when it was left to chance.
Question 7. Can student teachers in an experimental group demonstrate significantly lower mean rates or percentages for undesirable teaching behaviors, than student teachers in a control group?

Statistical analysis between groups on initial measures revealed a significantly lower mean rate, in favor of the experimental group, for negative behavioral feedback and a significantly lower percent of management time for the same group. Both of these differences were attributed to the primary intervention package.

Statistical analysis between groups on final measures revealed significantly lower mean rates, in favor of the experimental group, for negative rule enforcement and negative behavioral feedback. Percentages were significantly lower for the experimental group on transition time and management time. Again, it is important to note that although members of the control group significantly lowered their rate of negative behavioral feedback and their percent management time throughout the course of the study, the group means were still significantly higher than those for the experimental group. The planned intervention appears to have been more effective in reducing these two behaviors, than occurs by chance or with traditional supervisory practices.
Question 8. Will use of a Quality Instruction Profile by the university supervisor, cooperating teacher, peer observer, and student teacher provide feedback that can result in more effective teaching?

Feedback provided on the Quality Instruction Profile by the cooperating teachers and peer observers, was virtually meaningless in terms of identifying those areas in which student teachers need to improve. With one or two exceptions, their ratings were consistently high across behaviors. While each student teacher and the university supervisor were able to identify areas needing improvement, no interventions were planned to aid improvement. Thus, the feedback was more informational than prescriptive and did not result in any measurable changes. One cannot conclude from this that the instrument was ineffective. The findings do indicate that it was not used effectively in this particular study.

The specific conclusions discussed above indicate that peers can be trained to collect reliable data and, thus, provide each other with daily objective feedback concerning performance of designated teacher effectiveness skills while teaching standardized lesson plans to second grade children. Graphic analysis did not reveal changes during intervention that were of sufficient
magnitude to warrant correlation with the independent variable. Observable changes, following weekly intervention, appeared to be masked by the overall effects of the detailed lesson plans (primary intervention), although lack of time in seminar or the absence of specific goals may have been responsible. Within-group comparisons were statistically significant for three of eleven behaviors for the control group and nine of eleven behaviors for the experimental group. Ten of eleven statistically significant differences were found between the two groups. The statistical changes were attributed to the intervention package.

In light of these results, the next question that needs to be addressed is whether or not the changes were great enough to warrant the time, energy, and/or financial expenditures required to elicit them and, if not, whether there exists a more efficient way to bring about the same degree of change.

In the current study, the standardized lesson plans were developed and field tested by the university supervisor. The training, also provided by the university supervisor for both the peers and cooperating teachers, involved written and verbal explanations, coding instructions, modeling, some peer teaching, and coding practice. After teaching and receiving the objective feedback, the student teachers were responsible for all
of the mathematical computations, which were later checked by the university supervisor, and for graphing their results.

The multiple baseline analysis certainly did not appear to support the time and energy invested each week on the new target behavior. Yet, the statistically significant group mean scores between baseline and intervention and between the experimental and control groups did support training preservice teachers in teacher effectiveness skills. Training cooperating teachers and peers to code designated behaviors reliably is also very time consuming, but seems necessary in light of the research that names them as significant others in the life of student teachers, and also because of the financial crisis colleges and universities would face if supervisors were compensated for visiting more frequently.

In the following section, the investigator explores several alternatives and suggests realistic ways to eventually reduce time and energy costs.

**Recommendations**

The primary intervention utilized in this study was effective in helping student teachers acquire and maintain
desirable teacher effectiveness behaviors and reduce undesirable ones. Although the time and energy needed to develop, field test, modify, and possibly videotape meaningful lesson plans would be excessive, one might seriously consider developing a series of such plans for different age levels. This would eventually result in a permanent file and one's time and energy could then be directed elsewhere. Instructional units could be utilized on a rotational basis so that children in the schools were not exposed to the same unit twice. Student teachers could use the lesson plans selected by the supervisor during the first two or three weeks of student teaching to help them make the transition from the classroom or a teaching/learning laboratory to the real life setting. Time could be spent in student teacher seminar analyzing the successful components of these lesson plans, suggesting modifications, and eventually designing their own series of lesson plans that would continue to maximize desirable behaviors and minimize undesirable ones.

If detailed lesson plans are going to be used in future supervision research, and this is highly recommended, careful attention should be given to lesson content and methodology. In the current study, lesson content and/or methodology seemed to be responsible for
much of the success experienced by members of the experi-
mental group. At other times, these two factors were
actually counterproductive to the intervention goals. It
is entirely possible that careful manipulation of these
variables could effect various teaching behaviors with
some degree of regularity. If this is true, student
teachers could be taught not only to design effective
lessons, but to increase rates and percentages of desir-
able behaviors as well. One might hypothesize that
student teachers who successfully learned to design and
implement effective lessons would be reinforced enough by
student behavior that they would continue to do so through-
out their career.

In the study under investigation, there was not
enough time in the weekly seminar to give the new target
behavior the attention it deserved. It seems much more
sensible to help preservice teachers acquire teacher effect-
iveness skills in a classroom or laboratory setting, and
learn to code the behaviors reliably before the student
teaching begins. Standardized lesson plans could aid
the transition into student teaching and, because all of
the behaviors utilized in this study were so closely
related, student teachers could tackle them all at once,
rather than concentrate on one or several at a time.
Goals could be set for the different behaviors at various intervals and passing student teaching might depend on their ability to meet those goals.

The use of peers and cooperating teachers to systematically collect data is recommended for future research, as well. This system seems to keep all concerned parties focused on similar goals. Again, the time and energy it takes to train others to code reliably is the biggest obstacle to this approach. As was suggested earlier, preservice teachers should be trained to master observational skills before student teaching begins.

It also seems sensible to train cooperating teachers and student teachers to observe different behaviors. This would increase the overall amount of data collected and decrease the amount each would collect. This should aid reliability considerably.

Voluntary in-service programs could be held in the school districts where student teachers are placed and those primary teachers who successfully complete the training program would be assured of a student teacher each semester. This would eliminate the need for constant training, although reliability checks would need to be made intermittently and retraining scheduled when necessary.

In the present study, daily observation became very
tedious for the peer observers and the cooperating teachers and was adjusted accordingly. For future research, it is recommended that coding begin on a daily basis and gradually be reduced to twice weekly, with the peer observers teaching a class of their own on the days they are not scheduled to observe and the cooperating teachers writing comments or providing feedback in other ways on their "free" days. The university supervisor would be responsible for making periodic reliability checks on all observers during the weekly visit, as well as providing support and feedback to help student teachers master the goals they are working toward.

A rating scale such as the Quality Instruction Profile should only be used by those who have been trained to evaluate realistically, and those who are willing to write comments to clarify scores given. Also, specific interventions must be planned to help student teachers who score continually low in a given area. Otherwise, the data this instrument yields are meaningless.

The rate/minute interaction measures were not meaningful for most of the student teachers in the experimental group. Maintaining high percentages of desirable interactions and maintaining ratios that are more positive than negative appeared to be more motivating and, possibly,
more realistic or success oriented in terms of achieving a positive learning environment. This method may also encourage more genuine interactions or, on the other hand, it could decrease interactions to an ineffective level. These are questions that need further consideration if future research is to reflect the realistic concerns of teachers and everyday life in the public schools.

Final Summary

The purpose of this study was to analyze the effects of joint supervision on the teaching effectiveness of elementary physical education student teachers. The joint supervision model provided each student teacher with daily or thrice weekly feedback on a variety of teacher behaviors that were built into a series of detailed lesson plans. Although graphic analysis did not demonstrate significant changes across behaviors, following weekly interventions, for the eight subjects in the experimental group, statistical analysis did. The statistically significant differences between the experimental group and control group led to the conclusion that the intervention package was responsible for improving the teaching effectiveness of the elementary physical education student teachers in the experimental group.
APPENDIX A

CONFIRMATION OF APPROVAL BY THE COMMITTEE

ON PROTECTION OF HUMAN SUBJECTS
State of California

Memorandum

To: Robin D. Reese
   Assistant Professor

From: Suzanne A. Snively, M.D.
   Director, Student Health Service
   Chair, Committee for the Protection of Human Subjects

Date: February 18, 1987

Subject: Approval of Project submitted to the Committee for the Protection of Human Subjects

Your project entitled "The Effects of a Peer Supervision System on the Acquisition and Maintenance of Designated Teacher Behaviors Among Elementary Physical Education Student Teachers" was approved as being "at no risk" utilizing the expedited review process.

SAS/jl

cc: S. Barkdoll
   CPHS Committee Members
APPENDIX B

SECOND-GRADE LESSON PLANS
Lesson 1

Theme: Establishing the Learning Environment

Objectives:

1. Following the teacher's presentation of five classroom rules, the students will be able to demonstrate their ability to follow signals and directions, listen while the teacher is talking, show respect for the teacher and each other, and "think safety" or suffer the consequence (time-out).

2. Students will be able to demonstrate their ability to line up in alphabetical order, move within the boundaries of general space without bumping into anyone and perform a series of flexibility exercises in self space when asked to do so by the teacher.

3. Students will be able to demonstrate good listening skills and sportsmanship while participating in the game "Crows and Cranes."

Equipment:

- Drum
- Egg Timer
- Pad/Pencil
- Name Tags with Team Designation
- General Space Boundaries
  - X's to mark self space

In Classroom:

Discuss the following rules with the children. Be sure they understand the rationale for each. DON'T RUSH!

1. (a) Wait for the 'Go' signal before beginning activity. "Go" or 1 beat of the drum
   (b) Respond immediately to the stop signal - stop moving, stop talking and look at teacher. "Stop" or 'Freeze' or 2 beats of the drum

2. Listen when the teacher or one of your classmates is talking.
   (Ask the children how the teacher knows they are listening. Probe until someone says 'their eyes are on the teacher' or 'they are looking at the teacher.')

3. Follow directions.

4. Show respect for the teacher, each other and the equipment.
   (Explain that they show respect for the teacher by following rules 1, 2 and 3. Then ask them how they can show respect for their classmates and accept a variety of good responses. Then ask how they show respect for the equipment.)
5. "Think Safety"

Don't do anything that you are afraid of and don't do anything that might cause someone else to get hurt. Another way of "thinking safety" is to always wear flat, rubber soled shoes to class.

Consequence of breaking any of the above rules:

"Time-out"

Show them the egg timer and explain that it takes three minutes for all of the sand to go from one side to the other. If they break a rule they must go to where the egg timer is, turn it over, write their name on the pad of paper, and wait for the sand to run through. They may then return to activity.

Anyone who gets a time-out during class may NOT participate in the game at the end of class. A game is played at the end of class each day to reward all those who followed the rules.

Point out the colored construction paper taped to their name tags. Have a name for each team based on the color (ex.: Green Giants, Blue Bombers, etc.) and explain that the teams are for the game that will be played at the end of class.

"When I say Go, I want all the Green Giants to stand. Ready? Go. On the count of three I want to hear you cheer 'Go Green Giants!' Ready? One . . . Two . . . Three . . . " (Cheer)." Have the Blue team clap for the Green Giants. Then do the same thing with the Blue Bombers.

Next, have the children practice responding to the signals and reinforce those who respond quickly and enthusiastically.

Example:

"On the signal, I want you to stand up and jump up and down continuously until you hear the stop signal. Ready?" (One drum beat) -- reinforce several who are following directions. (Two drum beats) Reinforce several who stopped quickly and quietly.

Practice several other challenges in the classroom and reinforce good behavior.

"If I asked you to line up at the door in alphabetical order, you would use the first letter of your last name. Is there anyone in the class whose last name begins with A? B?"

(Keep probing until you find someone. If there is only one, have that person be the leader and go to the door. Continue going through the alphabet one better at a time, having the children line up as the first letter of their last name is called. When you have more than one child with the same first initial, get everyone's attention and ask what they should do. Be sure they understand that they go to the second letter and tell the class the two letters and ask someone to tell you who would go first etc. This will take some time. It is a new skill and there will
be confusion. Have the classroom teacher help. Once the line is formed, ask them to memorize who is standing in front of them and who is standing behind them.

"When I say Go I want you to return to your seat. Go!"

"When I say ALPHA-BET, I want you to stand in the line in alphabetical order exactly the way you were before. See how quickly you can do it without pushing or shoving. Go."

"Is the same person still in front of you? Behind you?"

(Reinforce those who did it correctly)

"Today, _______ is our leader and _______ is the tail. Tomorrow, _______ will move to the end of the line and become the tail, and our new leader will be _______. We will have new leaders and new tails everyday."

"When I say Go I want you to begin moving quickly and quietly to the gym (or designated SE area). _______ is your leader and you must do whatever he/she does with his/her arms as he/she walks. Stop at the gym door. Follow your leader. Ready? Go."

Explain general space boundaries to children. Emphasize that moving through general space means staying inside those boundaries and moving in a controlled manner so that they don’t step outside of the boundaries or bump into any of their classmates. If they do bump into someone by mistake, they should be sure to say "excuse me", or "I’m sorry."

"On the signal, I would like to see everyone moving through general space without going outside the boundaries or bumping into anyone else. If you do bump into someone by mistake, remember to apologize." (Reinforce those who are following directions.)

Two Drum Beats

(Reinforce those who stop moving and talking immediately.)

(Continue having the children respond to the start and stop signals while moving through general space. Reinforce those who find new and different ways to move each time, respond quickly and quietly to the signals, avoid collisions and/or apologize if they do bump into someone. Give time outs when necessary.)

"When I say Go, I’d like you to stand on one of the X’s you see taped on the floor (drawn on the concrete) and begin moving your head. Go!"

(Reinforce those who moved quickly and began the task. Reinforce all the different ways you see children moving their heads--circles, back and forth, up and down, etc.)

Two Drum Beats.
(Reinforce those who stopped immediately and waited quietly for the next set of instructions. Talk about the X's. They represent the child's self space or personal space because no one else can move in that space or touch a person when they are in their own self space.)

"On the signal, let me see you move your shoulders." One drum beat

(Reinforce all the different ways of moving that you see.)

"Let me see you move your arms--one at a time or both together."
(Reinforce positively)

"Freeze"

"What we are doing is loosening up most of the muscles and joints in the body so that we don't pull any muscles while moving and so that all parts of our bodies stay flexible. I'm going to show you a flexibility exercise for your shoulders that I'd like you to try."

(Demonstrate the "tennis stretch" and have them do it with you, holding on each side for 8 seconds. Have the children count out loud with you.)

"So far, we've worked on our neck and shoulders. Let me see you move so that you are stretching out the muscles around your middle." (point to your waist and rib cage area while giving instructions.)

"Reinforce different ways of moving.)

Two drum beats.

"One area that is very important to stretch out is the backs of our legs. When I say Go, I'd like to see you cross one leg over the other, keep your legs straight and bend over, reaching for the floor. We'll hold it for 10 counts. Ready? Go!"

(Check count to 10 and then switch and do it on the other leg. Walk among the children touching the backs of their head to reinforce keeping the head down and encourage them to keep their legs straight.)

(Send any child who got a time-out to a designated area to watch. Reinforce all of the children who did not get a time-out. Choose a child from one team, stand them in front of you (facing you)--a little to the left of the center of general space.)

"Then I say Go I want all of the Green Giants to form a straight line behind _________. Ready? Go!"

(Reinforce them for moving quickly and lining up as directed.)

(Do the same thing with the other team--to the right of the center of general space and then have the two teams face each other.)
Play "Crows and Cranes"

When the class is over, have the children line up in alphabetical order and return to the classroom.
Lesson 2

Theme: Establishing the Learning Environment

Objectives:

1. Students will be able to demonstrate their ability to follow signals, classroom rules, line up in alphabetical order without pushing or arguing, and move through general space without going outside the boundaries or bumping into anyone or suffer the consequence (time-out).

2. Given a question concerning the value of doing flexibility and muscular endurance exercises, the students will be able to respond accurately when called on by the teacher.

3. Following instructor explanation and demonstration, students will be able to perform ten bent-leg sit-ups slowly, with the fingertips resting lightly on their foreheads.

4. On command, following the stop signal, students will be able to place the named body part on the X nearest them.

5. Students will be able to demonstrate good listening skills and sportsmanship while participating in a game of 'Red Light, Green Light'.

Equipment:
- Drum
- EMT Timer/Pad/Pencil
- Stopwatch (2nd hand)
- Carpet Squares (1/2 the number of students in the class)

In Classroom:

Review rules and the consequences of not following:

- Be sure they understand that the stop signal means stop immediately and focus attention on the teacher. No moving—No talking.
- Must wait for the 'Go' signal before moving.

Also, be sure they understand that a game is played at the end of class to reinforce all those who followed the rules. Therefore, those who get a time-out during the class may not play the game.

Review the boundaries of general space and the rules which govern moving within general space.
Must stay inside the boundaries and avoid collisions. If they bump into someone by mistake they should say they are sorry or excuse themselves.

Review self space (X's)

"What kind of exercises did we do in self space last time?" (flexibility)

"Why do we do them?"

Place a carpet square on the floor.

"We also need to do muscular endurance exercises to strengthen the muscles in our bodies so they don't get tired too quickly. The muscles we are going to begin strengthening today are our abdominal (stomach) muscles. Strong abdominal muscles help us perform well in most sports and they contribute to good health (prevent low back pain)."

(Choose a child to demonstrate a good bent-leg sit-up. Have another child hold his/her feet down. Explain that we rest the fingertips lightly on the forehead and we roll up slowly (four counts up, four counts down) so that we use the stomach muscles and not our backs and arms).

"When we get to the gym, you'll all get a chance to do these. I brought my stopwatch with me today so I could see how long it takes you to line up in alphabetical order. I want to see you move quickly without pushing or shoving. Ready? Go!"

(Let them know the time, have them return to their seats and do it again trying to break their time.)

_________ is our leader today and _________, who was the leader last time, is now the tail. I'd like to see you doing whatever the leader does with his/her shoulders as we walk to the gym today. Remember to stop outside the gym door. Ready? Go!"

(Proceed to gym or activity area)

"When I say Go, I want all the Green Giants to go into the gym, lie down on a carpet square and get ready for sit-ups. Go!"

"Now, when I say Go, I want all the Blue Bombers to go in and hold the feet of one of the Green Giants. Go"

(When they all have a partner, beat and count four slow counts up and four down until they have done ten of them. Then switch places. Really encourage slow motion and make sure they are rolling up and down.)

"Now, I want to see how well you can do moving through general space without going outside the boundaries or bumping into anyone else. You may move any way you want at your own speed--be careful. Remember to apologize if you bump into anyone. Go!"

"Stop."
(Reinforce those who stopped moving and talking immediately)

"Next time I give the stop signal, I want you to listen carefully because I am going to name a part of the body. As soon as you hear it, move to the blue X nearest you and place that body part right over the X. You cannot share X’s, so I want you to try to find another one if someone else gets to the one you wanted first. Don’t argue or make a big deal about it. Just go and find another one. Ready? Go--move through general space."

Two drum beats

"Hand"

(Reinforce correct responses and those who willingly went to find another X when someone got to the one they wanted first)

(Practice this with several more body parts, moving through general space between each one. Use unique ones: ankle, shoulder, etc. Be sure all responses are correct.)

"Stop"

"Everyone see this line? Then I say Go I want all of the Green Giants to stand on this line to get ready for today’s game. Ready? Go"

Now, you need to leave room because I am going to ask the Blue Bombers to stand in between you. Ready Blue Bombers? Go

("Then everyone is line up, explain that you are going to tell them how to play the game. Anyone who talks while you are explaining the game will not be allowed to play. Explain the rules and then play ‘Red Light, Green Light.’ Line up in alphabetical order and return to the classroom.")
Lesson 3 - 2nd Grade

Major Themes: Establishing the Learning Environment
   Physical Fitness
   Static Balance

Objectives:
1. Students will be able to demonstrate their ability to follow signals and classroom rules, line up in alphabetical order quickly without pushing or arguing, and move through general space without going outside the boundaries, bumping into anyone else or touching a carpet square. Those who cannot demonstrate the above will be given a time-out.

2. Students will be able to correctly explain the value of doing flexibility, muscular endurance and aerobic exercises if asked to do so by the teacher.

3. Following instructor explanation and demonstration, students will be able to perform ten bent-leg sit-ups slowly, with the fingertips resting lightly on their foreheads, and ten modified push-ups keeping their backs straight, not allowing the front of their bodies to touch the floor, and touching their noses to the floor out in front of their hands.

4. Students will be able to explain the term "base of support" and demonstrate static balances with different numbers of body parts comprising their base of support.

5. Students will be able to perform flexibility and aerobic exercises to music by mimicking everything the teacher does to the best of their ability.

Equipment: Drum Circle taped on floor or drawn on the blacktop
           Egg Timer/pad/pencil
           Carpet Squares (number of students in the class) (take one carpet square to the classroom with you)
           Record Player
           Record: "Physical" Olivia Newton John

In Classroom: (take a carpet square with you)

Quickly review the signals, rules, and consequences of breaking the rules. Let them know they have been doing so well remembering the rules that this will be the last time you will come to the classroom. From now on, as long as they continue to show you they know the rules, their classroom teacher will be bringing them out when it is time for physical education. (If they are not ready for this transition, hold off. Do it when they are ready.)

Place carpet square where everyone can see.

Review proper sit-up (use volunteers to demonstrate).

Demonstrate and explain a proper modified push-up. Demonstrate all the incorrect ways. Then demonstrate a good one for the second time. Have several volunteers try it. Point out mistakes and/or correct technique. Always have the class clap for the volunteers when they have finished demonstrating.
Review the rules for moving through general space:

Don't go outside the boundaries
Say you are sorry if you bump into someone by mistake.

New Challenge today:

"When you go to the gym, you will see that there are carpet squares spread out through general space. As you move through the area, you must be careful not to step on a carpet square. That means you may go around them or over them. And you have to do all this without going outside the boundaries or bumping into anyone else. This is not going to be easy -- but do your best. Are you ready to try it? Okay, when I say "alphabet" I am going to begin counting to see how long it takes you to line up. Ready? Alphabet."

Count. (If it takes more than 15 seconds, have them return to their seats and try it again.) New leader -- new tail.

Have them stop at the gym door or edge of the PE area.

“When I say go, move through general space without going outside the boundaries, bumping into anyone else, or touching a carpet square. Ready? Go!”

(Reinforce good leaps or jumps over carpet squares, good dodging of each other, those who remember to apologize when there are collisions, etc.)

Stop Signal.
(Reinforce good stopping (moving and talking) and reinforce those who are looking at you.)

“When I say go, I want you to move quickly to the nearest carpet square and begin doing good modified push-ups. Ready? Go.” (Walk around correcting poor technique and positively reinforcing good technique.)

Stop Signal.
(Reinforce them for their good push-ups.)

“When I say go, I want to see you moving through general space again. Remember the rules. Ready? Go.”

Stop Signal.
(Remember to reinforce the children for responding immediately to the signals and focusing their attention on you.)

“I don't want to see anyone move until the signal. When you hear it, you have fifteen seconds to find a partner, move to a carpet square, one person lie down in good situp position, and the other hold his/her feet and wait for the signal to start. I want to see you doing them slowly, to the beat. Ready? Go.”

Beat the drum and count up, two, three four; down, two, three, four -- 10 times -- then switch people and repeat. Try to throw in reinforcing comments here and there as you count.

Positively reinforce them for working so hard when they are finished.
"When I say go, I want to see everyone move through general space again following the rules. Ready? Go."

Stop Signal.

"Do you see this circle?" (Point to a large circle you have taped on the gym floor or drawn on the blacktop, if there is not one there already.) "On the signal, I'd like everyone to move quickly, without any pushing or shoving, so that their toes are touching the circle. Ready? Go." (Place a carpet square in the center of the circle. Reinforce children who get there quickly without pushing or shoving. Stand on the circle with the children.) "I need a volunteer who thinks he/she can demonstrate balancing all of their weight on only two parts of their body. Those two parts of the body should be on the carpet square and no other part of your body should touch the floor." (Call on someone and ask them to demonstrate on the carpet square in the center of the circle. Be sure they are actually balancing on two body parts and that none of their other body parts are touching the carpet square or the floor.) "The two parts of ________'s body that are touching the floor (name the two parts chosen) are supporting the weight of his/her whole body. So, we will refer to the two parts that he/she is balancing on, and the space in between, as his/her base of support. Say that with me. Ready? 'Base of Support.' I'd like another volunteer to demonstrate balancing on two different body parts. I want to see a new base of support. Would someone like to try? (Choose someone and reinforce their use of a new combination of two body parts and refer to the two body parts touching the carpet square and the space in between as his/her base of support.) "Can someone show a base of support that has more than two body parts touching the carpet square?" (Choose someone, count the number of body parts touching the carpet square, be sure no other parts are touching the floor. Refer to the body parts and the space in between as his/her base of support.)

"Do you all understand 'base of support'? Okay, on the signal, I want each of you to find your own carpet square and show me how you can balance on a base of support that has two body parts. Ready? Go."

(Walk among the children and positively reinforce correct responses. Correct those that are wrong. Don't take too long doing this because some of the parts they choose will make balancing for too long difficult.)

"Find two different body parts for your base of support." (Reinforce children who are changing and who appear to be really trying to think up new and different ways to balance on only two body parts.)

"Let me see you find another way -- still using only two parts of your body for your base of support." (Then have them respond to the challenge of finding three body parts to balance on. Do this at least twice more. Then do the same thing with four, five and six body parts. Be sure they are really thinking and giving correct responses. Be sure not to positively reinforce responses that are not correct. Be sure to continually use the new term they have learned -- base of support. You might not have time for five and six. Let it go in time to do the culminating activity.)
Stop Signal.

"Instead of a game today, we are going to do our flexibility exercises to music and then do some aerobic exercises to get our hearts beating quickly so that they get stronger. When I say go, I want you to place your carpet square in one of the four corners of the room, and then quickly find a blue X to stand on facing me. When the music starts, I want you to play follow-the-leader. I want to see everyone trying to copy everything I do. Ready? Go."

(Play "Physical" by Olivia Newton John)

When you are finished, get them lined up in alphabetical order as quickly as possible and send them back to the classroom with their teacher.
Major Themes: Physical Fitness
Static Balance

Subthemes: Right/Left Differentiation
Matching Body Parts to Symbols Representing Those Parts
Relationship Between Balance and the Size of the Base of Support

Objectives:

1. Mimicking the teacher, students will be able to perform flexibility and aerobic exercises to music to the best of their ability.

2. Following instructions to do so, students will be able to perform modified push-ups and bent-leg sit-ups using proper technique.

3. When the teacher holds up pictures representing parts of the body, color coded for left/right differentiation, the students will be able to correctly identify the symbols.

4. Given carpet squares with symbols representing body parts arranged to represent different bases of support, the students will be able to match the correct body parts to the symbols and hold the balanced pose for at least three seconds.

5. Following student demonstration and instructor explanation, students will be able to explain why some balance positions are easier to maintain than others due to the size of the base of support. They will also be able to distinguish between a large base of support and one that is not as large.

Equipment: Carpet squares with symbols (same number as children in the class)
Posters with symbols matching those found in the carpet squares
Record player - popular record
Drum
Time out materials

The classroom teacher will bring the children to the PE area.

"When you hear the signal, move to your own personal space, face me and get psyched for the flexibility and aerobic exercises." Drum Beat.
(remember to reinforce those who moved quickly and followed directions.)

Put on the record and lead them through a set of flexibility and aerobic exercises. Smile and have a good time.

Take the record off and immediately give the stop signal because they will be all wound up.

"When I say go, I want you to go to the nearest corner, get a carpet square, take it and place it on an X, and begin doing your modified push-ups. Ready? Go." (be sure to walk among the students offering encouragement and correcting those who are not doing them properly.)
"If I asked you to move through general space, who could tell me what rules you'd follow?"

"Ready? Go."

"When I say go, I want all of the Blue Bombers to lie on a carpet square in good sit-up position with their fingertips resting lightly on their foreheads. Ready? Go. On the signal, I want to see the Green Giants find the feet of a Blue Bomber to hold while they do their sit-ups, Ready?" Drum Beat

(Have all of the Blue Bombers do ten sit-ups in rhythm with the drum; four counts up, four counts down. Switch places with the partner and repeat.)

"When I say go, I want to see everyone moving through general space again. Go."

"Stop" (Reinforce quick, quiet stops)

"Go"

"When I say go, I want all of the Green Giants to line up on this line facing me. Go. When I say go, I want all of the Blue Bombers to line up on this line facing me. Go. Please face each other and sit down without any pushing or arguing."

Hold up your posters and be sure they understand the symbol for each body part. Also, be sure they understand that right is red and left is black.

Place a carpet square in the middle of two lines and explain that the symbols represent the base of support for a balanced pose. Have a child match his/her body parts to the symbols and hold the balanced pose for three seconds. Have a different child do another one.

Then, put two carpet squares down like the one with two feet and the one with one foot. Have a child balance on the two feet for five seconds and then on the one foot for five seconds. Ask which balanced pose was easier to hold. Hopefully, they will say two feet. Ask the class if anyone knows why. Accept answers that recognize that the one base of support is bigger than the other one. Choose another child and use the seat versus one knee. Ask the same question and reinforce the same concept -- that the wider or larger the base of support, the
easier it is to balance. Explain that all the carpet squares in the room have
different size bases of support and that some will be easier to hold than others,
but they should try to hold the pose for at least three seconds or longer, if
they can.

"The game for today is called Musical Carpet Squares. When the music is playing
I want to see everyone moving through general space without going outside the
boundaries, touching a carpet square or bumping into anyone else. Try to find
interesting ways to move. Listen to the record and see if you can move with the
beat. When the music stops, go to the nearest carpet square, turn it over and
balance on whatever base of support is there. When you hear the music, I want to
see you moving again and when it stops, find a different base of support and
balance until the music starts again. Understand? OK. Listen for the music,
and when you hear it, you may begin moving through general space."

When the time is up, have them return their carpet squares to the four corners,
line up and return to the classroom.
Lesson 5
2nd Grade

Major Themes: Physical Fitness
Static Balance

Subthemes: Size of the Base of Support in Relation to Balance

Objectives:

1. Mimicing the teacher, students will be able to perform flexibility and aerobic exercises to music to the best of their ability.

2. Following instructions to do so, students will be able to perform modified push-ups and bent-leg sit-ups using proper technique.

3. Students will be able to correctly demonstrate the most stable position the body can assume.

4. Students will be able to demonstrate stable positions on various parts of the body by widening their base of support.

5. Students will be able to name the sport that uses each static balance pose designated by the teacher.

6. Students will be able to demonstrate good visual perception skills and static balance while performing a modification of the folk dance "Seven Jumps."

Equipment: Carpet squares (1 for each child)
2 carpet squares (one with a smaller base of support; one with a larger base of support)
Drum
Time out materials
Seven Jumps (record); popular record for aerobics
Record player

Lesson:

Perform the flexibility and aerobic exercises to a popular song. Then conduct student performance of push-ups and sit-ups in the same manner as in Lesson 4.

When finished, have the students return their carpet squares to the nearest corner and come and sit on the designated circle. Review: (1) the term "base of support" and (2) have a student attempt to balance on the two bases of support you've provided and tell you why the one position was easier to hold than the other (the larger the base of support, the easier it is to balance.

"When I say go, I want you to go to your personal space and attempt to show me the most stable position you can get your body into. Think about creating a wider base of support. If I am able to push you over with a gentle touch, it means you are not very stable. Go."
Walk among the children and gently nudge children who are standing or kneeling until they lose their balance. Positively reinforce those who thought of lying down. Give the stop signal and ask all of the children to focus on the children who have thought to lie down (on front and/or back) with their legs and arms stretched out as far as possible. You may want to ask why one child who is lying down with legs together and arms at his/her sides is not as stable as someone who is stretching. (The one who is stretching has a larger base of support.)

"Now, let me see everyone in the most stable position you can be in on your front."
"On your back?"
(Really reinforce those who are attempting to stretch to achieve the widest possible base of support.)

"When I say go, I would like to see you find a stable position using your hands, knees and feet as your base of support. Go."
(Reinforce stable positions that have all six of these body parts touching the floor. Then, choose a child who was in a position that resembled the starting position for wrestling. Focus the attention of all the children on him/her and ask them to think of a sport where the athlete starts in this static balance position. If no one gets it, go over to the child and complete the picture by demonstrating the position of the other wrestler. Have them guess until they get it. Then acknowledge the correct response and demonstrate a simple takedown from there.

"When I say go, I'd like to see you in a stable position using your hands and feet as your base of support. Go."
(Walk among the children reinforcing stable positions with only the designated body parts on the floor. Choose a child that has a stance similar to a runner in the starting blocks. Ask the children what sport requires the athlete to begin in that type of static balance position and have them guess until someone says track.)

Go through this same procedure with two feet and one hand (linebackers in football).

"Now, think carefully about this one. When I say go, I want you to balance in the most stable position you can on two feet. Find a position that makes it difficult for me to knock you over forward, backward and sideways. Go."
(Walk among the children. Nudge anyone who has chosen a straddle stance, so they lose their balance forward and backward and indicate that they aren't very stable. Nudge those who think they have figured it out and are in a stride position to either side. If anyone is smart enough to figure out a half-stride, half-straddle position, have them demonstrate, and you nudge them from each direction to show how stable they are. If no one seems to get it, give them a hint and have them think about the basketball player waiting for the jump ball or the Black Belt in Karate or a Boxer. Someone should figure it out then and you can use that person to demonstrate. If no one gets it, bring them in around the circle and demonstrate the position. Then choose a child to show it and you nudge the child from all four directions to show the stability.)
(Choose five children and give each one a different number of body parts to balance on in the center of the circle -- 1 through 5. Use a piece of string to show that in every case the center of gravity is in line with the base of support or over the base of support. And when this is the case, we are able to maintain our balance. We are the most stable when the line of gravity passes through the center of the base. (Have a child lean and show that when the line of gravity gets farther from the center of the base, the person has more trouble maintaining his/her balance.

"Let's see what happens when our center of gravity is no longer over our base of support. When I say go, I want you to go back to your personal space and stand quietly with your feet together and your arms at your sides. Go." (Reinforce those who moved quickly and quietly.)

"On the signal, I want to see everyone lean forward, keeping their backs nice and straight. Everyone stay very stiff. Ready!" Signal. (Encourage them to keep leaning. You want them to lose their balance.)

"What happened? You lost your balance didn't you. When I say go, I want you to do the same thing a few more times, but while you are doing it, I want you to be thinking about what it is you are doing. See if you can feel the point at which your center of gravity is no longer in line with your base of support. The very moment when you lose your balance is when your center of gravity has fallen outside your base of support. Try to feel it. Go."

(Walk among the children and make sure they are not fooling around, but that they are working on the task.)

"Stop."

"I'd like you to experiment leaning in the other directions as well. Wait for the signal. Sometimes lean backwards, sometimes sideways. Next time I give the stop signal, I'm going to ask you questions about your body's immediate reaction to the center of gravity moving outside the base of support. You will all be losing your balance, but no one should be getting hurt, and it's important that we know why. So, when I say go, everyone still start on two feet and experiment staying very stiff and leaning until your center of gravity moves outside your base of support: sometimes lean forward, sometimes lean backward and sometimes lean sideways. Go."

(Walk among them and reinforce those who are really working on the movement task. Keep your eyes open for three children to use as modeling feedbacks: one who leaned forward and didn't fall because he/she took a step forward to regain his/her balance; one who leaned backward and didn't fall because he/she took a step backward to regain his/her balance; one who leaned sideways and stepped to the side to which they were leaning to regain their balance.)

Stop.

Have the children come into the circle. Explain to them that when their center of gravity moves outside of their base of support, they way it was when they were leaning, a part of the body will usually try to offset the loss of balance and prevent the person from falling by moving or creating a new base of support, and thus relocating the center of gravity over the base of support so that balance is regained. Have them watch the first child you chose and ask them to watch and see if any body parts move to regain balance as the person leans forward. Have
them watch the other two. Once they've identified the step, ask if anyone noticed anything about the direction of the step that was taken. If not, have the three children demonstrate again. Help them see that the step was always taken in the direction that the center of gravity moved. What the step does is widen the base of support so the line of gravity is brought back over the base of support. Use the string to demonstrate. By doing this, we don't hurt ourselves and we become balanced once again. (Some children may have fallen forward onto their hands.) You can show this as another way to widen the base of support and regain balance.)

"Remember last time when we worked on finding a stable position on our feet? When I say go, I'd like to see everyone on their personal space in a comfortable stride position (demonstrate while talking) with the knees bent so our center of gravity is low. Go. Now, let me see you lean forward. Try leaning backward. You are more stable now than you were before when you were standing up straight with your feet together, aren't you? Who can tell me why?" (Wider base of support, lower center of gravity) "Now, let me see you lean to the side. Whoops. Not very stable is it? Let me see you in a good position so you can move from side to side without losing your balance." (Choose someone in a good straddle position to demonstrate and have everyone try it.)

"So, a good stride position will help us keep our balance forward and backward and a good straddle position will help us keep our balance from side to side." (demonstrate while talking) "I'd like to see who remembers the most stable position on your feet if you want to be balanced in all of those directions." (Choose someone with half stride and half straddle to demonstrate and reinforce that bending the knees in that position helps us keep our balance because it lowers the center of gravity.)

"Any questions about balancing?"

(Sit out children who had a time-out)

"In our game today, you will have the opportunity to show how quickly you can stop and long you can maintain your balance. Don't let your center of gravity fall outside of your base of support. I need ten volunteers." (Or one-third the number of children in your class. Give each volunteer a soft object of some kind.) "If any of these people touch you with their crystal ball, they will say "Freeze" and you will freeze on the spot, in whatever position you were in when they touched you. Once you are frozen, you will have to stay like that, without moving a muscle, until one of your comrades frees you by touching you and saying "Melt." Their touch will melt you immediately and you will be free once again. It is all of you against these invaders from outer space with their magic crystal balls. There is no area in here where you are safe from them. Remember our respect rule. If you get touched by a crystal ball, you must freeze immediately — no arguments. These ten invaders are trying to freeze all of you. It is up to you to work together to keep them from succeeding. Any questions? (Don't allow more than three.) Ready? Begin."

When time is up, give the stop signal and line them up. Reinforce playing fair and not arguing.

BR: vp
2/17/82
LESSON 6
2nd Grade

Major Themes: Physical Fitness
Stability and Instability

Sub-Themes: Height of the center of gravity in relation to balance
Center of gravity in the body: over the base of support; outside
of the base of support

Objectives:

1. Following the leader, students will be able to perform flexibility and aerobic
   exercises to music to the best of their ability.

2. Students will understand and be able to explain that the nearer the center of
   gravity is to the base of support, the easier it is to balance. It is easiest
   to maintain balance when the center of gravity is low and the base of support
   is large.

3. Students will be able to demonstrate that when their center of gravity falls
   outside their base of support, they lose their balance. They will also be
   able to demonstrate that when they are on their feet, their balance can be
   easily regained so they don't get hurt by taking a step in the direction they
   are falling. This brings the center of gravity back over their base of
   support.

4. Students will be able to demonstrate their ability to stop quickly, maintain
   their balance, and play fairly while participating in a game of "Frozen Tag."

Equipment:
- Drum
- Time-out materials
- Record player
- Popular record
- Construction paper circles with masking tape on the back -- one color
  for boys, one for girls.
- Piece of string 3' long
- 10 yarn balls, nerf balls, sock balls or stuffed animals

Lesson:

"When you enter the gym, quickly find an X so we can begin our flexibility and
aerobic exercises. Today I want to see what good leaders you can be. I will
begin by leading one exercise. When I have done it as long as I want to, I will
jog among you. All the time I am jogging, you must jog in place. If you are
jogging with both arms over your head, I will know you'd like to be chosen. I
will choose someone by tapping them lightly on the shoulder. That person will
jog up front to lead the next exercise and his/her personal space will become
mine. (Demonstrate while you talk.) The new leader may do any exercise he/she
wants to do, and we must follow. When the leader has done the exercise as long
as he/she wants to, he/she will jog among us and choose someone who hasn't been
chosen yet to lead a new exercise. Remember to jog with your arms overhead if
you want to be chosen. Any questions? Let's go."
(Put the music on and begin. Be sure to participate enthusiastically along with the children. If a child becomes embarrassed and can't think of an exercise, give him/her an idea. Don't worry if children duplicate exercises. We'll stress "no duplications" next time. When the music ends, reinforce those who chose new leaders quickly and those who thought up different exercises that hadn't been done in class before.)

"When I say go, I want to see everyone in the most stable position the body can be in. Go."
(Reinforce those who remembered to lie flat on their stomachs or backs with their arms and legs stretched out to the sides.)

"Let me see the widest base of support you can form with your hands and feet. Go."
(Reinforce those who are really making an effort to stretch out.)

Get the children around the circle. Ask who knows what gravity is and discuss it. Then talk about the body's center of gravity (the imaginary point about which the weight of the body is equally distributed or balanced). Give each boy a circle of one color with tape on the back to stick right above his navel. Give each girl the other color and ask her to place it right below the navel. This piece of paper shows then the approximate location of their center of gravity. You might want to mention that, generally, the center of gravity is a little higher in men than in women. Be sure they understand that it is invisible inside the body -- not something that can be seen or felt, but something that is there, nevertheless.

Ask for four volunteers and have them enter the center of the circle. Ask one to show you the most stable position the body can be in. Have another show you the most stable position on hands and feet (all spread out), another knees, shins and front of feet with the back perpendicular to the floor, and another on both feet. Have the children tell you who is most stable in descending order to least stable. Ask why. (Wider base of support) Ask them if they notice anything else that makes the one lying down more stable than the others, etc. If you have to, ask them to focus on the height of the center of gravity. Lead them to discover that the height of the center of gravity also plays a part in helping us maintain our balance -- usually, the lower the center of gravity (or the nearer it is to the base of support) the more stable we are. And, when the center of gravity is low, and we have a wide base of support, we are the most stable. Take your time with all of this and don't rush. Try to help most of them understand.

"When I say go, I want you to go to your personal space. When you get there, I want to see you find a very stable position on three body parts. Think about creating a wide base of support and getting your center of gravity low. Go."
(Reinforce appropriate responses and encourage them to find other stable positions on three body parts. Then have them balance on other combinations of body parts: four, two, etc. Keep stressing a large base of support and keeping their center of gravity as low as possible. Make suggestions to help them get wider or lower whenever possible. Don't spend too much time doing this.)

Bring the students back around the circle. "We have learned that if we want to be balanced, it's best to get a wide base of support and keep our center of gravity as low as possible. But it's also important that you know why you are able to keep your balance, even when balancing on a small base of support with your center of gravity high. (Demonstrate a pose) and why you sometimes lose your balance."
"We've been balancing on large bases of support. Let me see you find a very small base to balance on. Find another one. And another one."

(Choose someone who does an arabesque (scale) and relate it to dance or gymnastics.)

"Let me see if all of you can hold a scale for five seconds without losing your balance. Ready? Go. One . . . Two . . . Three . . . Four . . . Five . . . Excellent. That's rather difficult, isn't it? Let me see you try it on the other leg. Ready? Go. One . . . Two . . . Three . . . Four . . . Five . . . (Sit anyone out who had a time out)

"Our culminating activity today involves moving through general space to music and balancing on different bases of support. While you are moving, see if you can move to the beat. Move quietly because I want you to be able to hear me say STOP. When I do, face me and balance on the same body part as I am and hold it as long as I do. I don't want to see anyone losing their balance. Ready?"

(Put on the music and do "Seven Jumps." Don't follow the instructions that come with the record which has them holding hands and skipping in a circle. You'll get chaos. Do it as explained above. Do the same balances in the same order they are done on the record. Refer to the instructions that come with the record for this.)

Line up and return to the classroom.

RR: vp
2/15/82
LESSON 7

Major Theme: Physical Fitness
Stability and Instability

Sub-Themes: Rolling to absorb the force of a fall
Stretching
Curling

Objectives:
1. Students will be able to perform bent-leg sit-ups and modified push-ups using proper technique.

2. Students will be able to absorb the force of a fall, which results when the center of gravity falls outside their base of support, by rolling (curled shape).

3. Students will be able to demonstrate stretched shapes at different levels.

4. Students will be able to demonstrate a movement sequence that begins with a stretched balance pose, followed by slowly curving all of the straight body parts, leaning off balance into a roll, springing to their feet, moving through general space, jumping and/or leaping over carpet squares.

5. Students will be able to demonstrate their ability to use stretched and curled shapes, and play fairly, while participating in a game of "Medfly Mania."

Equipment: Drum
Time-out materials
Pencil
Carpet Squares (one for each child)
Yarn Balls, Nerf Balls, Sock Balls or Stuffed Animals (1/3 the number of students in the class)

Lesson:

"When you enter the gym, move right to a carpet square and begin doing your modified push-ups." (Help children who are still doing them incorrectly. Positively reinforce those who are doing them correctly!)

"When I say go, I want to see all of the Green Giants lying on their carpet squares in good sit-up position. Ready? Go. On the signal, I would like the Blue Bombers to hold the feet of a Green Giant. Go." (Count four counts up and four counts down--10 sit-ups. Then switch and repeat).

"Stop."

"We've been working on maintaining and losing our balance. Is it easier to maintain your balance if you have a large base of support or a small base of support?" (Demonstrate while asking the question and allow all of the students to respond in unison). "Is it easier to maintain your balance when your center of gravity is high or when it's low? (Again, demonstrate while asking the question and allow them to respond in unison.)"
"What happens when your center of gravity falls outside your base of support?" (Demonstrate while questioning).

"Last time we experimented with losing and regaining our balance with our feet as our base of support. Let's try it when balanced on different body parts. Then I say go, I'd like to see everyone balanced on four body parts. Go. Now, you may choose any direction you want to lean. When your center of gravity goes outside your base of support, I want to see if you can absorb the force of the fall by rolling to a new balance position. Go."

(Reinforce those who did what you asked. Choose a child who did a nice job to demonstrate for the rest of the class so you are sure everyone understands).

"On the signal, I'd like you to explore this idea of balancing at a low level and leaning until you go off balance. You may choose any number of body parts you want for your base of support. I want to see you absorbing the force of each fall with a roll. Go."

(Let them experiment for a while. Make sure the children are working on the task. If they are not, they might need another demonstration or a time-out).

"Stop."

"Are the parts of your body that you roll on curved or straight? (curved) Why do you suppose that is?" (Because it's easier to roll something that is round than something that is straight. Demonstrate how easily a pencil rolls sideways and encourage the children to imitate that type of roll with their bodies. Then, show that it is impossible to roll the pencil end over end (forward or backward). "If we want to roll forwards or backwards, what can we do with our bodies that the pencil can't do?" (curl or make our bodies round--like a ball. Demonstrate how easily a ball rolls forward and backward. Have them try making their bodies round and rolling forward and backward).

"The opposite of a curled or round body shape is a stretched shape. When I say go, I want to see you make a stretched shape and hold it very still. Ready? Go." (Reinforce good stretched shapes). "Stop." "Are the body parts that you are stretching curved or straight?" (straight) "Let me see you change your level and make another stretched shape with as many straight body parts as possible." (Reinforce) "Let me see you make a different stretched shape and remember to hold it very still. This time I'd like to see everyone in a stretched shape at a high level. Hold it. Stop. Stand on your carpet square and face me."

"Let's put some things together that you've worked on today." (Demonstrate as you explain the following). "I want to see everyone start by holding a balanced pose in a stretched position at a high level. When I say go, I want you to start curving all those straight body parts very slowly and smoothly. When you are in a curled shape and almost to the floor, I want to see you lean and roll, then spring up and move through general space without bumping into anyone, jumping and leaping over the carpet squares until you hear the stop signal. At that time, find another stretched shape at a high level. There is one important thing I want you to concentrate on. I want to see if you can do this whole sequence three times without a sound. Instead of screaming and yelling as you move, I want to see you concentrating on your movements. I want to see how high you can get as you leap and jump over the carpet squares. Those who stay nice and quiet
while performing the sequence will get to play the game today. Any questions? Ready? Let me see everyone in a stretched shape at a high level. Hold it. Okay, now remember, no talking. You may begin. (Cue the children as they go through the sequence. It's okay that they are not all doing the same thing at the same time. Don't give the stop signal until all are moving through general space. Remind them to get a new stretched shape after you give the stop signal and let them know when to start again. Do it three times.)

"Stop."

(Reinforce those who did well and reinforce those who remained quiet. Sit anyone out who had a time-out during class or was noisy while performing the sequence).

"When I say go, I want the people who were 'it' yesterday in the game of 'Frozen Tag' to sit on this line." (Designate which one.) "Go. I need ten new people to be 'it' today. Do I have any volunteers?" (Choose people from the group who weren't 'it' yesterday and give each one a soft object to tag with).

"Today we are going to play a game called 'Medfly Mania'. The people with the sock balls (or whatever you've chosen as the tagging object) are the airplanes and they are spraying the orchards to get rid of all the medflies." (Gesture to all of the children who are not it). "If they touch you with the sock ball it means they've sprayed you. As soon as you are sprayed, your legs become paralyzed in a stretched position, far enough apart so that one of your medfly friends can get through in a curled shape and free you. Your legs are paralyzed, but your upper body goes into a frenzied reaction to the spray. As soon as your medfly friend get all the way through, you are saved and may continue to fly through the orchard. The airplanes are out to get all of the medflies, so you must work together and help one another so they can't succeed. I'll answer three questions." (Answer a maximum of three questions). Everyone understand? Okay, when I say go, the airplanes may start spraying. Ready? Go."

(When the time is up, line them up, and have the classroom teacher escort them back to the room).
Lesson 8

Major Theme: Static and Dynamic Balance

Objective: Given six stations, students will perform various static and dynamic balance tasks according to the instructions at each station.

Equipment: 22 carpet squares with base of support symbols
6 cones numbered 1-6
Record player and record
6 jumping boxes
3-4 tumbling mats
Masking tape and five signs numbered 1-5
5 beanbags
5 balance beams
6 balance boards (6 carpet squares to place underneath)
6 yarn balls
3 pairs tin can stilts
3 pairs wooden stilts
Name tags with group designation
Watch with second hand or stopwatch
Time-out materials
Drum

Rules for Stations:

1. Children are expected to remain quiet and listen during the instructions and demonstrations for each station.

2. Children must stay with their group, working on the assigned task at each station, until the music stops and they hear the stop signal. They must then put everything at their station back where they found it and sit quietly by the cone until the teacher gives the signal to move to the next station.

Station One:

Twelve different carpet squares with symbols that represent different bases of support. Balance on each. Hold each static balance pose for five seconds.

Station Two:

Hats to protect floor or grassy area outside. Have children attempt standing and walking on tin can stilts and/or wooden stilts.

Station Three:

Six jumping boxes—two placed together as one. Signs on wall opposite boxes numbered 1-5 that represent the number of body parts that the child is to balance on. On each box, the child should attempt two different balance poses (stretch and curled) on the required base or support. Hold each balanced shape for three seconds.
Station Four:

As many balance beams as children in the largest group. One beanbag per beam. Children are asked to move along beam with the beanbag balanced on their heads in the three different directions (forward, backward and sideways) and at the three different levels (high, medium and low).

Station Five:

Carpet squares with symbols. Children are to balance, lean until their center of gravity falls outside their base of support, roll to absorb the force of the fall, and balance on the new base of support.

1. knees and elbows to one knee and one elbow (roll sideways)
2. hand and foot to knees (roll sideways)
3. hands and feet to feet (forward roll)
4. hands and head to seat (headstand or triped, roll to seat)
5. seat and hands to knees and feet (backward roll)
6. hands to seat and feet (handstand)

Station Six:

Six balance boards on carpet squares. One yam ball by each board. Children are to try to balance for five seconds. Those who are successful may attempt to throw and catch the yam ball while balanced on the board.

Be sure children fully understand what is to be done at each station. Divide the time remaining by six, and try to give all groups equal time at the stations. Try to get to each station to reinforce "on-task" behavior during each rotation. Have children help put away the equipment at their station when the time is up.
Lesson 9

Major Theme: Walking and Running

Sub-Theme: Moving to a given beat (drum-record)
Directions: forward, backward and sideways

Objectives:

1. Following a review of the rules that were previously established for physical education, the students will be able to demonstrate their ability to follow signals and directions, listen while the teacher is talking, show respect for the teacher and each other, and "think safety" or suffer the consequence (time-out).

2. Following student leaders, students will be able to perform flexibility and aerobic exercises to music to the best of their ability.

3. Students will be able to clap, walk and jog to the beat of a drum and to the beat of a record.

4. While walking or jogging to the beat of a drum or record, students will be able to change direction (forward, backward or sideways) every eight counts.

5. Students will demonstrate their ability to walk, listen, change direction quickly and run while participating in the game of "Midnight."

Equipment: Time-out materials
- Drum
- Record player
- Record for aerobics
- Record with a distinct, steady beat for walking
- Record with a distinct, steady beat for jogging

Lesson:

In classroom to begin:

Review all the rules and the consequence for breaking a rule. Explain that you have a game planned for the end of the day's lesson and that, from now on, there will always be a pace at the end of class unless the culminating activity involves the performance of movement sequences or the lesson is devoted to station work.

Explain that today is the last day they have to wear their name tags, but they must memorize what team they are on (blue bombers or green giants) and what group they are in (holes punched in name tag). Quickly check to be sure they understand which group they are in. As you call the group number, they are to raise their hands and, when you give the signal, they may proceed to the PE area and stand on an X for the flexibility and aerobic exercises.
PE area:

Do the flexibility and aerobic exercises to music with the student leaders (see lesson 6).

When the record ends, quickly pick up the drum and ask children to clap to the beat. Change the tempo from time to time (faster or slower) to be sure they are listening, but keep it steady for a short time following each change so they have time to pick up the rhythm. When they have it, ask them to try walking to the beat—one step for each beat. Change tempo to make sure they are trying to stay with the best. Reinforce those who are.

Put on the walking record and have them clap the beat and then walk to the beat for about 30 seconds. Take the record off and have them walk forward for eight counts to the beat of the drum, backward for eight counts and sideways for eight counts. Demonstrate and have them try the tar step, crossover step and grapevine step moving sideways. Then put on the music and continue to alternate the three directions every eight counts.

Then have them clap the beat of the record with the faster tempo and jog to the beat for about 30 seconds. Then have them try alternating the three directions every eight counts the way they did with the walking. Do it with them and give lots of reinforcement to those staying with the beat and changing directions.

Have the children who were given a time-out during the lesson sit-out. Ask the rest of the class to line-up on a designated line. Play "Twinkle, twinkle little star" but play it so that you start as the "Fox" and those you tag become fellow foxes. You get in a quick huddle with the foxes and tell them the order of the calls (ex. one o'clock, two o'clock, then "Midnight"). Everyone who gets tagged by a fox joins the huddle. Play until time is up, or only a couple of children are left. Have everyone clap for those who kept from getting caught and allow them to line up first. Get in a huddle with the foxes and give a "three cheers for the foxes" and then have them line up to return to the classroom with their teachers.
Major Theme: Hopping and Jumping

Sub-Themes: Moving to an even beat
The slower the tempo—the bigger the movement—the more force required.
The faster the tempo—the smaller the movement—the less force required.

Objectives:

1. Students will be able to recite the classroom rules, and demonstrate the correct body position and eye contact for the cue 'front and center' when asked to do so by the teacher.

2. Students will be able to explain two ways a walk and run are alike (even rhythmic pattern; transfer weight from one foot to the other) and the one thing that makes them different (flight phase).

3. Following the leader, students will be able to perform flexibility and aerobic exercises to music to the best of their ability.

4. Students will be able to hop and jump through general space to fast and slow beats while moving forward, backward and side-to-side.

5. Following instructions to do so, students will be able to perform modified push-ups and bent-leg sit-ups using proper technique.

6. Students will be able to demonstrate walking, running, hopping and jumping while participating in a modified version of "Hill Dill."

Equipment:

Time-out materials
Drum
Record player
Aerobic record
Record to hop and jump to
Carpet squares (one for each child)

In Classroom:

Quickly review the rules and the meaning for the cue "front and center."

Demonstrate walking and running. Ask the children how the two locomotor movements are alike. Accept all correct answers, but be sure they understand that walking and running both involve transferring their weight from one foot to the other and both have an even rhythmic pattern (one step for each beat). Then ask what makes them different. Expect the children to tell you "speed." Demonstrate a very slow jog and show that walking can be faster than running, so speed is not what makes them different. Demonstrate again with a normal walk and a jog that really gets both feet off the ground at the same time. Explain that, when walking, one foot is always in contact with the ground. When jogging or running there is a split second when both feet are off the ground at the same time. It is the flight phase, then, that makes them different.
In PE Area:

"When I say go, I'd like to see everyone moving through general space on one foot."

(Reinforce all those who are moving on one foot. Following the stop signal, ask a child who was hopping to demonstrate what he/she was doing. Ask the class what it's called. Be sure they understand that a hop is transferring their weight from one foot to the same foot. A hop is on one foot.)

"Let me see you hop to the beat." (beat quickly) "Let me see your hop to this beat on your other foot." (same tempo). "Let me see you hop backwards to the beat. Try it on your other foot. Try it sideways. Go the other way. Let me see you try hopping side to side." (demonstrate) "Try hopping side-to-side on your other foot."

"Listen carefully, and let me see you hop to this beat." (very loud and slow) "Try it on the other foot. Was it easier to hop to the first beat (the fast beat) or the second beat (the slow beat)? Why?"

(Be sure they understand that the slow beat requires them to take much bigger hops to take up the time. The bigger hops require a lot more muscle force—they take a lot more energy—that's why they are harder).

"When I say go, I want you to go to the nearest carpet square and begin doing good modified push-ups. Remember to keep your back nice and straight. No stomachs should touch the ground. Ready? Go."

(Walk among them positively reinforcing correct attempts and helping those who are not doing them correctly. Then have one team (Green Giants) lie on their carpet square in good sit-up position and a person from the other team (Blue Bombers) hold their feet. Ask them to do 10 good sit-ups and then change places with their partners. When they are finished they may rest until everyone else has finished.)

"Let me see you move through general space on two feet so that both of your feet are doing the same thing at the same time."

(Call out, "____ has got it" etc. to those children who are jumping. Following the stop signal, have a child who was jumping demonstrate and ask the other children what it's called. Be sure they understand that jumping involves landing on two feet at the same time. A hop is on one foot, a jump on two feet.)

"When I say go, I'd like to see you jumping through general space to the beat. Go. Let me see you jump backwards. Sideways. Let me see you try side to side the way we did with hopping." (be sure the beat is a quick one)

"Stop."

"When I say go, I'd like everyone standing on an X in their own personal space. Ready? Go. Now, we are going to try big jumps. When I give the signal, I want you to jump as far forward as you possibly can. Use your arms to help you and bend those knees so you get a lot of force from your leg muscles. When you get there, freeze." (Demonstrate while talking).

"Ready? Go."
"Now, turn around right where you are. This time, on the signal, I want to see you jump back toward your personal space and try to beat your first jump by jumping beyond your personal space. Ready to try it? Go."

(Reinforce those who jumped farther the second time).

"On the signal, I'd like to see you working on this jump from your own space and back again. Keep trying to jump farther each time. Ready? Go."

(Encourage among them, reinforcing those who are really doing good standing long jumps. Be sure they are pushing off and landing on two feet).

Have the children who were given a time-out sit out. Have the rest of the children line up for the game.

"The name of the game today is called 'Hill Dill.' You must listen carefully, because I might ask you to walk, run, hop or jump and you need to do the required movement. For instance, 'Hill Dill hop over the hill before I catch you standing still.' You cannot move until you hear the word 'still.' Then you must hop to the other side, trying to get beyond the line without getting tagged. If I tag you then you become 'it' with me. Everyone (those who are still safe and the people tagging) must use the designated motor skill. Anyone who is tagged by a person not using the designated locomotor skill, is not 'it.' Anyone crossing from one side to the other who is not using the designated locomotor skill automatically becomes 'it.' The important thing is to play fair, so be honest. Ready?"

"Hill Dill run over the hill before I catch you standing still."

(Don't let anyone move until the word "still". Then time is up, allow those who are still safe to line up first and then those who were it).
Lesson II

Major Theme: Locomotor Movement with Even Rhythmic Patterns

Sub-Themes: Pathways

Directions

Objectives:

1. Given several thirty second trials, students will be able to jump rope staying in their personal space, counting the total number of jumps they can do in thirty-seconds, trying to beat their highest total each time.

2. Students will be able to make a variety of pathways on the floor with their ropes and move along those pathways in different directions using various locomotor movements.

3. Students will be able to demonstrate leaping over circular pathways and maintaining their balance on the foot they land on for three seconds.

4. Students will be able to demonstrate the five locomotor movements with even rhythmic patterns and play fairly while participating in a modified version of "Hill Dille."

Equipment: Time-out materials
Drum
Record Player
Record: "Pop Goes the Weasel"
Jump ropes (one for each child)

Lesson:

"Today you will find a jump rope in your personal space. When I say go, you may go to your personal space and begin jumping rope, staying in your personal space. Go."

(Walk among the children and encourage those who are experiencing problems. Count the attempts. If a child does three jumps without missing, say something like, "You made it three times, try for four in a row next time." Also, positively reinforce those who are calling out to you to show you "trick" jumping — crisscross, backwards, etc. After they've jumped for several minutes, give the stop signal and explain that jumping rope is an excellent form of aerobic exercise. Tell them you are going to give them thirty seconds to jump. During that time, they need to count their total number of jumps. Be sure they understand that if they miss, they simply start again and continue counting from where they left off. Also, be sure they understand that you are going to give them several thirty second trials so that they can try to beat their highest number each time. You want them competing against themselves, not against each other. Give them three trials with at least a thirty second rest in between.)

"When I say go, I'd like to see you make a straight pathway with your rope on the floor and then walk along your pathway. Go."
(Walk among them, reinforcing those who have a straight pathway and those who are walking along the pathway. If the children are noisy, give the stop signal and explain that they need to walk quietly in their self-space because you are going to be giving them challenges as they move, and you don't want to keep stopping them in between each one.)

"Let me see you walk along your pathway forward. Run along it backwards. Hop along your pathway on one foot. Can you jump back and forth from one side of your pathway to the other? Let me see you use the draw-step moving sideways along your pathway. Let me see you make a zig-zag pathway with your rope." (Hold up a picture of a zig-zag pathway.) "Run forward along your new pathway. Jump backwards. Try to hop sideways. Now let me see you make a curved pathway and run along it sideways. Jump forward. Can you make a circular pathway with your rope? Walk along it forward. Now let me see you run across it. Run across it without touching it and get as high in the air as you can as you pass over it. Can anyone tell me what this is called?"

(If no one says, "leap", demonstrate a good leap across a pathway and remain balanced on one foot. Try to have the demonstration jog their memories. Explain that a leap is very similar to a run. We transfer our weight from one foot to the other, but there is an extended flight phase -- we want to stay in the air as long as possible. A leap ends on one foot. Be sure they see the difference between a hop and a leap.)

"We are going to practice leaping. Most of you know the song, 'Pop Goes the Weasel.' I am going to play the music and I want to see you jogging through general space. You may sing if you want to. At the part of the song that goes 'Pop', I want you to leap (over a circular pathway if you are near one) and remain balanced on the foot you land on for 'Goes the Weasel.' Let's practice by listening to the music and clapping your hands at the part where the leap is supposed to be."

(Play the music and be sure they know where to leap.)

"Does someone want to volunteer to demonstrate the jog, the leap and the balance?"

(Have someone demonstrate so you are sure they understand what you want them to do. Then play the music and let them go. Move among them reinforcing good leaps and balances. Correct those who are hopping or doing something other than leaping on 'Pop'.)

Sit the children out who were given time-outs. Play "Hill Dill" again. Add leaping. Change the rules so that those who are tagged remain in one place. They must keep one foot nailed to the ground and must only reach out to tag. Only one person (designated by you each time) may be a roving tagger. When time is up, line the children up to return to the classroom.
LESSON 12

Major Theme: Locomotor Movements with Even Rhythmic Patterns

Objectives: Given seven stations, students will perform walking, running, hopping, jumping and leaping according to the instructions at each station.

Equipment: 4 Balance Beams
6 Jump Ropes
Cassette tape and recorder with "go" and "stop" at 30 second intervals
A clock with a second hand or a stop watch
6 Carpet Squares
Chalk
1 or 2 Mats
4 Jumping Boxes
Tape Measure or Yard Stick
4 Hurdles
11 Cones (7 numbered 1-7)

Same Rules as Lesson 8
Set stations up outside (weather permitting)
(Exclude station seven if you are indoors)

Station One: Four balance beams set up in a zig-zag pattern with the instructions for each beam printed in chalk on the blacktop at the start of each beam. (1) walk (2) run (3) hop on one foot (4) hop on the other foot. Make sure the children understand that if they fall off at any point they must go back to the very beginning and start again. When they make it through successfully, they must try the same pattern backwards. If they are able to do that, they are to try it sideways.

Station Two: Jumping rope. Same as was done in Lesson 11 with 30 seconds of jumping, alternated with 30 seconds of rest. Three trials. You must have a cassette tape with your voice cues taped at those intervals, or the children can time themselves if you provide a clock with a second hand. They are to count the total number of jumps and try to beat that number in each succeeding trial.

Station Three: Carpet squares for modified push-ups and sit-ups. Tell them they should do as many as possible of each until the time is up.

Station Four: Use a part of the playground that has a hopscotch on it, or draw one. Trace your own footprints with chalk and print all instructions with chalk on the blacktop.
Right Foot
Hop forward and side to side across the line.

Left Foot
Hop side to side 15 times

Be sure you instruct the children to read the directions that are printed on the blacktop and do what they say.

Station Five:
Children may practice jumping from the boxes, landing and rolling on the mats and/or practicing their standing long jump —-seeing how far they can jump. Draw the standing long jump with chalk. Be sure to draw in the footprints at the starting line so they don't run and jump.
Station Six: Set up the hurdles and be sure the children understand they are to leap over the hurdles in a designated direction. Draw arrows so all the leaping is done in the same direction. After they leap all four hurdles, they are to run back to the start along side the hurdles and do them again.

Station Seven:

Draw the starting line and finish line with chalk. Highlight the line with cones on each end. The children are to run four races against the other people in their group: a walking race, a running race, a hopping race and a jumping race. If they do not do the designated skill, they are disqualified from that race. You might want to ask the classroom teacher to run this station for you.
California State University, Sacramento  
Physical Education Department  

LESSON 13

Major Themes:  Skipping  
Body Relationships

Objectives:

1. Following the leader, students will be able to perform flexibility and aerobic exercises to music to the best of their ability.

2. Students will be able to demonstrate their ability to create different side-by-side and front-to-back relationships with a partner of their choice.

3. Students will be able to hop for a given number of beats on one foot, then on the other while moving with a partner in a side-by-side relationship.

4. Students will be able to skip through general space to an uneven beat.

5. Students will be able to form front-to-back relationships in groups of four to participate in a game of "Loose Caboose."

Equipment:  T/o materials  
          Drum  
          Record player  
          Record for aerobics

Lesson:

Begin with the aerobic exercises with student leaders. Afterwards, call the children in close and ask for two volunteers. Ask then if they can demonstrate a side-by-side relationship. When they find one, point out to everyone that it is a side-by-side relationship because their sides are facing one another. Ask for two different volunteers to demonstrate a side-by-side relationship at a low level. Reinforce and encourage creative responses. Ask for two more volunteers to demonstrate a side-by-side relationship at a medium level. Make sure all of the children understand what is meant by side-by-side relationships. Ask them to find a partner and see how many side-by-side relationships they can create while staying in their own self space. Walk among them commenting on all the unique ones you see. Correct any that are not side-by-side relationships and keep encouraging the students to think-up new ones.

You are then going to use a guided discovery approach to "guide" the children into skipping. Have them hop in a side-by-side relationship with their partner alternating feet every eight counts. Have two children demonstrate what you mean before you send them out to practice. Then, have them alternate feet every six counts. Then every four. Then every two. By the time they are doing two they are doing a step and a hop. If they do this to an uneven rhythm it becomes a step-hop or a skip. When they reach two, ask them if they know what it's called. Someone should figure it out and say skipping. Then, beat an uneven rhythm and have all the children skip (without a partner) through general space.
Then call the children together and ask for two volunteers to demonstrate a front-to-back relationship at a low level. When you are sure they understand front-to-back, have them work with a partner in their own self space creating a variety of front-to-back relationships. Walk among them really encouraging novel and creative ideas. Use children to demonstrate if they come up with something really different and have all the children try it.

Sit the children out who had time-outs.

Play "Loose Caboose". When you get them in their groups of four emphasize the front-to-back relationships.
LEsson 14

Major Theme: Locomotor movements with an uneven rhythmic pattern

Subthemes: Locomoting in different directions
Locomoting to different tempos
Distinguishing between locomotor movements that have an even rhythmic pattern and those that have an uneven rhythmic pattern

Objectives:

1. Given the even rhythmic beat of a drum at various tempos, students will be able to walk, run, hop, jump and leap through general space in different directions, staying with the beat.

2. Students will be able to perform ten bent-leg sit-ups and ten modified push-ups using correct technique.

3. Students will be able to skip, gallop and glide to an uneven beat, and be able to explain that galloping goes forward and backward, while sliding goes sideways.

4. Students will be able to use galloping while participating fairly in a game of 'Please Don't Steal My Tail.'

Equipment: Drum
Time-out materials
Carpet squares (one for each child)
Flags from flag football belts or strips of old material (one for each child)
Record player & record with a good steady, even beat

Lesson:

"When I say go, I'd like to see you moving through general space to the beat. Go."

(Beat an even rhythmic pattern constantly varying the tempo--sometimes very slow, one beat every three seconds; sometimes moderate; sometimes very rapidly to promote running. Be sure to continually reinforce all of the children who are walking, running, hopping, jumping and/or leaping to the beat. Encourage movement in the various directions by calling out the directions you want to see them move in. After the stop signal, call them in close for a discussion and ask them if they can tell you what locomotor movements have in even beats. Do not accept skipping, sliding or galloping--only the five mentioned above.)
"OK, so walking, running, hopping, jumping and leaping all have an even beat. Let me see you use those skills again. Really concentrate on staying with the beat. Go."

(Be sure you are walking among them as you beat the various even tempos, reinforcing those children who are staying with the beat walking, running, hopping, jumping and/or leaping.)

Following the stop signal, explain that those people who are able to do sit-ups without anyone holding their feet should do them that way. Ask for a show of hands and label that group "Group I." Have those who would still like a partner to hold their feet raise their hands and designate them as "Group II." The carpet squares should already be spread out in two lines on either side of the gym--outside the general space boundaries. On the signal, have Group I go to one set of carpet squares and instruct them to do fifteen good sit-ups. When they are finished they may move through general space using any of the five locomotor movements that have an even beat. Instruct Group II to take turns holding each other's feet and each do eight sit-ups. When they are finished, they may also move through general space. After the "go" signal, play music and roam around reinforcing good sit-ups and correcting where needed. When all of the children are finished and are moving through general space, stop the music and ask for a volunteer to tell you what kind of a beat this is (beat an uneven beat). Ask for one locomotor movement that can be done to the uneven beat. Hopefully someone will say skipping, and then ask all the children to skip to the beat.

Stop Signal

"This time, I'm going to ask you to move forward to this uneven beat with one of your feet always leading. I want you to keep the same foot out in front the whole time. Do you think you can do that? Let me see you try. Go."

"This time, I want to see you sideways without your legs or feet crossing. Do you think you can do that? Let me see you try. Go."

(Repeat the same reinforcement procedure you used with galloping for sliding. Continue to beat the uneven rhythm. After the stop signal, be sure to ask them what it was called and be sure they understand that galloping goes forward and backward and sliding goes sideways--it's the direction that makes them different. Be sure the children can tell you the three locomotor movements that have an uneven rhythm and tell them they can use any of those three as you beat an uneven
pattern and have them move again.)

Stop signal

"When I say go, I'd like to see everyone find a carpet square and begin doing
good modified push-ups. Go." (Reinforce.)

Stop Signal

*Have the children who were given a time out during the class sit out.

"The name of our game today is 'Please Don't Steal 'y Tail.' You must use
galloping, which is very similar to a horse that is cantering, and you will each
have a tail. I want you to stick the end of it in your belt or pants so it hangs
down just like this." (Demonstrate.) The carpet squares are the only safety zones
in the gym. Everyone has to be standing quietly on a carpet square with their tail
in place before we can start. When I give the signal to begin playing, you may
steal anyone's tail who is not standing on a carpet square. But, be careful--
someone may be trying to steal your tail. When you get one you cannot gallop with
it in your hand. You must get to a safety zone quickly and put it in place with
your other one. You may not gallop through general space with your hand behind
you, guarding your tail. Your hands must be free. If someone has more than one
tail, you can steal all of them at once. Remember to use galloping and not to
take anyone's tails if they are on a carpet square. One last word of warning.
You must play fairly. If someone steals your tail, don't get all upset. Just go
and try to steal someone else's. If anyone tattles on anyone else, the game will
end immediately. I expect you to follow the rules and have fun. "Then time is up
the person with the most tails will be the winner."

(Pass out the tails and when everyone is standing quietly on a carpet square
with their tail in place, start the game. When time is up, ask if anyone has more
than three tails. If so, see how many and determine the winner(s). Make sure
everyone claps for the winner(s), then line them up to return to the classroom.
Remind anyone who tattles what the consequence of tattling is. You decide whether
or not to stop the game if tattling occurs—which it inevitably does in this game!)
Lesson 15

Themes: Locomotor Movements
Body Relationships

Objectives:
1. Students will be able to match locomotor movements that have an even rhythm (walk, run, hop, jump, leap) to an even beat on the drum, and those that have an uneven rhythm (skip, gallop, slide) to an uneven beat on the drum.
2. Students will be able to demonstrate their ability to create different front-to-front and back-to-back relationships with a partner of their choice.
3. Students will demonstrate their ability to perform different locomotor movements while moving with a partner in different body relationships.
4. Students will be able to demonstrate their stamina and ability to jump while participating in a game of "The Frogs vs. The Flies."

Equipment: Drum
Time-out Materials

Lesson:

Begin the lesson exactly the same way as you began Lesson 14 only alternate the rhythmic pattern (even and uneven), as well as the tempo. Then call them in for discussion and quiz them to be sure they know which locomotor movements have which rhythmic pattern. Then let them practice moving to the beat for a little while longer. As they are moving, be sure your skill feedback is genuine. That is, don't say "good" if a child is using a locomotor movement with an even rhythmic pattern to an uneven beat. Don't be afraid to correct those who are wrong.

Call the children in close and ask for two volunteers to demonstrate a front-to-front relationship. Ask for two new volunteers to demonstrate another one and two more to demonstrate another one. Be sure to praise unique responses and have the class clap for those who demonstrate. Don't be afraid to correct incorrect responses. Then do the same thing with volunteers demonstrating back-to-back relationships. When you are sure they understand you are looking for responses at all levels and the more unique, the better, send partners out to find their own space in which to work and encourage them to keep exploring and find as many different front-to-front and back-to-back relationships as they can. Roam among them giving lots of skill feedback. Be sure to correct incorrect responses and praise those who are correct. Show genuine pleasure at "different" responses. Encourage creativity!

Call them in for discussion and ask for two volunteers to show skipping in a side by side relationship. Have all the children try it. Stop signal.

"Let me see you and your partner sliding in a front to front relationship."
Stop signal.
"Let me see you and your partner jumping in a front to back relationship."
Additional challenges:

Galloping side by side
Sliding back to back
Walking front to back
Leaping side by side
Hopping front to front

Sit the children out who had time-outs.

"The name of the game today is the "Frogs vs. the Flies." Frogs must move like this (demonstrate the Frog Jump (Dauer, p. 299)). The Flies can run through general space. There are no safety zones. If a Fly gets tagged, he/she becomes a Frog."

Play until only a few Flies remain and have everyone clap for the winners. Have the Flies line up at the door. Then call the Frogs over to you and give a cheer for the Frogs -- 1, 2, 3, -- "Let's Go Frogs." Then have the Frogs line up.

RR:vt
4/9/82
LESSON 16

Themes:  Locomotor Movements  
         Physical Fitness

Objectives:
1. Given the parachute, students will perform all eight locomotor movements, bent leg sit-ups and push-ups correctly.
2. Given the parachute, students will be able to make popcorn, an igloo, a basket of heads, a mountain, a mushroom and a cloud to the best of their ability.
3. Given three large nerf balls and a parachute, students will work on muscular endurance of the upper body and earn points while attempting to pop the balls over the heads of the opposing team members.

Equipment:  Whistle  
            Record Player  
            Records with a good beat for locomotor movements, push-ups and sit-ups  
            Parachute  
            10 bean bags  
            3 large nerf balls

Lesson:
Have the parachute laid out on the floor (ground) so when the students arrive they can be given the following instructions:

"When I say go, I’d like you to spread out evenly around the parachute and pick it up with your right hand. Go. The first thing we’ll do is review all of the locomotor skills we’ve been working on to music. We’ll walk fifteen counts holding on with our right hand and turn to face the other direction on count sixteen and walk fifteen counts in that direction. We’ll do the same thing with running, hopping, jumping, skipping and galloping. Then we’ll face the chute and hold it with both hands so we can slide sixteen counts to our left and then to our right. I would like to see you staying with the beat of the music. You may count to yourself or out loud. Ready?"

(Put on the music and perform with them, calling out the locomotor skill you want each time to remind them. When you hop, do 6 with one foot and then call out for them to change feet. Do the same with the lead foot in galloping. Let them move the parachute up and down as they go. We want them to use as much energy as possible. Face the chute and hold on with both hands to slide left, then right.)

When the music ends . . .
"There is a new signal today. When you hear this (one short whistle blast) I expect you to get quiet instantly and listen for the next set of instructions. Who can tell me what the penalty will be for not responding to the signal? That's right. You'll be given a time out."

(Divide the group in half and have them move in close together. See diagram. Label them Group I and Group II)
"Everyone sit with their knees bent, feet flat on the floor, and hold the parachute at your ankles." (The parachute should be taut.) When I say go, I'd like everyone in Group I to lie flat on their backs. Go. Now, I'm going to put on some music and we will alternate every four counts. As Group I sits up, Group II will lie down, etc. Four counts up, four counts down. Try hard to stay with your group so this works. Ready?

(Put on the music and give up and down cues for the groups. Example: change, two, three, four. Make sure you do all of these things with them.)

After about fifteen sit-ups, stop the music and ask everyone to find a seam and put their knees on the edge of the chute. (see diagram)

Have everyone perform modified push-ups together. Then throw all the beanbags onto the chute and have them pop corn until all the beanbags (or nearly all of them) have been popped off the chute.

Check to be sure all of the students remember the number of the group they are in (from previous lessons). Do a number exchange. As everyone raises the chute, you call out the locomotor skill and the number of the group and all of those children go to the opposite side performing that skill. Make sure they are doing the skill correctly. Be sure they understand the rules. They must leave the chute up high until the group members have reached the other side. But, if you yell "running", they can pull the chute down quickly, trapping the group members inside. Be sure every group gets at least two turns (one locomotor skill and one turn "running"), before you go on to the next part of the lesson. Mix it up, though, so they don't know when they'll be called.

Following the number exchange, make an igloo, followed by a mountain (knees on edge of chute). Before they make the mountain you can explain what they're going to do and tell them after it's made they can climb the mountain, but they must think safety so they don't hurt themselves. The mountain will look soft and fluffy, but the hard floor is underneath. Also, people will be climbing the mountain from the other side and you don't want any collisions. After the mountain, make a basket of heads, then a mushroom and finally a cloud. Let them run under the chute after they let go of it. They love doing that!

Have the children who were given a time-out during the lesson sit out. Be sure they are isolated from each other, not sitting together.

Divide the class into two teams. Throw 3 nerf balls and have them try to pop them off over the opposing team member's heads. Each time a team is successful, they earn 1 point. If a ball goes out between two members of the opposite team, there is no score. Play until time is up. Whoever is ahead then is the winner.
LESSON 17

Theme: Physical Fitness through Animal Movements

Objectives:

1. Following the leader, students will be able to perform flexibility, muscular endurance, and aerobic exercises to music to the best of their ability.

2. Students will be able to demonstrate the following animal movements and stunts to the best of their ability: puppy dog run, crab walk, rabbit jump, frog jump, seal crawl, alligator crawl, lame dog walk, kangaroo hop, measuring worm and turnover.

3. Students will be able to perform the straddle stretch and backbends to the best of their ability.

4. Students will be able to move at a low level like snakes and play fairly while participating in the "Snakes in the Grass:"

Equipment:

Record player
Record for aerobics
Drum
Time-out materials

Lesson:

Begin the class with flexibility, muscular endurance and aerobic exercises to popular music. Then, explain to the children that you are going to name an animal movement and, when you do, you want them to move through general space without touching anyone else the way they think that animal moves. Let them know that, while they are moving, you will select several students that you think are doing the best job of imitating the animal. On the stop signal all students should sit quietly on an X and watch these students demonstrate. (Use this procedure for each of the animal movements listed in the second objective. Following each demonstration, be sure you have the entire class perform the movement the same way the demonstrators did before you go on to the next movement. Be sure to point out some of the technicalities: hands move forward and the feet play catch up in the rabbit jump; hands and feet spring off the floor together in the frog jump; buttocks up-front of the body parallel to the ceiling on the crab walk etc. For descriptions of each of the movements, refer to Daver, pp. 204-306.)

Have the children perform the movements in any order you choose, but try to alternate the more and less vigorous ones. Half way through the list, give them a short rest by teaching them how to do the straddle stretch and backbends for flexibility.
Straddle Stretch: Stand in straddle position and go as far down into the split as you can, then lean over and put your hands on the floor in front of you. Walk your hands forward as far as you can without lying on the floor, then as far back as you can without sitting on the floor— meanwhile the legs should be straight and should be getting stretched farther and farther apart. Repeat forward, back, forward and this time when you go back, sit on the floor and stretch to the right leg, center and left leg (legs straight, toes pointed).

Backbends: Lie on their back, knees bent and feet flat on floor as if they were going to do a sit-up. Spread all ten fingers and point the thumbs toward the ears. Raise the elbows to the ceiling and put the palms of the hands flat on the floor with the thumbs still point toward the ears. Push up. Try to straighten the arms and hold for at least five seconds. Repeat.

(Some of the children will be really good at these. Others will do something like a crab walk that will be totally wrong. They’ll need to be corrected. Others will not have enough upper body strength and may allow their arms to collapse and fall on their heads unless you stress this and emphasize safety).

Following the straddle stretch and backbends, finish the second half of the list of movements. You’ll have to demonstrate the turnover for them. Be sure to keep the body straight while performing.

Have the children who were given time-outs sit out.

Play "Snakes in the Grass" for the game. Choose about three children to be snakes. They must remain on their stomachs to move and tag. Those who are tagged become snakes. Those who do not get caught are the winners. To start the game, have everyone clustered around the snakes with one finger touching a snake. On the count of five, they may flee and the snakes may begin tagging. There are no "safety zones." If all of the children get tagged quickly and you still have time left, play again. If not, when time is up have those who were not caught line up at the door and have everyone applaud for their ability not to get caught. Then call the snakes over to you and have a cheer 1, 2, 3 "Let's Go Snakes." Allow the snakes to line up and dismiss all of them.

Hint: This can really be a fun lesson for you and the children. Don't discourage them from making the sounds of the animals as they move. Let them have fun. There are two purposes for the demonstrations: (1) They need to know how to do the movements correctly for the fitness stations in Lesson 18 and (2) They'll need a rest, these stunts are tiring.
Major Focus: Stations That Promote Physical Fitness

Objectives:
Following instructions, students will be able to perform a variety of flexibility, strength, muscular endurance and cardiovascular endurance tasks continuously at different stations.

Equipment:
- Record player/popular records
- 6 large numbered cones to mark each station
- Large mat
- Tape (to construct pathways on the floor)
- 5-6 Jumpropes
- 6 Beanbags
- 3-4 Sets of Hurdles
- 6 Task Sheets

Teacher Instructions:
This is a lesson that will go for two days, so don’t be concerned if your instructions take too long and the children only have a short time at each station, or only get to half of the stations the first day. You decide which of the two ways you want to do it.

Be sure the children can read the instructions at each station and that they understand what they are supposed to do. They must follow the tasks in the order they are written. They are not to skip any. If they finish before the signal is given to change stations, they are to begin the tasks all over again from the beginning. You must make them understand that the stations are designed to promote physical fitness and the hotter and more out of breath they get, the better. They are not to stop moving at any time. No resting allowed, no matter how tired they get. Let them know they’ll be doing the stations again the next day for a longer period of time, so they should dress accordingly.

Be sure your signs at each of the stations are neat and attractive, printed so the second graders can read them. Your job is to be enthusiastic about this lesson so the students are motivated to put forth maximum effort.

Design a new signal. When they hear the signal, they are to jog immediately to the next station and begin the new set of tasks. Remind them to follow the numbers on the cones and on the task sheets.
Lesson:

Station One

1
Puppy Dog Run
Crab Walk
Rabbit Jump
Seal Crawl
Head Circles
Shoulder Circles
Arm Circles

Have two designated boundary lines at this station. The children are to do each of the first four skills from the line nearest the station cone to the other line and run back. The last three skills should be done near the station cone.

Station Two

2
Sit-ups
Modified Push-ups
Backbends

Provide a mat at this station for them to work on. This is important, because some of them won't have the strength or flexibility for the backbend and we don't want any injuries.

Station Three

3
Run in Place
Leap Over the Hurdles
Run Back

If your multipurpose room is small, set these up outside the most convenient door and ask your cooperating teacher to supervise.

Station Four

4
Jump Rope
(do not stop to rest)

Again, if your multipurpose room is small, this station can be outside, with your cooperating teacher supervising both stations (3 and 4).

Station Five

5
Follow the Pathways:
Lame Dog Walk
Kangaroo Jump
(Hold beanbag between knees)
Hop on One Foot
(Balance beanbag on raised knee)
Cross-leg Toe Touch
Straddle Stretch

Tape pathways on floor: (Provide enough beanbags for all the children at the station.)
Station Six

6
Frog Jump
Alligator Crawl
Inch Worm
Turnover
Shoulder Stretch

Same directions as Station One.

If the children burn out early the second day (due to lack of fitness or motivation), speed up the rotation and then play a game of your choice with them. Choose one from lessons 1-16 that you didn't get time to play or that the children really enjoyed.

HAVE FUN!
Lesson 20


Objective: Students will respond in writing to twenty-five questions posed by the instructor concerning physical fitness, stability, instability, locomotor skills and body relations to the best of their ability.

Equipment: Test Questions Answer Sheets

Lesson: Explain that the purpose of the test is to see how much they remember of what they've been taught in the past five weeks. It is a test. All eyes are to remain on the teacher, the person demonstrating, or on their paper. There is to be absolutely no talking unless they do not understand something, in which case they may raise their hand and ask. All answers are to be indicated on the answer sheet by circling the letter of the answer they think is correct (demonstrate on the board).

If not, pass out the answer sheets and ask the children to put their names on the paper in the space provided.

I will read you each question and all possible answers. I will then give you time to circle the answer you think is correct.

(Note: In question No. 10, do not read the question as written or you will give them the answer to No. 5. Instead, refer them back to the picture you drew earlier on the board and the answer they gave in No. 5. Also, throughout the test, try not to change the tone of your voice as you read the possible answers. You do not want to give away the correct answer.

BEGIN:
TEST QUESTIONS
(Read, Explained and/or Demonstrated by Instructor)

1. Why do we do flexibility exercises?

2. What muscles are we trying to strengthen when we do sit-ups?

3. What muscles are we trying to strengthen when we do modified push-ups?

4. Why do we do aerobic exercises?

5. We worked on balancing on lots of different body parts. We gave the body parts that we balanced on and all the space in-between them a name. What did we call it? (Diagram on board)

6. What is the most stable position the body can be in?

7. Which of the three pictures you see on your answer sheet is the most stable?

8. Why is the picture you chose in question number seven the most stable?

9. Are you more stable when your center of gravity is high or low? (Demonstrate standing on tip-toe as you say "high" and bend your knees in a good stable position on your feet as you say "low")

10. What happens when your center of gravity falls outside of your base of support?

11. If you lose your balance, what should you do?

12. What is the name of the locomotor skill I am doing? (Hop)

13. What is the name of the locomotor skill I am doing? (Skip)

14. What is the name of the locomotor skill I am doing? (Gallop)

15. What is the name of the locomotor skill I am doing? (Jump)
16. What is the name of the locomotor skill I am doing? (Slide)

17. Which of the answers on your answer sheet best describes a leap?

18. There are five locomotor skills that have an even rhythmic pattern—that is, one step or movement for each beat (beat out the rhythm). Choose the answer on your answer sheet that contains the five locomotor skills that have an even beat.

19. There are three locomotor skills that have an uneven rhythmic pattern—that is, two little movements for one beat (beat out the pattern). Choose the answer on your answer sheet that contains the three locomotor skills with an uneven beat.

20. If I would ask you to jump to the beat and I would beat like this (beat real slow and loud)—would you take small jumps that require little force or large jumps that require a lot of force.

21. Choose two volunteers and have them stand back to back. What type of body relationship are they in?

22. Repeat 21 with front to back.

23. Repeat 21 with side by side.

24. Repeat 21 with front to front.

25. I would like you to tell me if you feel you have learned something in your Physical Education class during the last five weeks and/or if you enjoyed the learning activities.
Directions: **Circle** the letter that you think matches the right answer.

1. a. to make our muscles strong  
   b. to stretch our muscles  
   c. to tighten our muscles  

2. a. the muscles in our legs  
    b. the muscles in our back  
    c. the muscles in our stomach  

3. a. the muscles in our back  
    b. the muscles in our arms  
    c. the muscles in our stomach  

4. a. to develop a strong, healthy heart  
    b. to develop the muscles in our arms  
    c. to develop good listening skills  

5. a. base of support  
    b. base of balance  
    c. base of gravity  

6. a. standing on two feet  
    b. sitting down  
    c. lying down  

7. a.  
    b.  
    c.  

8. a. because it is the most narrow  
    b. because it is the biggest  
    c. because it is the smallest  

9. a. high  
    b. low  

10. a. you stay balanced  
     b. you lose your balance  
     c. nothing happens  

11. a. fall and possibly hurt yourself  
     b. take a step in the direction you are falling or roll to absorb the force of the fall  
     c. be careful so that you never lose your balance  

12. a. jump  
    b. leap  
    c. hop
13. a. skip  
   b. slide  
   c. hop  

14. a. skip  
   b. slide  
   c. gallop  

15. a. skip  
   b. jump  
   c. hop  

16. a. skip  
   b. slide  
   c. gallop  

17. a. a big hop  
   b. a big jump  
   c. a big run  

18. a. walk, run, hop, skip, jump  
   b. walk, run, gallop, slide, leap  
   c. walk, run, hop, jump, leap  

19. a. hop, skip, jump  
   b. skip, gallop, slide  
   c. walk, run, leap  

20. a. small jumps—little force  
   b. large jumps—a lot of force  

21. a. front to front  
   b. back to back  
   c. side by side  
   d. front to back  

22. a. front to front  
   b. back to back  
   c. side by side  
   d. front to back  

23. a. front to front  
   b. back to back  
   c. side by side  
   d. front to back  

24. a. front to front  
   b. back to back  
   c. side by side  
   d. front to back  

25. a. I learned a lot and I enjoyed the learning activities.  
   b. I did not learn very much, but I did enjoy the activities.  
   c. I learned a lot, but I did not enjoy the learning activities.  
   d. I did not learn very much. I did not enjoy the activities.
<table>
<thead>
<tr>
<th>MONDAY</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
<th>THURSDAY</th>
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<tbody>
<tr>
<td>MAJOR THEME: Throwing &amp; Catching</td>
<td>MAJOR THEME: Catching</td>
<td>MAJOR THEME: Throwing and Catching</td>
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<td>SUB THEMES:</td>
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<tr>
<td>Size of Objects</td>
<td>Level of Object with regard to Catcher</td>
<td>Distance</td>
<td>Accuracy</td>
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<tr>
<td>Weight of Objects</td>
<td>Abosrbtion of Force</td>
<td>Force/Speed</td>
<td>1. Thrower and Target both stationery</td>
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<td>Texture of Objects</td>
<td>Hands Used to Catch</td>
<td>Length of Extension of Catching Instrument</td>
<td>2. Thrower Stationary Target Moving</td>
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<td>Hands Used</td>
<td></td>
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Suggestions: You might want to use the "whole group" approach guiding them through progressive challenges with various pieces of equipment. 

or

You might want to try a "free exploration" station approach with a different object to be thrown and caught at each station.
**BLOCK PLAN - PHASE II - LESSONS 25-28**

<table>
<thead>
<tr>
<th>MONDAY</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
<th>THURSDAY</th>
</tr>
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<tbody>
<tr>
<td><strong>MAJOR THEME:</strong></td>
<td><strong>MAJOR THEME:</strong></td>
<td><strong>MAJOR THEME:</strong></td>
<td><strong>FINAL DAY OF</strong></td>
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<td>Kicking</td>
<td>Kicking &amp; Trapping</td>
<td>PHASE II</td>
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<td>STUDENT</td>
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<td>Size of Objects</td>
<td>Size of Objects</td>
<td>Parts of Foot</td>
<td>TEACHING</td>
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<tr>
<td>Weight of Objects</td>
<td>Weight of Objects</td>
<td>Used</td>
<td>MAJOR THEME:</td>
</tr>
<tr>
<td>Texture of Objects</td>
<td>Texture of Objects</td>
<td>Accuracy:</td>
<td>FUN FOR ALL!!!</td>
</tr>
<tr>
<td>Length of Striking</td>
<td>Distance</td>
<td>Kicker &amp; Target</td>
<td>Choose something that the</td>
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<tr>
<td>Implement</td>
<td>Force</td>
<td>both Stationary</td>
<td>children will really enjoy</td>
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<tr>
<td>Trajectory of Object</td>
<td>Trajectory of Object</td>
<td>Kicker Moving</td>
<td>NO CODING</td>
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<td>to be struck</td>
<td>(stationary, rolling,</td>
<td>&amp; Target Stationary</td>
<td>A good culmination to this</td>
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<tr>
<td>(stationary, rolling,</td>
<td>(stationary, rolling)</td>
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<td>unit would be</td>
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<td>pendular)</td>
<td></td>
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<td>Manipulative</td>
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<tr>
<td></td>
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