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Student performance and accountability conditions in physical education

Lund, Jacalyn Lea, Ph.D.
The Ohio State University, 1990

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STUDENT PERFORMANCE AND ACCOUNTABILITY CONDITIONS IN PHYSICAL EDUCATION

DISSERTATION

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

By

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The Ohio State University

1990

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To Jeffrey, Nicholas, and Mom

With Love
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CHAPTER I
INTRODUCTION

Teaching is the arrangements of contingencies of reinforcement which expedite learning. A student learns without being taught, but he learns more effectively under favorable conditions. (Skinner, 1969, p. 15)

Researchers in education have been trying to identify the favorable conditions of which Skinner wrote. After a long struggle and many false starts, a body of knowledge is growing. Various components of effective teaching are being studied and bit by bit bricks are being added to the wall of knowledge that will allow for optimal learning.

Many factors must be taken into consideration when describing these components. Behaviors and the environments in which they occur frequently set the stage for the learning process that is to occur. Subsequent behaviors are consequated either positively or negatively. These consequences determine if future rates of behavior will increase, decrease, or stay the same. Early studies assumed this learning process to be unidirectional, investigating the influence of the teacher on the student and using this as a frame of reference when selecting various dependent and independent variables.
Since this early process-product research, new models have begun to emerge. Doyle (1977) moved beyond examining characteristics of the teacher and learner, seeking to describe the ecology of the classroom. With this naturalistic approach, his ideas parallel those of Skinner by recognizing that learning is highly contextual occurring in an environment rich with influences and distractions. Doyle's ecological analysis attempted to account for the dual-directional influence between teachers and students, taking into account the demands of the classroom environment. Another unique feature of this approach is its focus on the student as the unit of analysis rather than the classroom, as earlier research had done.

Doyle identified a task system operating in the classroom that seemed to account for the flow of activities, rather than making each event a discrete occurrence. This system of overlapping task structures integrated the elements of the classroom. He also recognized the influence of the student on the teacher, a factor that had been neglected in the earlier studies.

Tasks were defined as "a set of implicit or explicit instructions about what a person is expected to do to cope successfully with a situation." (Doyle, 1981b, p. 2). "Each of these task structures consists of a goal and a set of operations to achieve that goal, and from the perspective
of the present analysis, each task structure defines a behavior ecology . . . they supply an organizing reference for interpreting events and actions in the classroom." Doyle, 1977, p. 192). Thus tasks can be used as the organizing structures by which to view the classroom.

Doyle identified two task systems, the managerial and the instructional. The managerial task system dealt with the non-academic organizational features of student behavior. The instructional system related to learning and knowledge.

Tousignant (1982) used the task structure model to study physical education classes. She defined managerial tasks in three categories: the requirements related to attendance (being there and on time); the requirements for wearing the obligatory and appropriate dress; and the requirement to obey rules and not disrupt class routines. Instructional tasks were classified two ways by Tousignant, motor and cognitive. Motor tasks were those related to movement while cognitive tasks related to written instructional tasks.

The stated task is not always the actual task performed by the student (Tousignant, 1982). The actual tasks are often a result of the responses that the teacher feels are acceptable (Tousignant, 1982, Doyle, 1981a) and thus are contingency shaped.
Students tend to negotiate tasks verbally (as in a classroom) or motorically (in the gymnasium). How the teacher consequates the behavior determines the actual task. The consequence(s) that a teacher uses or fails to use, actually determine what task the student does. Doyle referred to this as accountability.

... it would appear that the reward structure in classrooms drives the task system. The accountability system within which an academic task is embedded can change the nature of the task. Moreover, if accountability is not present, i.e., if answers are not required or any answer is acceptable, then the task system itself is suspended. (Doyle, 1980c, p. 99)

Doyle (1977) defined the formal structure of classroom tasks as an exchange of performance for grades. At one level students are required to complete written assignments that are likely to be recorded. At the second level accountability involved various forms of recognition from classmates and teachers, feedback, and silent monitoring and seemed to operate at a more informal
Everyone was expected to participate under the first level of accountability, but this was not the case for the more informal type of accountability.

Marks (1988) found little evidence of formal accountability in the gymnasium. She identified instances of no accountability, whereby the teacher was not actively monitoring student performance and the teacher could not see or hear the student.

Given the difference in the nature of the tasks, one would also expect a difference in the accountability systems identified in a classroom with those found in the gymnasium. Doyle (1977) felt that under formal accountability conditions, the most on-task behavior was found.

The less frequent occurrence of formal accountability in the gymnasium signals the need to identify just what does keep students on task in that setting. Further, if these various accountability systems are in place, their effects should be detectable by a difference in student response rate to the teacher's stated tasks.

The Purpose of the Study

The purpose of this study was to examine and identify the various types of accountability found in physical education classes. Student response rate were be used as a determinant of the effectiveness of these
systems. The following questions guided this study:

1. What are the various types of accountability that can be identified in physical education classes?
   1-a. What types of teacher behaviors describe/define these types of accountability?

2. What type of task statement accompanies these different accountabilities?
   2-a. How do task statements vary among teachers?

3. Do teachers differ in the frequency and type of accountability used?

4. How do these accountability systems affect student response rates in terms of total number of responses emitted, topographical correctness, and success?
   4-a. Do these accountability techniques affect more and less skilled students differently?

5. Do response rates for different types of accountability vary among teachers?

**Significance of the Study**

If accountability is in fact what "drives the system", then defining the types of accountability used should be a beneficial step in describing yet another aspect of this
complex task structure model.

Marks (1988) created a system of observation for the task model. Son (1989) refined this model and examined task congruence in secondary physical education classes. This study attempted to further this line of research by examining what has been hypothesized as the most powerful factor driving task systems, that of accountability. If effective accountability techniques can be identified, both preservice and inservice teachers could benefit from this study.

Studies have discussed the importance of accountability, but none have made it the primary variable of study. The categories of accountability used by Doyle lack specificity and are inappropriate for physical education. A more specific analysis of accountability systems will enhance the body of knowledge relative to that subject area.

Limitations

The findings of this study are limited in the following ways:

1. Only five teachers were studied. Although trends and tendencies may be shown, the results pertain only to the subjects under investigation.

2. All teachers utilized were veteran teachers with good teaching reputations. Results may differ with
beginning teachers or those with poorer management skills.

3. Teachers were observed during the course of a single sport (volleyball). Other sport units may have other types of accountability or may not have those identified in this study.

4. Students in these classes were in required physical education classes at the high school level (approximate ages 14-16 years). Students in elective classes or of a different age range may have had different types of responses.

5. Skill level must be viewed as relative to the class in which the student is enrolled, not according to a standard of excellence consistent throughout the entire study. Findings according to skill level may reflect this limitation.
CHAPTER II

REVIEW OF LITERATURE

The focus of this study was a description of the accountability systems that physical education teachers employ in their classes. This review of literature examines the relevant research on this topic, both in education and physical education.

The first section of this review will present findings of classroom research that frame the study of accountability and examine it specifically. The second section will concentrate on the task structure literature in physical education that has preceded this study.

Physical education classes are, by nature, active, dynamic settings. Locke (1975) captures an essence of this vitality in the following description:

The instructional act itself has one pervasive quality -- complexity. In full swing, a class of 35 fourth graders doing a gymnastics unit is a seething mass of human interactions. Events happen at high speed, with high frequency, in multiple and simultaneous patterns and take subtle forms . . . No description fits this picture of complexity so well as Smith's concept of the teacher as ringmaster. Surrounded by a flow of activity, the ringmaster monitors, controls, and orchestrates, accelerating some acts, terminating others, alternating and adjusting progress through the program, always with an eye for the total result. (p. 6 and 7)
Doing research in such a setting is no small undertaking. The framework for research in such a setting must be strong yet flexible enough to capture all the dynamics and multiplicities present in the gymnasium.

Doyle's model of task structures provides an appropriate lens for study in this area. It uses naturalistic observations of the classroom to capture the reality of that setting.

By studying classrooms in depth, Doyle attempted to analyze their ecology and describe structures and commonalities found among various teachers. Brophy (1981) notes that research should take a middle-of-the-road approach by studying a few classrooms in depth. He criticizes case study research that has tried to generalize with an N of one as well as those studies that are so large that they have failed to capture the real significance of a classroom. Doyle's work uses this 'middle-of-the-road' approach by being based on in-depth studies of a few settings/classrooms. The task model focuses on how certain individuals process information in the classroom, as well as attending to the class-level procedures that organize and direct classroom events.

The task structure model portrays teaching and learning as a set of interrelated systems. Ecosystems in nature feature trade-offs and balances. Doyle studied classrooms to determine the delicate balances that exist with classroom
ecology. The behavioral dynamics of a classroom can be represented with this model. His (Doyle, 1979a) framework for understanding classrooms includes the following features:

1. A concept of reciprocal causality in classroom relationships (i.e., patterns of influence do not go merely from teachers to students as past process-product research indicates; students and their behaviors influence the actions of teachers as well).

2. An information-processing view of the mediational strategies students use to navigate classroom environments.

3. A differential practice for the analysis of effects in classrooms. The practice of looking at mean scores can camouflage individual student differences.

4. A systematic view of the natural classroom environment or a look at the interrelationships among various classroom components.

These points set Doyle's work apart from previous process-product research. Past studies had noted a unidirectional relationship between the teacher and student. They failed to recognize the influence of the student on the teacher. In addition, Doyle's work looked at students in depth. Instead of looking only at achievement scores, he examined the ways students process information. By looking systematically at the classroom, relationships
were uncovered. Behavior, including thinking, becomes tuned to the demands of a particular environment (Doyle, 1979b). For this reason, the environment in which the behavior occurred must also be analyzed.

Doyle (1985b) found classrooms to be complex. The relatively unstable environment is characterized by multiple demands, simultaneous events, immediacy, unpredictability, a public character, and a unique history. The classroom can also be seen as an ordered and bounded setting with demands unique to that environment. Doyle looked at how the classroom worked. The emphasis of his research was on uncovering why naturally occurring practices persist rather than on how practices could be changed (Doyle, 1979b).

Classroom Tasks

Doyle viewed the classroom as systems of overlapping task structures that combine the elements of the classroom. "A task is a situational frame defined by a goal and the operations necessary to achieve that goal (Doyle, 1980c, p. 120-121). Mager (1974) proposed a similar framework for teachers when planning classroom activities. Mager suggested that teachers must describe the performance, situation, and criterion when planning a lesson.

Doyle's term 'operations' is the equivalent of Mager's 'performance'. Performance was actually the operation or the behavior necessary for the student in a given activity. Doyle's term 'goal' is equivalent to Mager's 'criteria'.

This is how teachers and students know when a performance has been successful. Doyle and Mager both note the importance of the situation to frame the activity or task given the student.

In later research Doyle (1985b), expanded the notion of conditions. The conditions under which the product was to be generated included: (a) the operations students were to use, (b) the resources available, and (c) the significance or weight in the grading system. A task, then, called attention to four key aspects of the work students do: a goal or the product to be achieved, the conditions under which this would be accomplished, the cognitive operations involved, and the importance of the work to be done.

A task must also be seen as more than just content, as it includes the situation in which the content is embedded. The context of a subject influences how a subject is taught (Shulman, 1987). A task must therefore take into consideration the context or content in which it occurred. Thus the term "task" is used to designate the situational structures that organize and direct thought and action (Doyle & Carter, 1984).

Tasks can be divided into two broad categories, managerial and instructional. This division recognizes two important components of teaching. Because a teacher must
set the stage for learning to occur, gaining and maintaining the cooperation of students is a primary function for teachers (Doyle, 1981b). Instructional tasks are also necessary if learning is to occur. They include four types of cognitive tasks — memory tasks, routine tasks, opinion tasks, and understanding tasks (Doyle, Sanford, Nespor, and Schmidt-French, 1985). Type of task will determine what part of the content is learned (Doyle, 1982b). Teachers must plan events and activities that will facilitate acquisition of knowledge using both instructional and managerial tasks.

**Task Boundaries**

The study of tasks provides a way to examine how students' thinking is ordered by classroom events (Doyle & Carter, 1984). The goal of the task and the operations necessary to achieve the task must be understood by the students. The stated task, however, is not always the actual task that the student performs. "The answers a teacher actually accepts and rewards define the real task in classrooms . . . The allowable routes to answers affect the nature of the task that is accomplished" (Doyle, 1980c, p. 95). If a teacher states one task but accepts answers that do not require that this task be performed, then the actual task differs from the stated one (Doyle, 1983a). Policies that govern accountability in a teacher's class define the functional curriculum for students by activating
and directing student engagement (Doyle et al, 1985).

Strictness of the criteria a teacher uses to judge answers has consequences for task accomplishment (Doyle, 1983). If a teacher allows any answer, then the task becomes merely to give an answer. If the teacher insists on some degree of accuracy, then the demands of the task increase and the real task approaches the stated task.

In such a manner, the teacher defines the boundaries of classroom tasks. Some answers/behaviors are permitted, while others are not. If a teacher fails to state these boundaries explicitly, then students must learn them by trial and error. They become contingency-shaped, rather than stated. However, even though a teacher states a boundary, students may attempt to negotiate a task either verbally or by their actions. Teachers will sometimes modify or change their position because of this negotiation.

A task can be described at several levels. Examples of these include: the task that the teacher intends, the task that the teacher announces to students, the task as it is negotiated by teachers and students, and the task as the student understands it in light of his/her own personal history and abilities, Doyle, 1985b).

Accountability

Accountability for work drives the academic task system in classrooms. Students take seriously only that work for
which they will be held accountable (Doyle, 1983b).

Becker, Geer, and Hughes (1968) defined the accountability system for academic work in classrooms as an exchange of performance for grades. In much the same way as people work for money and other compensation, students earn grades in exchange for academic performance. Grades do not necessarily refer just to marks on a report card. They also exist in various forms of public recognition, such as test taking, assignments completed and questions answered in a discussion (Becker et al, 1968).

From the student's perspective, this grade exchange defines the structure of the academic tasks. This also determines how information is processed and what is learned (Doyle, 1979b).

Effective managers held students accountable for tasks by recording grades and collecting papers. Poor grades were questioned as teachers showed students they were aware of poor performance. These teachers were modeling responsibility to students just as they, in a like manner, expected their students to be responsible for assignments (Worsham, 1981). Students who were not working as expected were addressed immediately.

Doyle (1979a) recognized the exchange of performance for grades at two levels. The first level is characterized by a degree of informality as students are required to
answer questions, participate in discussions, and complete assignments. At the more formal level students complete worksheets and take tests. Results are more likely to be recorded and students usually cannot avoid participation.

Accountability for work drives the academic task system. If answers are not required or any answer is acceptable, the task system is suspended and little academic work is accomplished. No teacher effects will occur if one of three things happen (Doyle, 1980c):

1. If no task is accomplished.

2. If the task accomplished does not involve learning (as is the case when the students already know the material).

3. If the wrong task is accomplished.

The work allowed by the teacher defines the tasks students are required to accomplish.

Two factors emerged as being significant in defining academic tasks (Doyle, 1983c):

1. The significance or weight of the task in the accountability system (i.e., the amount that it counts toward a grade).

2. The degree of congruence of the task with the overall task system of a class. This latter point affects the degree of practice or familiarity a student brings to the task.
Accountability plays a key role in determining the value/importance of classroom work. Those products that are strictly evaluated by teachers are more likely to be considered serious work (Doyle, 1985a). Accountability for work and monitoring progress is strongly associated with student achievement (Doyle et al., 1985). Strong accountability requirements can discourage students while softened requirements suggest to students that the work is not really important (Doyle et al., 1985).

Skinner (1974) talks of holding a person accountable by maintaining given contingencies. The contingencies most often employed in the classroom are negative.

"The term contingency refers to the interdependency of the three components -- antecedent stimulus, behavior, and consequence" (Cooper, Heron, & Heward, 1987, p. 30). The antecedent is the state of condition that must occur in order for the response or behavior to occur. The consequence is the reinforcement or punishment that follows the behavior.

This three-part contingency is common in classrooms. Teachers give an assignment (the antecedent) and students do the work (behavior). If students do the assignment correctly, they are likely to be reinforced by the teacher (positive reinforcement) which will increase the likelihood that they will perform in a similar manner in the future. If the teacher punishes the student, he/she will be less
likely to behave that way in the future.

Sometimes teachers assume that they are giving a positive reinforcement, but what they do actually serves to decrease subsequent student behavior. The reinforcement actually has had a negative affect even though the teacher intended otherwise. This is a simple example of the complexities associated with this framework. To address these complexities in detail is beyond the scope of this review.

The behavioral framework is very compatible with the task structure model. The teacher gives an assignment or task (antecedent) which specifies a goal and a set of operations to achieve that goal (behavior). If the teacher holds the student accountable for the task, there is a consequence. One can see why Doyle states that accountability drives the system. If students are not held accountable or consequated there is little reason for them to emit the desired behavior. Again this is an oversimplification of a very complex phenomenon. In fact, some students do perform the behavior again because they have received another reinforcement from a different source. For example, in physical education, this usually is the case of high ability students.

When there was no formal accountability on student performances, the instructional task system was in fact "suspended," and informal contingencies controlled the accomplishment of those tasks. Usually,
the informal accountability system did not provide much positive reinforcement for the beginners who tended to avoid participation. Meanwhile, the more experienced students, and those who enjoyed the task for its natural sources of reinforcement, kept the instructional tasks system in operation. (Tousignant & Siedentop, 1983, p. 54)

The history and ability a student brings to a classroom is an important consideration of how he/she will behave or respond to teacher tasks.

A student might comply with a task because of a behavior that has been established by reinforcement in the past. If a student has been taught to follow teacher rules, he/she might do a particular task because of a rule that the teacher gave rather than contingent reinforcement. For example, a student might dress for physical education because they have been taught to follow teacher rules, not because of the accountability being utilized by the teacher. Student history affects performance.

Behaviors can also continue to be emitted even though they are not reinforced every time. This type of intermittent schedule of reinforcement can also be effective in classrooms, as long as the schedule is not stretched too far. A teacher may collect papers one day and hold students accountable and then wait two days before gathering the next set.

This discussion of behavior has centered on the student; however, the teacher also behaves. In keeping
with Doyle's premise of reciprocal causality, the behavior of the student affects the teacher just as much as the behavior of the teacher affects the student. Reciprocal causality must be viewed as a series of interlocking event between teachers and students.

When a teacher behaves or gives a task, this is actually the antecedent for the student. The performance or behavior of the student can be the consequence for the teacher as he/she learns how effective the assignment or task has been. In a series of teacher-student interactions, a consequence can function as an antecedent stimulus for the next teacher-delivered behavior (Heward, Test, & Cooke, 1987). Diagramatically it appears like this:

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|------------------|<------------------|<------------------|
|                  |                  |
|--Antecedent-----|Behavior----------|Consequence --|
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as a behavior loop is formed.

Thus the teacher is not only consequated for the behavior, but this also functions as the antecedent for the next teacher behavior. If the student is not successful, the teacher will act in some fashion such as giving instruction or changing the difficulty of the task so that the student can be successful. The student gets the task from the teacher (antecedent) and then works on the activity (behavior). The student is consequated for this behavior,
which serves as an antecedent for subsequent behavior. If the student is not successful, he/she may ask the teacher a question (behavior) or modify the task. In the event of either of these two latter instances, the student’s behavior will serve as an antecedent for the teacher’s subsequent behavior. The interaction between teacher and student can be represented as shown in Figure 1. Consequences do not have to serve as an antecedent for subsequent student behavior, but this is often the case.

Because teachers cannot interact with all students on such an individual basis, students sometimes seek out their peers to clarify the task or help the student perform correctly.

Classroom History

As was stated earlier, students as well as teachers bring their unique histories to the classroom. Classrooms also build their own history (Doyle, 1977). The actions of students and the teacher build throughout the year providing a foundation or basis for upcoming events.

Classroom life usually has a history of several months which is known to the participants. The way an event is handled at one point in time establishes a precedent for how things are done later. In other words, rules for the behaviors of students and teachers tend to evolve and decisions at one point in time have consequences for action
FIGURE 1. TEACHER AND STUDENT BEHAVIORAL INTERACTION
in the future (Doyle, 1979b). The first few meetings of the year often shape what is likely to happen the rest of the year (Doyle & Sanford, 1985). The concept of setting events (Wahler & Fox, 1981) could be expanded to include the classroom history.

Classroom history actually functions as a precursor to the antecedent. The antecedent is generally the event directly prior to the behavior. Michael (1982) calls this history an establishing operation for the antecedent. The stage is set by this history for the subsequent behavior. How people will react to a given situation cannot be explained entirely by the antecedent alone. The establishing operations must also be considered as they influence the effectiveness of the antecedent (Michael, 1982).

During the course of the year, the task demands are fine-tuned as students gather information about task requirements. Students are likely to want teachers to maintain the same type of academic tasks throughout the year. This stability leads to predictability. It actually simplifies the task of identifying the true nature of the task (Doyle, 1980c).

Ambiguity and Risk

Because academic tasks are embedded in an evaluation system, they are accomplished under conditions of ambiguity
and risk (Doyle & Carter, 1984). Ambiguity refers to the extent to which a precise formula for generating a product can be defined (Doyle et al., 1985). This is not the ambiguity resulting from lack of teacher clarity. It is an inherent property of academic work. Ambiguity results from gaps in information about performance expectations as to what kinds of answers are considered correct.

Risk refers to the probability of success on the grade exchange as opposed to the probability of failure. Risk is directly related to the stringency of the evaluation criteria and the likelihood that these criteria can be met on a given occasion (Doyle et al., 1985). Risk is closely tied to the accountability system in classrooms.

Students invent and use strategies for managing ambiguity and risk associated with academic tasks. They attempt to either increase the explicitness or modify the accountability, either of which can affect the course of task accomplishment and/or the actual character of the task. These strategies affect the nature and quality of academic work (Doyle, 1983a). If no answers are required or any answer is acceptable, then there is no risk and probably no task (Doyle & Carter, 1984).

Students can learn to compensate for gaps in knowledge such as unclear goals, incomplete instructions, inaccurate feedback and materials inappropriate to the ability level of the student. A student learns to locate and use the
resources of the classroom to reduce ambiguity (Doyle, 1979b).

When students are faced with task structures that emphasize understanding, they tend to create pressures to reduce the ambiguity and risk. They do this in two ways:

1. Make the teacher give a more explicit task.
2. Increase the teacher’s generosity in assigning grades. If risks are reduced sufficiently, the result is a "no task" situation.

Instead of attempting to clarify the task and reduce the ambiguity, some students try to downplay the importance of an assignment with regard to the grade exchange and thus reduce the associated risk. Some students are skilled at reducing the risk associated with accountability for tasks by appealing to the teacher’s generosity. This shifting of accountability standards probably has a powerful affect on the importance students attach to school work.

The reward structure ultimately affects outcomes because of its effect on tasks. Some teachers utilize a surplus economy of credit to reduce risk and encourage students to try difficult tasks (Doyle et al, 1985). This ultimately affects accountability as some tasks are padded or protected and the effect of other tasks is negated. Further ambiguity results as all grades must be reduced to a single grade at the end of a quarter (Doyle, 1985b). The effects of some
grades are, in essence, washed out in this consolidation.

**Familiar and Novel Tasks**

Students gain knowledge of classroom tasks and how they are to be accomplished. This knowledge then can be used to select and process future tasks. Familiar work consists of routinized, recurring exercises. The work is predictable. There is little ambiguity about what to do, and there is little risk that things will go wrong along the way (Doyle, 1983b). When familiar work is done, the flow of classroom activity is smooth and well-ordered.

Familiar tasks are easier to implement as the students have a basis for understanding teacher expectations for the task. The meaning of a task is also affected by its familiarity (Doyle et al., 1985). A task that is congruent with other tasks in a class gives students relative experience to use in interpreting and accomplishing the task.

As students accomplish tasks and subsequently receive feedback from the teacher, the task system becomes more apparent. Students then can selectively attend to only that information necessary to complete the task. "History then creates a resource for accomplishing academic work" (Doyle, 1983a, p. 181).

Novel work consists of those assignments for which students are required to assemble information and operations
in ways that have not been tried out in the past. Predictability is low for novel work. There is more ambiguity about products and operations and the risk of missing the mark is greater. Cognitive demands for such work are high (Doyle, 1985b).

When novel work is done, the flow of the activity tends to be slow and quite bumpy. Instructions are often lengthy and work involvement can be low (Doyle, 1985b).

Some teachers avoid novel tasks because they tend to put pressures on the management system. The flow for novel activities tends to be interrupted as long introductions are usually required. In response to pressures on work flow in the classroom, teachers often redefine or simplify task demands or they reduce risk by softening accountability (Doyle, 1986). Teachers give students many chances for feedback and surplus credit or bonus points are built in (Doyle & Sanford, 1985).

Rates for student errors and non-completion of work are high when novel work is assigned (Doyle & Sanford, 1985). Students sometimes respond to the ambiguity and risk involved in novel work by negotiating with the teacher to increase task explicitness (Doyle & Sanford, 1985).

Suspending accountability for novel tasks or accepting any student response does not appear to encourage students to take novel work seriously (Doyle & Sanford, 1985). Novel tasks need to at least have an aura of accountability.
Three major responses to the pressure generated by novel work have been identified (Doyle, 1985b):

1. Most novel work is eliminated from the curriculum.
2. The grading scale is padded so that getting a low grade on novel work is more difficult.
3. Components of the novel work are broken down into smaller components. Teachers exposed students to these smaller segments several times which increased the familiarity of the novel work.

Task familiarity can also benefit teachers. Successful teachers learn how to judge content, its impact on students, and how difficult it would be to implement (Doyle, 1977). By having taught a task in the past, the teacher can anticipate potential problems and circumvent those. The class tends to run more smoothly in this situation. Also, the instructional activity is presented in such a way to promote good management and organization as well.

The **Managerial Task System**

Classroom management refers to the actions teachers take to solve the problems of order in classrooms (Doyle, 1985a). The immediate task of the teacher is to gain and maintain the cooperation of students in activities that fill the available time (Doyle, 1981a). Failure to do so has real and immediate consequences. Students learn more when time is spent in productive work rather than in confusion
and misbehavior (Doyle & Sanford, 1985). The BTES study noted the importance of academic learning time as opposed to time allocated by a teacher for subject matter (Berliner, 1979). A poorly organized classroom is likely to lose productive time, (Emmer, Evertson, and Anderson, 1980).

Pupil behavior was one of the four domains identified by Soar and Soar (1979) in their paradigm for learning environment in the classroom. The results of their studies indicated that teachers should limit pupil freedom to move about, establish subgroups, and socialize. A permissive classroom environment was typically associated with less pupil learning. These findings seem to support the importance of classroom management as a precursor to learning.

Student cooperation is an essential element in classroom management. Teachers must carefully monitor students' understanding of their work and strategies for getting it done (Doyle & Sanford, 1985). The general level of student cooperation appears to be related to events which occur early in the formation of classroom structures (Doyle, 1979b).

Behavior tasks for students are connected to the classroom tasks of the teacher. Using the definition of a task as a goal and set of operations to achieve that goal, student behavior might be set in a social task system. The student has a personal goal or agenda to be accomplished.
within his/her own social task system. Students who are successful at these behavior tasks have been successful at circumventing the enforcement system used by the teacher.

If a large portion of students in a class are unable or unwilling to do assigned work, then the activity system will break down and order will be lost. Thus, task demands can influence the willingness of students regardless of ability to cooperate (Doyle, 1979b). The teacher then may attempt to achieve cooperation in difficult circumstances by adjusting task demands (Doyle & Carter, 1984). Teachers respond to pressures on the management system by simplifying work demands and loosening the requirements for accountability (Doyle, 1985b). If a large number of students do not cooperate, the teacher is said to have poor management skills (Doyle & Carter, 1984) when in fact, the breakdown or change of the instructional system may be the root or cause for the problem.

In some respects, students can hold teachers accountable for conducting lessons by their refusal to cooperate with a stated task (Doyle, 1983a). Students prefer the use of algorithms and formulas. If a teacher attempts to change the task system to require understanding instead of only the skills, students protest and put great pressure on the teacher to move to lower level tasks and thus reduce ambiguity and risk.
Kounin's (1970) study of teacher desists produced a great deal of information about classroom management. His work was significant in that it shifted attention from teacher reprimands to processes of managing classroom groups. He found that there were specific categories of teachers' behaviors that correlated with their managerial success as measured by work involvement, deviancy rate, communication about misbehavior, and effectiveness of desists.

These categories were:

1. Withitness or when the teacher demonstrates that he/she knows what is happening in the classroom. If a desist must be made, the instigator of the event is correctly identified instead of a secondary offender.

2. Overlapping: This refers to a teacher's ability to deal with two or more matters which occur simultaneously.

3. Momentum: This is the pace at which a teacher progresses through a lesson or, in other words, the absence of slowdowns.

4. Smoothness: When a lesson has smoothness, the teacher does not interject intrusions which detract from the progress of the lesson.

5. Group alerting: Teachers who use this technique attempt to involve non-reciting students in the lesson or task, maintain their attention, and keep them "on their toes" or alerted.
6. Accountability: This referred to the degree to which a teacher held students accountable and responsible for their task performance during recitation sessions.

Kounin found that all of these characteristics had a significant correlation with work involvement and freedom from deviancy. More and less effective teachers discipline students in much the same manner. More effective teachers deal with problems faster.

The key dimension in classroom management appears to be timing (Kounin, 1970). Successful managers recognize behavior task initiations by students and intervene early (Doyle, 1979b). Early intervention or preventative management can neutralize the situation as well as demonstrate to students the teacher's skill in management. The more academically effective teachers generally have better-organized classrooms and fewer behavior problems, (Evertson, Anderson, Anderson, & Brophy, 1980). They tended to stop behavior problems as they began, rather than before they got out of hand. Less effective teachers had such problems with behavior management that student accountability for written work became a minor concern. Relevant accountability was not carried out on a regular basis (Worsham & Evertson, 1980).

Teachers who fail to establish clear, narrow managerial tasks spend much more time attending to managerial issues and are constantly having to prompt and desist students to keep them within the
amorphous boundaries (Siedentop, 1988, p. 9).

Defining the managerial issues can circumvent problems before they arise. Kounin's research also indicated that effective managers had higher on-task rates, and less off-task, unsanctioned behavior. These both correlate with other process-product research that show a number of management variables that correlate with student achievement gains (Evertson & Emmer, 1982).

Helping individuals and privately answering individual questions was not sufficient for effective monitoring (Worsham, 1981). Effective teachers had all students working steadily and working correctly. Both behavioral and academic modes were addressed as teachers watched students and kept them on task. Effective teachers maintained a work-oriented focus and communicated this to individuals and the group as a whole (Worsham, 1981).

Pacing and Work Flow

Difficult tasks tend to slow down the pace of instruction (Doyle, 1981a). Pacing is a function of time needed to complete a task plus student attention span (Doyle & Sanford, 1985). A teacher needs to be alert to signs of when the activity has gone too long. As tasks become more complicated, teachers face complex management problems resulting from delays and slowdown and from the fact that a significant portion of the students may not be
able to accomplish the assigned work (Doyle, 1983a).

Successful managers adjust the flow of classroom activities to meet the demands of the classroom environment (Doyle, 1979b). Both momentum and smoothness can be interpreted as providing lag-free continuity of appropriate lesson inputs (Kounin & Gump, 1974).

Student engagement is higher when a teacher leads or paces an activity than when students pace themselves (Doyle, 1985b; Doyle & Sanford, 1985). A whole class presentation from one source (i.e., a teacher) will have higher involvement than an activity that has several participants from different parts of the room. Increased management problems associated with individualized instructions accounted for its general lack of success, (Evertson, et al, 1980).

Some unsuccessful teachers try to reduce classroom complexity by ignoring the multiplicity and simultaneity of the environment (Doyle, 1977). They focus on a small segment of the classroom rather than the whole group.

Students ask questions and teachers have to monitor the work. When tasks are easy or familiar or require a formula for getting answers, classrooms tend to run more smoothly (Doyle, 1981a). Classroom life has an intrinsic motion (Doyle, 1985a).

Work involvement is usually high when students are familiar with an activity (Doyle & Sanford, 1985). The
flow of classroom activity is typically quite smooth and well-ordered (Doyle, 1986). Routinized activities are easier to begin and more resistant to the effects of interruptions because students are aware of procedures and know their sequence.

Curriculum and Instruction

Level of task difficulty can influence the balance of management and instruction. The curriculum must be at the right level of difficulty, challenging, but not so hard or new as to preclude mastery in order to study instructional techniques (Brophy, 1979). Without highly developed management skills, a teacher is likely to rely on memory and routine tasks which typically elicit cooperation from more students and especially those who are inclined to disrupt activities (Doyle, 1983b). Cooperation at the group level is not automatic, but depends on teaching skill and willingness to act (Doyle, 1979b).

Issues of management and control are more central to a teacher's planning. Teachers of lower ability students reduced the content taught and learned (Brophy, 1982). Doyle (1980c) cites Jorgenson who found that students who were assigned to material below their ability levels were rated by teachers as better-behaved. When students were given material that exceeded their ability, they tended to spend more time relying on the teacher and other students
for assistance. Activities in lower level classes are sometimes designed to keep students occupied rather than moving them through the curriculum. Selection of academic tasks has consequences for management and classroom order. Thus the management and instructional systems have a great deal of overlap. Cooperation in the managerial task system can be procured by reducing the demands of the instructional system. Some classrooms are actually management driven with more emphasis on management and order than instruction (Doyle & Sanford, 1985).

Knowledge tends to be domain specific (Doyle, 1982b). The amount of knowledge students have on a given topic will influence how they solve/accomplish a task.

The type of task will determine how the students process information and what they learn. Exposure to the same content under different task conditions means that different information is learned by the student (Doyle, 1979b). Students learn material as specified by the task for which they will be held accountable.

Many of the instructional problems faced by less effective teachers grew out of their difficulties in behavior management (Emmer et al, 1980). A weak instructional system led to off-task behavior and considerable talk with peers as students attempted to find out what to do.
Tension between management and curriculum suggest that these aspects cannot be treated in isolation (Doyle, 1985a). A teacher must gain cooperation of students in activities that contain tasks which teach the curriculum. A balance between management and instruction must be achieved (Doyle, 1985b). If management, instruction, and curriculum are not viewed simultaneously, then management will continue to drive the curriculum and design the academic tasks used (Doyle, 1985b).

Activities actually organize and direct the behavior of students and thus carry the burden of management (Doyle, 1981b). Academic assignments are at the heart of classroom learning and teaching (Doyle & Sanford, 1985). Activities represent the various ways in which groups are structured and resources are used in classrooms. The activity is the fundamental unit of teacher thinking (Doyle, 1983b). If the students have no activity, they have nothing to keep them busy. They are likely to cause problems despite teacher intervention (Doyle, 1981a). This may explain why physical education teachers plan for activities rather than broader learning goals and concepts (Placek, 1983).

Once an activity is operating, it carries much of the burden of controlling behavior. A teacher learns what type of behavior to expect from a class so by the selection of activities, can reduce the complexity of the classroom and furnish a framework for order (Doyle & Sanford, 1985). The
amount of student involvement is important in keeping an activity going. Effective teachers appeared to have extensive work requirements which they presented clearly and enforced consistently (Worsham & Evertson, 1980).

Instructional activities help with student behavior. This is not to downplay the importance of good management. A failure to attend to organizing and managing classroom groups can lead to a breakdown of academic work with predictable consequences for student achievement (Brophy, 1979; Good, 1979). In other words, "Classroom management is a central part of the task of teaching in classrooms." (Doyle, 1983a, p. 179). Successful managers monitored compliance closely and stopped inappropriate behavior promptly (Emmer & Clements, 1983).

Management skills alone will not ensure classroom effectiveness (Good, 1979). Instructional skills are necessary and can, as has been stated above, contribute to good management. Teachers who are effective managers will influence to some degree a student's achievement in basic skills. "Teachers managerial abilities have been found to relate positively to student achievement in every process-product study conducted to date" (Good, 1979, p. 55).

Effective managers were better at (Emmer, Evertson, and Anderson, 1980):

1. Describing objectives clearly.
2. Using a variety of effective materials.

3. Having materials ready.

4. Giving clear instructions.

5. Affording students greater success on content activities.

Even though some of these clearly relate to instruction not management, they are listed as characteristics of effective managers. This same study goes on to report that teachers held students accountable for their work by frequently monitoring it and keeping track of assignments.

Other research (Good, 1979) parallels these findings noting that higher achievement gains are associated with orderly classrooms, persistent application to academic tasks, teachers' active involvement with students and with a well-organized and structured learning situation.

Summary

Accountability is clearly linked to effective teaching and effective managing (Emmer et al, 1980; Evertson & Emmer, 1982). Daily assignments were emphasized by effective managers. They also kept better track of how students were progressing and whether or not they were completing assignments (Evertson & Emmer, 1982).

Better managers held students accountable for their work via frequent monitoring and keeping track of their
progress on assignments (Emmer et al, 1980).

Studies of Physical Education Task Structures

Accountability or consequation of student behavior has been shown by many classroom studies to determine what the nature of learning for the student will be.

This first section has concentrated on the generic classroom literature on this topic. Other studies on the task system have been done in physical education settings. Keeping in mind the importance of context or content specific learning, the physical education research will now be discussed in detail. Individual studies and their input/information relevant to this study will be included as each study is reviewed.

Tousignant, 1982

Using the work of Doyle, Tousignant translated the task structure model to the physical education setting. To capture the ecology of the physical education classroom, 127 periods, taught by three secondary teachers, were observed. Using ethnographic techniques, Tousignant described the settings and the various task structure components that she observed. Teachers' behaviors, students' accomplishment of the tasks, and the surrounding events were noted for each observed period. She also monitored the passage of time and students' rate of motor engagement.
Tousignant confirmed the presence of the managerial and instructional task systems. She noted that students behaved differently under different accountability systems. Most students met the requirements for which they were formally held responsible by the teacher.

As a task developed, the focus and function of the task changed. The actual task required of students was not always the task that the teacher had originally stated. Supervision and evaluation done by the teacher contributed to the task metamorphosis.

When a teacher allowed a variety of tasks for various sub-groups, monitoring was much more difficult than if the whole class was similarly engaged. The "publicness" of the response, or who was monitoring, influenced the type of response given by the student.

Two types of accountability were noted. Formal accountability was that which influenced student grades. Informal accountability did not directly affect the grading procedure. Formal accountability systems were either objective (contingencies were stated in advance) or subjective (contingencies were learned from the application of the consequences).

Teachers sometimes recorded student accomplishments. The level of rigor used for this recording had a great influence on the actual nature of the task.
Low grades were the most frequent consequence of poor performance. Tousignant did observe a task system that also used a series of rewards and punishments as well.

Teacher behaviors during task execution included silent observation, officiating, supervision, giving corrections or making permanent records. These major forms of monitoring were complemented when teachers refocused the students on the stated task, desisted misbehaviors, and encouraged attempts. Monitoring was usually a general supervision, but sometimes they attended to more specific events, with or without being aware of the pattern of response for the entire group.

Task accomplishment was strongly influenced by the students entering skill level in the particular task. Students who found the task too easy or too hard were most likely to modify the task. Modified tasks were generally better suited to the student's skill level. They were either accepted by the teacher or judged unacceptable and desisted. Students thus had to learn to discriminate among the many cues to identify the real boundaries of the task.

Task boundaries were a function of: the level of explicitness of the stated task; the effectiveness of the teacher monitoring; the congruence between the stated task and the focus of teacher monitoring; the consistency of the teacher's application of the contingencies; and the schedule
of reinforcement applied by the teacher. Disruptive behaviors were consistently desisted and as such were infrequent. Some students sought to avoid participation and the negative reinforcement associated with their unsuccessful participation by becoming competent bystanders.

Tasks tended to evolve with the stated task sometimes being quite different than the actual task accepted by the teacher. The nature of the task seemed to be determined more by the teacher monitoring than by teacher instruction. Tasks were thus contingency-shaped, rather than rule governed.

Formal accountability on minimal participation meant that students had to follow the general directions and engage as little as they wanted, providing that they remained within the limits of the actual task.

When there was no formal accountability on students' performances, the instructional task system was suspended, with informal contingencies controlling the accomplishment of those tasks. The informal accountability system did not provide much positive reinforcement for beginners, who tended to avoid participation. Better players experienced natural sources of reinforcement and kept the instructional task system in operation.

When students were held accountable for effort, students seemed to "try hard" as they were unsure if their
performances were going to be used in conjunction with their behavior to determine the grade. This seemed to reduce, to a certain extent, the incidence of off-task behavior.

When the formal accountability system focused on student performance, the content of teacher instruction became relevant to the task structure and the focus of teacher monitoring was congruent with the actual task. Student responses had more specificity and fewer students tried to avoid involvement, because if they did, this would not lead to a good grade.

Cooperation between the teacher and student was achieved through subtle negotiation. The type of accountability and the permissiveness of task structures made it unnecessary for students to make formal attempts to negotiate task requirements. Little risk was involved and if there was ambiguity, it could be used to stretch the boundaries of the task.

Conclusions from this study indicate that students tend to learn better when they are systematically held responsible for learning. A second finding was that evaluation is an important and essential part of the chain of events leading to learning.

Alexander (1982)

Alexander observed one target student in 26 physical education classes. These classes were video and audio
taped. Eleven golf lessons were subsequently analyzed as descriptive data on antecedents, student behavior, and consequences/accountability for this behavior were detailed.

Alexander identified two task systems, managerial and instructional. Tasks in the managerial system were either highly routinized and given implicitly or specified in greater detail than those in the instructional system. Instructional tasks were usually not stated explicitly. Criterion for performance was usually absent. When criterion for performance was included, it was usually stated subjectively. The teacher subjectively connected elements of response topography to grades for the skill tests.

The managerial system stayed consistent largely because of the fully specified tasks and attached consequences. The managerial system could be evaluated objectively and reliably and consequated as arranged. When unsanctioned behavior occurred, it was highly visible. These two conditions facilitated accurate consequation on an almost continuous schedule.

Instructional tasks had little variation. Some were specified with criteria, while others were specified without. Consequences were not specified until final skill tests. Task specifications did not change even though the risk increased.
The target student in this study responded to the managerial task system with almost perfect congruity. Congruity of performance in the instructional system was difficult to measure in this study, because the observational instrument lacked the necessary sensitivity. Since the teacher had not stated the response criteria of the golf swing objectively, this was difficult to measure.

Alexander determined that only natural consequences, or those derived from successful performance, acted to consequate the behavior. Arranged consequences (i.e., teacher feedback) were considered to be subsequences for, rather than to consequate the behavior. Grades and teacher supervisory statements were the major classes of subsequent events for behavior in both the managerial and instructional task systems.

The real task of the target student was to pass physical education. This was done by fulfilling the requirements, which were in reality to attend class and participate in scheduled activities.

Graham (1986)

Graham taught a fourteen lesson volleyball unit in a secondary setting. She subsequently observed this unit as a researcher. Response patterns for three high and three low students were recorded and analyzed.
The primary means of giving information was Rapid Fire Feedback, which functioned as specific praise for a student's motor skill performance. Highly skilled students benefitted from this most frequently.

Student engagement existed on a spectrum from non-engaged to highly engaged. Also, consistent engagement on one task did not necessarily mean consistent engagement on the next. Ultimately, it was up to the students to decide what got accomplished and learned in physical education class.

Student modification of academic work showed that students were not merely receivers of and responders to it, but rather interacted with it. Some portions of the tasks were utilized and others (modified) were used instead in an attempt to get something that better fit their needs. Unlike past research (Siedentop and Tousignant, 1983) that indicated that those who modified the skills were unlikely to learn the criterion material, Graham concluded that the upward modifications by highly skilled students allowed them to engage in skills at a level more appropriate for them. Therefore, a single set of work expectations (tasks) was not likely to meet the goal of improved motor skill performance.

A homogeneous skill grouping may expedite the class from a managerial standpoint, but a heterogeneous grouping, where high students work with lower skilled students, may differentially allow most effective instruction for the
varying skill levels within a class.

Graham also argued that research had to be viewed from the context of the setting. To ignore the context leads to conflicting results and limited understanding of the data.

Marks (1988)

Marks developed the Task Structure Observation Instrument (TSOI) to observe task structures in physical education. The system collected data reliably and at a relative low cost. Eight teachers (two high school, three junior high, and three elementary) were observed for three lessons each. A different target student was randomly chosen each day and coded for the entire class period by observers using the TSOI.

Students did not negotiate the tasks verbally, rather by their level of participation and effort in the task. If the task was too difficult, there were three types of responses:

1. Engage at a high rate of error.
2. Go off task.
3. Modify the task downward.

Tasks were not stated explicitly so a wide range of responses were acceptable by the teacher.

Teachers gathered information about student responses by observing, officiating, and recording responses. Students were held formally accountable for attendance and
dressing tasks, and completion of tasks that were accompanied by formal testing. The major forms of accountability were informal measures that included feedback, extensions, and restatements of the task to be accomplished.

Informal and no accountability statements were the most common. Students were monitored by the teacher through officiating, silent observing, or feedback. Students were usually held accountable for maintaining the managerial system and avoiding off-task responses.

Most student responses were not consequated. Off-task behavior was desisted but not recorded. Successful responses were recognized primarily by feedback while unsuccessful responses went ignored. The teacher rarely modified the task after the initial task statement to meet the skill level of a particular student.

Students usually engaged in tasks with low error but the weak task specification gave a lot of latitude for successful responses.

Son (1989)

Task congruence was studied by Son. He developed an instrument called the Observational Analysis of Task System in Physical Education (OATS-PE) based upon the work of Marks (1988) and Tousignant (1982). Thirty-three classes were observed during a school semester in Korea. A high
average and low average student was observed at each session, alternating between the two in two minute intervals.

Son studied task congruence for instructional, managerial, and transitional tasks in another culture. Analysis of task congruence took into account the manner in which teachers specified tasks, the response of students to the tasks, and consequences following the responses.

A high degree of congruency was found for all three types of tasks. Modification patterns were observed in instructional (motor) tasks, whereas little modification occurred in transitional and managerial tasks. Above average students tended to modify instructional tasks either up or down, but below average students only modified instructional tasks downward. High average students were often given tacit approval or praise for modifying the task upward. A curious response pattern was observed when high average students modified a task downward after having achieved initial success. Son postulated that the students wished to go off task, but did not want to do so openly for fear of physical punishment (aversive control). Instead of going off task, they modified the task in a downward direction which was allowed by the teacher.

The high degree of congruent responses may have been due to the function of aversive control by the teacher or
that congruent responses in this study did not include the
topographical aspects of student responses.

The highest percentage of congruent responses occurred in refining tasks. Corrective feedbacks were more frequent for refining tasks than for other motor tasks. This corrective feedback might have helped students improve specific motor responses as well as prevent or remediate off-task behavior.

Skilled students tended to make the task more difficult through upward modification. Lower skilled students would either try to perform the task as stated or modify it downward so as to work at a more appropriate level. Teacher feedback was given to low students more often than higher skilled ones.

Student responses in this study were more likely to be affected by the physical punishment and threats observed in this study, which make the data unique to the study of task structures. No disrupting behavior occurred while the teacher was passively observing the students. Such disruptive behaviors, when spotted by the teacher, were stopped immediately and consequated by physical punishment.

Jones (1989)

Jones identified a managerial and instructional task system in operation in elementary school physical education classes. A social system also became apparent through
teacher-student and student-student interactions.

Teachers generally presented informing tasks, added extensions, and then applied skills to modified game situations. Review was evident from one lesson to the next, but refining tasks were infrequent. An informal task system was observed throughout the study.

Teachers communicated managerial tasks to students verbally using explicit task statements. Most managerial tasks were presented at the beginning of the school year and at the beginning of specific units of instruction. Teachers practiced the managerial tasks under the observation of the teacher which resulted in these tasks becoming routinized. After this occurred, task statements were stated implicitly.

Instructional tasks were presented by giving students the critical elements and then demonstrating the skills given. Teachers also used task cards and a variety of posters to cue and remind students of the task at hand.

Instructional task statements usually lacked the criteria to define accomplishment if they were not stated explicitly. All three types of task statements, implicit, partially explicit, and explicit were used as teachers attempted to be clear in task demands and expectations.

Students usually complied with managerial task statements and did not attempt to modify them. Instructional tasks were also followed with students being
successful about one-half of the time. Students did modify instructional tasks. These modifications seemed to be influenced by student skill level, previous experience and interest, instructional, formal, and social interactions. Students did not verbally negotiate tasks, but rather followed directions and subtly negotiated the task as they tested the boundaries teachers would enforce. In other words, students learned to operate within a range of responses acceptable to the teacher.

By examining rate of success, Jones found that tasks were modified to either make them more challenging or better suited to the skill levels of students.

Instructional tasks were monitored by (a) providing skill feedback, (b) prompting, (c) participating and/or working one-on-one with individual students, (d) spotting, (e) refereeing/coaching, (f) silent observing, (g) answering questions and providing clarifications, and (h) modifying and adjusting tasks.

As students modified tasks, teachers either accepted or desisted the modifications. Monitoring affected accountability by keeping students more on task.

The pattern of instruction was an informing task, followed by a variety of extensions, and finally applying a combination of tasks to modified game situations. Teachers tended to review previous lessons so there was some carryover of skills and some instructional tasks became
routinized. Emphasis on refinement was minimal. There was no formal exchange of performance for grades. Students were evaluated on participation, effort, following directions, and good sportsmanship rather than skill acquisition. Public posting followed by an activity of choice was used for accountability with one of the teachers. The children did not seem to be involved with the formal exchange of performance for grades rather teacher approval, peer acceptance, special awards and activities, and other social reinforcers brought desired behavior. In general, elementary students performed tasks without a formal grade exchange.

Jones also noted the interaction between managerial, instructional, and social task systems. Managerial task systems were necessary before the instructional systems could be implemented. In some instances, the social task system was allowed to function to facilitate instructional tasks. Teachers achieved cooperation in the managerial system by eliminating or reducing instructional demands.

Summary

This review of literature has described the complexities of the classroom. Doyle's work on the task structure model has been used as a framework for this description. A compatible literature, that from applied behavior analysis, has also been included to support and
clarify this model.

Several areas were discussed in depth. These included:
(a) the nature of classroom tasks, (b) task boundaries,
(c) accountability, (d) classroom history, (e) ambiguity and
risk, (f) familiar and novel tasks, (g) the managerial task
system, (h) pacing and work flow, and (i) curriculum and
instruction. In addition, task structure studies specific
to the area of physical education were reviewed.

The focus of this study was accountability.
Accountability is most generally thought of in terms of the
instructional task system. This review of literature has
tried to stress the interdependency of the instructional and
managerial task systems. One cannot consider accountability
for the instructional system without regard to the
managerial system as well. Both are critical to classroom
reality and the issues faced by teachers.
CHAPTER III
SOURCES OF DATA, METHODS OF DATA COLLECTION AND ANALYSIS

The purpose of this study was to describe the various accountability measures physical education teachers use in their classes and to assess their effect on student response rates. Five teachers were selected as subjects for this investigation. This chapter will review the selection of these teachers, the data collection procedure, and the subsequent analysis procedures used for the data.

Framing the Study

The focus of this study was a very specific segment of the task structure model, that of accountability, which has been said to drive the task system. For this reason, subjects were needed who were reputedly good teachers. Four of the teachers used had been cooperating teachers for a local major university. Three of the teachers either had coached or were currently coaching volleyball. Table 1 shows a summary of their teaching credentials and class statistics.

All teachers were observed teaching the same activity unit. Volleyball was selected as the activity to be
Table 1

<table>
<thead>
<tr>
<th></th>
<th>ADAMS</th>
<th>BROWN</th>
<th>CAMP</th>
<th>DUNN</th>
<th>FAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>YEARS OF TEACHING</td>
<td>20</td>
<td>28</td>
<td>29</td>
<td>26</td>
<td>17</td>
</tr>
<tr>
<td>YEARS OF TEACHING IN THIS SCHOOL</td>
<td>1</td>
<td>28</td>
<td>21</td>
<td>22</td>
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<td>MASTERS DEGREE</td>
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<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>CURRENTLY COACHING VOLLEYBALL</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>YEARS OF VOLLEYBALL COACHING EXPERIENCE</td>
<td>NO</td>
<td>5</td>
<td>24</td>
<td>NO</td>
<td>17</td>
</tr>
<tr>
<td>COOPERATING TEACHER FOR STUDENT TEACHING</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>BOYS IN CLASS</td>
<td>10</td>
<td>8</td>
<td>12</td>
<td>7</td>
<td>28</td>
</tr>
<tr>
<td>GIRLS IN CLASS</td>
<td>13</td>
<td>14</td>
<td>7</td>
<td>22</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL STUDENTS IN CLASS</td>
<td>23</td>
<td>22</td>
<td>19</td>
<td>29</td>
<td>28</td>
</tr>
</tbody>
</table>

studied for a variety of reasons. First, it is a unit taught in most secondary schools. A less well-known/popular activity might not have been available at every site.

Secondly, since the researcher wished to record student response rate, an activity had to be chosen where the rate of response could be counted. This would not have been possible with all activities. In basketball, for example, an activity such as dribbling would have been virtually impossible to record in such a manner.
A final consideration was that the unit should be taught in a gymnasium. An outdoor unit such as softball would probably have required the use of live coding, as students moved beyond the range of the camera. Also, an outdoor sport might have been confounded by weather, as bad days forced the students inside.

Volleyball had been used as a unit of study in previous studies (Graham, 1986), so some of the logistical problems could have been circumvented by reading and benefitting from the experience this study.

Selection of the Site and Subjects

The primary site of this study was a suburban school in central Ohio. At this site, all classes of the unit were used for data collection. Several teachers had been interviewed as possible subjects. One teacher, during the course of the interview, indicated that she used a variety of accountability techniques. She also reported a skill emphasis to her teaching.

Since previous studies had indicated a lack of a formal accountability relative to skill, skill testing was one item that the researcher wished to include in the study. Students were skill tested on various components with this teacher, and these scores were used to determine a portion of the student grade. There was little subjectivity in this analysis of student performance.
For comparative purposes, a second teacher, Mr. Adams, was used at the same site. Although Mr. Adams had taught school for nineteen years, this was his first year at this site. The class that he taught met just prior to Mrs. Brown's class and contained students of the same grade level. A departmental grading policy was used so similar types of accountability were in effect (appendix H). Mr. Adams also skill tested students and utilized the same grading categories as Mrs. Brown. Students in both classes were equivalent as they came from the same school population and no selection or assignment criterion was apparent.

Mr. Adams was the only subject in this study who had not been a cooperating teacher. This was not a reflection of inferior teaching ability, rather that this was his first year of teaching in this district.

Two other sites were chosen for this study. The second site was in a central Ohio suburban district that did not allow the physical education department to grade on skill, because of a school board ruling. A few years ago, physical education was graded on a pass/fail basis. The teachers in the district saw a great deal of difference between a "low pass" and a "high pass." The concession that had to be made in order to give letter grades was that skill could not be used as a basis for the letter grade. The board did not want an honor student to spoil a GPA
with a low physical education grade.

Skill in physical education classes in this school was of a relatively good quality. Since this study was looking at accountability measures, this setting seemed to be ideal for a contrast. No formal evaluations on skill could be done, which meant students were held accountable for skill by other means. Miss Camp was the target teacher at this site. She was assisted during this class by a teaching colleague with seventeen years of experience.

The third site was another central Ohio suburban school. Teachers in this district could grade on skill, but their skill evaluation was more subjective than at the first site. Also, participation was more heavily weighted than at the first site. Mrs. Dunn and Mr. Far taught at this site.

Permission to Enter the Schools

Permission to enter these schools was obtained through the College of Education. A copy of the prospectus (See Appendix A) was sent to each school district by the College of Education. A letter (see Appendix B) was sent to the respective superintendents of the districts where these sites were located. The teachers had been contacted previously and all subjects were willing to be a part of this study.

This study was exempt from review by the Human Subjects Review Committee because it involved research that was a
commonly accepted educational practice and the identities of the subjects were to remain confidential (see Appendix C for a copy of the exemption form).

All teachers signed two copies of a consent form for video taping (see Appendix D). One copy was kept by the researcher while the second copy was given to the subject.

Selection of Target Students

Four students from each class were chosen for observation. The same students were used for the duration of the data collection. Previous research (Son, 1989) had indicated a difference in responding between high and low skilled students. In an effort to observe the greatest variability, more and less skilled target students were selected for study rather than high, average, and low. Two students from each skill level were chosen so that in the event of possible absence, at least one of the subjects from each skill level would still be present for data collection.

At the primary site, subjects were selected on the basis of skill without consideration of gender. A second consideration was the attendance records for these students. Each teacher at this site was asked to generate a list of the four of the highest and the four of the lowest skilled students. From this list, two from each category were chosen. Attendance records were the determining factor.
Miss Camp's target students were chosen in a slightly different manner. In this school, students were allowed to choose the activity in which they would participate. For this reason, Miss Camp's class was composed of students whose skill level was unknown to her. Miss Camp was not present on day two or three of the unit due to illness. Data collection was scheduled to begin on day three of the unit. Miss Camp had chosen the target students after only one day of observation because of these absences. Early in the unit the researcher was aware that the students were incorrectly labeled. Miss Camp had organized the teams to help facilitate data collection, with two target students on two of the teams. Had Miss Camp been present, an alternate choice of target students would probably have occurred, but due to the above named circumstances, they were not changed.

In this class of 19 students, none of the females had a high level of skill, so both high target students were males. Attendance factors were mentioned as a consideration in the selection of target students. Miss Camp had complete control of target student selection.

At the third site, target students in Mrs. Dunn's class were chosen by skill level, attendance, and gender. A more skilled male and female and a less skilled male and female were used. This class had met for the first time only one week before the start of this volleyball unit.
Prior to volleyball, students had been in a square dance unit lasting one week. The teacher had not had an opportunity to do skill assessment. The researcher and teacher attempted to evaluate skill levels on one of the non-data days at the beginning of the unit so as to select appropriate target students.

Mr. Far's target students were all male because it was an all male class. Selection was done by a combination of teacher and researcher collaboration. Mr. Far had also had his students only since the beginning of the semester, so he did not know their skill ability. His class met directly after Mrs. Dunn's class.

Table 2 provides an overview of the target students.

Data Collection at the Primary Site

Every day of the unit was recorded at the primary site. To avoid reactivity, the researcher was in the class during a basketball unit three days prior to the start of data collection.

On the first day of data collection, an assembly had shortened the class periods. Mr. Adams used this shortened period to give his basketball test (the previous unit) and then provide introductory information on volleyball (7:50 minutes). This was the only day that the class was not video taped. The teacher did wear a remote mike and the presentation was audio taped and later transcribed.
<table>
<thead>
<tr>
<th>TARGET STUDENT</th>
<th>GENDER</th>
<th>COMPETITIVE* VOLLEYBALL</th>
<th>ABSENCES</th>
<th>APPROPRIATELY** LABELED</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM1</td>
<td>F</td>
<td>YES</td>
<td>NONE</td>
<td>YES</td>
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<td>AM2</td>
<td>F</td>
<td>NO</td>
<td>1 DAY</td>
<td>NO</td>
</tr>
<tr>
<td>AL1</td>
<td>M</td>
<td>NO</td>
<td>NONE</td>
<td>YES</td>
</tr>
<tr>
<td>AL2</td>
<td>F</td>
<td>N</td>
<td>1 DAY</td>
<td>YES</td>
</tr>
<tr>
<td>BM1</td>
<td>F</td>
<td>YES</td>
<td>NONE</td>
<td>YES</td>
</tr>
<tr>
<td>BM2</td>
<td>F</td>
<td>YES</td>
<td>1 DAY</td>
<td>YES</td>
</tr>
<tr>
<td>BL1</td>
<td>F</td>
<td>NO</td>
<td>NONE</td>
<td>YES</td>
</tr>
<tr>
<td>BL2</td>
<td>F</td>
<td>NO</td>
<td>1 DAY</td>
<td>YES</td>
</tr>
<tr>
<td>CM1</td>
<td>M</td>
<td>NO</td>
<td>NONE</td>
<td>YES</td>
</tr>
<tr>
<td>CM2</td>
<td>M</td>
<td>NO</td>
<td>NONE</td>
<td>NO</td>
</tr>
<tr>
<td>CL1</td>
<td>M</td>
<td>NO</td>
<td>1 DAY</td>
<td>NO</td>
</tr>
<tr>
<td>CL2</td>
<td>F</td>
<td>NO</td>
<td>1 DAY</td>
<td>YES</td>
</tr>
</tbody>
</table>

NOTES:  
* = STUDENT PLAYS COMPETITIVE VOLLEYBALL  
** = STUDENT SKILL LEVEL WAS APPROPRIATELY LABELED
<table>
<thead>
<tr>
<th>TARGET STUDENT</th>
<th>GENDER</th>
<th>COMPETITIVE* VOLLEYBALL</th>
<th>ABSENCES</th>
<th>APPROPRIATELY** LABELED</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM1</td>
<td>F</td>
<td>YES</td>
<td>1 DAY</td>
<td>YES</td>
</tr>
<tr>
<td>DM2</td>
<td>M</td>
<td>NO</td>
<td>NONE</td>
<td>NO</td>
</tr>
<tr>
<td>DL1</td>
<td>F</td>
<td>NO</td>
<td>NONE</td>
<td>NO</td>
</tr>
<tr>
<td>DL2</td>
<td>M</td>
<td>NO</td>
<td>NONE</td>
<td>YES</td>
</tr>
<tr>
<td>FM1</td>
<td>M</td>
<td>YES</td>
<td>4 DAYS</td>
<td>YES</td>
</tr>
<tr>
<td>FM2</td>
<td>M</td>
<td>NO</td>
<td>NONE</td>
<td>YES</td>
</tr>
<tr>
<td>FL1</td>
<td>M</td>
<td>NO</td>
<td>NONE</td>
<td>NO</td>
</tr>
<tr>
<td>FL2</td>
<td>M</td>
<td>NO</td>
<td>NONE</td>
<td>YES</td>
</tr>
</tbody>
</table>

NOTES:  
* = STUDENT PLAYS COMPETITIVE VOLLEYBALL  
** = STUDENT SKILL LEVEL WAS APPROPRIATELY LABELED
Mrs. Brown used this shortened class to return her basketball test which had been given on the previous day. She too gave some preliminary information on volleyball going over the line, court dimensions, and so forth. Mrs. Brown’s presentation was also audio taped with a remote mike (11:04 minutes) and later transcribed.

On each of the next 9 days of the volleyball unit, both teachers were audio taped using a remote mike and video taped. The researcher was positioned in the center of the gymnasium about 20 feet above the floor atop the bleachers, which were folded for class.

In Mr. Adams' class, all of the target student responses were on camera as he had students practice by teams on a specific court. All of the target students had been placed on the same team.

Mrs. Brown’s classes were more difficult to record. In some situations a decision of who to record had to be made as video taping all four target students was impossible. The camera was usually arranged so that at least two students could be video taped. A third student was coded by the researcher at the same time as the others were video taped. If the situation occurred that not everyone could be recorded/coded, both a high and low student were recorded, either by camera or in person.
Data Collection at the Second Site

Since the other two sites were used to compare response rates, not all the classes of the unit were used for data collection. Although the first 2 days of the unit were audio and video taped, the data were eliminated because of possible reactivity to the equipment and researcher. Classes to be used for comparison with the primary site were examples of informing, practice, and game play days. All of the days of skill presentation and practice were observed during the study. Two game days and two 20 minute periods during which the written test was given were not observed.

The researcher was positioned atop bleachers, which were folded, in the center back of the gymnasium where this class was held. The camera was located about 10 feet above the gymnasium floor.

Data Collection at the Third Site

At the third site, data from the first 2 days of the unit were not used, again for reactivity reasons. The next 7 days (day three through nine), were instructional, practice and game play days. Data was used from each of these. The tenth day was also recorded as it was the first day of the class tournament. The twelfth day of the unit was also used as the teachers skill tested target students on that day. The eleventh day was similar to the tenth day
(game play) and was not observed or recorded. On the thirteenth day, teachers tested the remainder of the class. Since this was similar to the twelfth day and target students were only in game play, this class was neither observed nor recorded. On the final day of the unit, a written exam was given. This day also was not recorded or observed.

Data was recorded from a position atop bleachers located between the two volleyball courts. The camera was approximately 6 feet off the ground.

Transcribing the Data

Video tapes were debriefed in the following manner. The researcher watched each task and recorded the respective responses for each target student. They were coded in the following manner:

Correct successful: The response was topographically correct and either landed on a designated target, went over the net as it should, or was of sufficient quality that another person could make a play on the ball.

Correct unsuccessful: The response was topographically correct but the ball did not hit a designated target, failed to go over the net as stated in the task description, or was not of sufficient quality that the next person could make a hit.

Incorrect successful: The response was topographically incorrect but it did hit a designated target, went over the net, or was of sufficient quality that the next person could make a hit.

Incorrect unsuccessful: The response was topographically incorrect and it did not hit a designated target, go over the net, or was
not of a sufficient quality that the next person could make the hit.

Modified upward: The response was more difficult than the task demanded (for example, on a task where a student was to self-set the ball, the student modified the task and set the ball continually with a partner).

Modified downward: The response was less difficult than the task demanded (for example, if a student was to set the ball with a partner, but executed a forearm pass rather than moving into a position where a set could be performed).

Modified task: A response was made but it was non-descript and could not be considered as an upward or downward modification.

The percentage of task success was determined for individual students by adding correct successful and incorrect successful responses. This sum was then divided by the total number of responses for that student to determine the percentage of success for each student.

To calculate the percentage of success for the average of the more skilled students, the successful responses from each more skilled student for a given task were added and this sum was divided by the combined total responses. The same procedure was followed for the less skilled target students.

In case of absence for one of the target students, the average response was that for the target student present doing the respective skill. If data for one of the target students at the same level were unavailable because both students could not be coded and/or recorded,
the response rate from the date closest to the missing data was used to calculate the student responses. The time of the task for the missing data was used from other target students. This procedure was used when calculating cumulative student responses for the unit.

The percentage of task correctness was determined in a similar manner as task success. Correct successful and correct unsuccessful responses from each more skilled target students were added. This sum was then divided by the total number of hits for both students for this task and divided by two. The same procedure was used for the less skilled target students. Absences and unavailable data were treated in the same manner as for percentage of task success.

When the camera could not record all the target students, the researcher used the above descriptions to code the students while they were actually performing the task.

Student responses were logged on a sheet according to the minute in which they occurred according to the time display on the VCR camera. This was done to facilitate interobserver agreement at a later time. Live responses were recorded in the same fashion.

When responses to a task were coded, this information was condensed onto a summary sheet (See Appendix E). Live coding data was combined with video tape data on the summary sheets.
Video tapes were also analyzed to determine the length of time of activities at the class, rather than student (See Appendix F). A chronograph was operated with the video tape to determine the duration of the various activity and task segments.

Response rates per minute were calculated by dividing the time of the activity by the response frequency from the student. In instances where one student responded and the partner waited, this was considered a one-ball-two people activity. The time from each student was added and that number was used to calculate the response rate. Responses were compared according to a ball per student ratio.

When teachers gave skill tests, the total time that all students in the group spent testing was used to calculate response rate. If the students were used in a supporting role (i.e., retrieving balls), this was considered to be testing time as well, as the student could not engage in another activity. In the instance where students could practice for another skill test, only the time elapsed for the actual test was used to calculate response rate.

Tasks that were modified upward and modified downward were included in the total response rate. Off task and modified task responses were not.

Most, but not all, audio tapes were transcribed verbatim. All of the audio tapes from Mr. Adams, Mrs.
Brown, and Miss Camp were transcribed. Five sessions were transcribed from the third site. Some audio tapes were not available due to an equipment malfunction.

Audio tapes or their transcriptions were analyzed to check accuracy of the task statements and make comments on type of accountability in effect for the task. Task statements were coded for performance, situation, and criterion components.

Time summaries of the class were also compiled. Knowledge, management, wait, activity, transition, concurrent transition, and accountability check were the categories used for this summary. Definitions of these categories were based on the ALT:PE literature (Siedentop, Tousignant, and Parker, 1982).

Knowledge: Listening to instructions, watching a demonstration, questioning.

Activity: Engaged in motor activity, actively responding, actively supporting.

Transition: Managerial and organizational activities related to instruction.

Management: Related to class business, unrelated to instructional activity.

Wait: Completed a task, period of no activity and no movement between activities.

The following definitions were used for this study:

Accountability Check: The teacher checks with students after an activity to see if they achieved the criterion/goal that was stated.
Concurrent Transition: Students were in a transitional activity as knowledge or the next task is given.

Concurrent Instruction: Students were receiving instruction during simultaneous activity.

Activity time was divided into practice, lead up games, actual game play, skill pre-tests, skill tests, and exercises. Percentages for each of these categories were calculated.

The following definitions were used for this division:

Practice: Students practiced skills related to volleyball. This included sets, bumps, serves, and spike practice.

Lead up game: A game that had some type of rule modification of a six person game.

Game play: A six person game. Games where students had to hit the ball a certain number of times also were included in this category.

Pre-test: The teacher evaluated skills but the evaluation did not count toward the student's grade.

Skill test: The teacher evaluated skills. Scores were recorded and these counted toward a student's grade.

Exercise: Calisthetics, running, etc. Physical exercise unrelated to volleyball skill.

Percentages for each of these categories were calculated for each class and for each teacher for the unit or days of the unit observed.
Task Statement Analysis

Task statements were analyzed according to task explicitness. Performance, criterion, and situation were the three components used for this analysis. Definitions of these components used were:

Performance: An observable behavior that the student will be doing.

Situation: The conditions under which the task will be done.

Criterion: The standard by which the performance will be evaluated. This could be either a process criterion where some element of the topography is stated or a product criterion when a number of responses is specified.

Statements were analyzed according to explicitness. The following was used to make those distinctions:

Implicit: Only one of the three categories was given by the teacher; usually the performance.

Partially explicit: Two of the categories are given; generally performance and situation or performance and criterion.

Explicit statement: All three of the categories are included, performance, situation, and criterion.

A distinction was made between process and product criteria. They were noted separately rather than combined as a single category. This gave three possible types of criteria: (a) process, (b) product, or (c) process and product. If any of these three types were included in the task statement, it statement was said to have a criterion. The distinction was noted by creating separate categories on
A process criterion included some element of topographical correctness, such as mentioning a part of a skill or that the response had to be a legal hit. A product criterion included a numerical criterion. Some tasks specified a certain number as a goal for which students to try. Other tasks stated the number of times the task was to be repeated. If the task statement included some element of topographical correctness and included a numerical goal, it was said to have both process and product criteria.

An analysis was made comparing task explicitness to the type of accountability used. Tasks were classified as to specificity and then matched according to the type of accountability implemented with the task. If two or more types of accountability were used simultaneously, the combination of accountability was noted. The exception to this was with monitoring accountability. It was not noted if other forms of accountability were used.

If no instructional accountability was included, the task was classified as having monitoring accountability, as teachers were present during all classes, attending to at least part of the students.

Reliability of the Data

To analyze the quality of the data collected in this study, agreement checks were conducted on the time logs and
Interobserver agreement was assessed on students' responses. Time log sheets were checked to determine if the categories had been correctly identified. The duration of these categories was also checked. Graduate students trained to use the ALT-PE system were given copies of the time data sheets to verify both the categories and the duration of the various class components. Six lessons were coded for agreement. A two-second leniency was allowed for duration.

Interobserver agreement on the student responses was conducted using the following formula:

\[
\frac{\text{Agreements}}{\text{Agreements} \ & \ \text{Disagreements}} \times 100 = \text{Percentage of agreement}
\]

An acceptable level of agreement was set at 80%. Ten lessons were analyzed using this formula.

Graduate students who were former volleyball coaches conducted this assessment. For an agreement, both the researcher and observer had to classify the response in the same manner. Responses were coded in terms of correct successful, correct unsuccessful, incorrect successful, incorrect unsuccessful, modified upward, modified downward, or modified responses. A disagreement was recorded if one observer had failed to record a response or if the response was classified differently by one of the observers.
A DESCRIPTION OF THE ACCOUNTABILITY SYSTEMS

The following section is a narrative describing the physical education classes which were observed in this study.

Accountability systems can be defined as the routines and procedures teachers institute for establishing and maintaining student responsibility for work (Worsham & Evertson, 1980). The following is a description of the accountability systems utilized by the teachers in this study.

The narrative also provides useful information for understanding the data that will be presented in Chapter V. It sets the stage so that the results presented are framed in the context in which they occurred.

Mr. Adams

Mr. Adams taught at the primary site. He graded his 22 students (13 males and 9 females) using three equally weighted areas: skill testing, knowledge (written), and participation. Although the categories used were the same for all teachers in the department, the actual tests utilized by the teachers were a matter of individual
teacher choice.

**Participation and Dress**

Mr. Adams' participation grade was determined using a point system. Students could earn ten points every day that they attended class. Five of these points came from being dressed in the proper uniform and the other five by displaying appropriate behavior and adequate effort during the class. Failure to behave in the proper manner resulted in point deductions which Mr. Adams did, in fact, do on occasion.

**Skill Tests**

The tests Mr. Adams used were relatively simple. For the set test, students had to self-toss the ball and then set it to a box on the wall. Students had seven chances to make five good hits. Most students were successful on this test. The serve was tested by giving students seven attempts to have five serves go over the net and land within the bounds of that court.

The third test, the forearm pass test, contained a bonus. If the student passed the ball and it landed in bounds on his/her side of the net, one point was awarded. If the ball landed in bounds and across the net, two points were awarded. Students could potentially score ten points on this test. Each component of the skill test was worth five points for a total of 15 points. The bonus on the
forearm test made it possible for students to actually get 20 points, but the grade was based on 15.

Tests were objectively graded as they had an observable criterion. Topography was not taken into consideration when evaluating the skill being tested. Skill tests were not shown or practiced in advance of the actual skill test.

Written Work

Students in this class had a homework assignment, a quiz, and one test. These were all based on a study sheet given to them by the teacher.

Students received ten points if they handed in homework on time and completed. Late assignments were accepted, but only given half credit. Accuracy was not a consideration for this portion of the written work.

One test was given at the conclusion of the unit. Mr. Adams graded it and handed it back to students at a later date. Accuracy and correctness were factors in evaluating both the quiz and test.

These three assignments represented one-third of the student's volleyball grade.

Management and Instruction

Mr. Adams spent 3 days practicing skills at the beginning of the unit, but did not require topographically correct responses during game play. He was more concerned that game play be active than requiring correct responses.
The following reaction occurred on the first day of game play when students were letting the ball drop rather than attempting to make the play.

T- I don't care if you're good at this or not. I'd like for you to be good. That would be nice. But at least try. And if you try, you're going to have some fun at it. If you don't try, you're not going to have any fun at it. It's not going to hurt you. Never had anybody die while playing volleyball. Never had that happen... Most of the people are going to die from lack of movement out there. I don't want to see that ball hit between two people and two people look at it. I'd rather have two people colliding with each other going for the ball. I'd really rather have that happen. (Transcript from November 21, 1989, p. 7 and 8)

Mr. Adams viewed lack of student response as a lack of effort instead of a lack of skill. His message to students was to try for the ball, which became the task for the remainder of the unit.

Class rules were established in an "after-the-fact" fashion. If students were doing something inappropriate, they were warned. Continuing the inappropriate behavior resulted in point deductions.

Balls were kicked, dunked, and dribbled in Mr. Adams' class prior to his arrival and the start of the day's activities. No rules were given to prevent this. Mr. Adams did deduct points for these inappropriate behaviors which occurred during classtime.

Each day, approximately 3 to 5 minutes were spent in management as Mr. Adams took attendance at the beginning of
each class. Mr. Adams gave the first task for the day after he finished. Students were stopped when new tasks were given.

Tasks were not repeated (see Table 3). These could not be considered novel tasks as they were variations of common volleyball drills that probably had been done in past years. Students practiced skills for the first 3 days of the unit. After this they played games and were no longer required to practice skills. Opportunity to respond and practice was decreased because of the higher student-to-ball ratio.

Illegal hits were not called during game play. Students were held accountable for unsuccessful hits, but topography, or skill correctness was not monitored. Defensive and offensive strategies were not taught.

Practice activities were usually monitored on a whole-class basis with Mr. Adams standing in a central area and monitoring the groups as he approached them. Mr. Adams had divided students into teams and then assigned them to practice on a certain half of the two volleyball courts in the gymnasium. Mr. Adams appeared to be monitoring the whole class.

Mr. Adams gave comments about skill or the task that were in answer to student questions, rather than being initiated by the teacher as feedback to a student response just observed. At times this information was incorrect.
Pauses between comments were up to a minute in length.

While Mr. Adams was present there was relatively little off-task behavior. He held students accountable for this. During one practice session students were bumping the ball too high. A ball landed in the ceiling pipes. The two young men responsible were made to sit out for the remainder of the class. Students were desisted on an individual basis rather than the entire class being stopped or punished.

There were instances during game play when Mr. Adams did not actively monitor the class, but instead worked with papers on his clipboard. In this situation, he would look up and inquire about the score, but did not appear to be following the game or holding students accountable.

Pacing during skill practice was fairly rapid. Activities usually lasted about 3 minutes. When Mr. Adams started using teams rather than partners as the practice unit, activities lasted longer, usually 6 to 7 minutes.

Activities in Mr. Adams' classes were usually done by the whole group rather than in individualized instruction. During skill testing, one group (two teams) did play a game while the other half of the class was tested.

The mean success rate for less skilled students ranged from 16.67 to 83.93% (see Table 4). More skilled students were better able to perform the tasks of
the day than the less skilled students. Higher skilled students also had more topographically correct responses than lower skilled students. The daily means for more skilled students ranged from 68.25 to 92.86% correct with 5 days being above 80%. The daily mean for the less skilled students ranged from 8.33 to 57.89%. No days were above the 80% level.

During the first round of Mr. Adams' round robin tournament, the ball could be returned only after three hits. He had planned to do another round that allowed a return after two hits, but this was discarded. When students finished the first round of three hits, they were allowed to return the ball after a single hit. Students did not like the three-hit rule and tried to negotiate with Mr. Adams to change it. Although he did not change the rule, he did not play the two-hit round of the tournament that he had announced.

Summary

In summary, Mr. Adams had little off-task behavior. Knowledge was given 16.82% of the time (see Appendix G). Students were moved into games after 3 days of practice. His drills did not approximate a game-like situation. Games in his classes tended to be dominated by serves. After Mr. Adams gave his speech about making an attempt for the ball, the task for the class became to move
toward the ball and attempt a hit. Illegal responses were not called during game play. Students did not practice skills after the third day of the unit, although they were tested on them.
### TABLE 3

**SUMMARY OF INSTRUCTIONAL TASKS PRESENTED**

**IN MR. ADAMS' CLASSES**

<table>
<thead>
<tr>
<th>DATE</th>
<th>NUMBER OF TASK</th>
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<tr>
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<td>* * * * * * * *</td>
</tr>
<tr>
<td>11-17</td>
<td>* *</td>
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<td>11-30</td>
<td>* *</td>
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</table>
TABLE 3 continued

LEGEND:

1. Toss ball 15 times to a partner who catches the ball on the fingertips.
2. Self set ball to a partner 15 times.
3. Set the ball back to a partner 10 times from a partner's set.
4. Set ball back and forth with a partner.
5. See how many sets you can get with your partner in 15 seconds.
6. See how long you can keep the ball going using sets.
7. See how long you can keep the ball going as a team with a sets only.
8. Serve the ball back and forth over the net.
9. Self toss bump with partner 15 times.
10. Bump the ball back to the partner from a toss 15 times.
11. Bump the ball back and forth with a partner.
12. Within a circle, keep the ball alive on your side of the court, using mostly bumps.
13. Use at least three hits to return the ball across the net to the other team.
14. Game play; need at least three hits to return the ball.
15. Game play; can return the ball on the first hit.
17. Set skill test.
TABLE 4

MEAN PERCENTAGE OF SUCCESSFUL RESPONSES
IN MR. ADAMS' CLASSES

<table>
<thead>
<tr>
<th>DATE</th>
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<th>M2</th>
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<th>L2</th>
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### TABLE 5

**MEAN PERCENTAGE OF CORRECT RESPONSES IN MR. ADAMS' CLASSES**

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<th>M2</th>
<th>L1</th>
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<td>33.33</td>
<td>28.57</td>
<td>77.78</td>
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</tr>
</tbody>
</table>
Mrs. Brown

Mrs. Brown's class was immediately after Mr. Adams'. It consisted of 8 boys and 14 girls. Her class was extended 5 minutes every day because of homeroom. Students came into the gym initially for attendance, then went up to their respective locker rooms to change clothes. During every class, approximately 2 minutes were spent in management as she read the announcements to students.

Mrs. Brown had coached at the varsity high school level. Her teaching cues and critical elements of skills were accurate. She correctly assessed reasons for errors on student performance and gave feedback on these to her students.

The grading system in this class was based on three equally weighted categories: written work, skill tests, and participation and dress. These will be discussed in the following section.

Participation and Dress

Mrs. Brown used a point system similar to the one used by Mr. Adams. Students received five points per day for dressing properly, and five points for proper conduct and effort. Students who were behaving inappropriately, were warned first. If the inappropriate behavior continued, points were deducted.

In Mrs. Brown's class, negative scores for the day were possible. If students continued to not do as they were
told, she would continue to deduct points. On the final day of the unit, one young man refused to play his position and let some of the others on his team make their plays. She warned him repeatedly, yet he continued. Absences had left the team two players short that day and removing him from the team would have left it with three players. He received a negative score that day.

Skill Tests

Mrs. Brown explained skill tests on the first day of activity she had with her class. Students were told that she had done this so they could practice prior to the beginning of class, which they did. The skill tests were also used as part of the daily warm up/practice activities. Students had an opportunity to practice for the upcoming test and improve skill simultaneously. Improvement in scores can be seen as the unit progressed (see Figures 2, 3, 4, and 5).

Skill tests were not subjective, but rather had definite criteria. Students knew how they were to be graded. The tests included both topographical and numerical criteria. As was related earlier, this testing had been used to hold students accountable for using legal hits during practice throughout the unit.

Sets, serves, and forearm passes were skill tested. During the set test students had to volley the ball
FIGURE 2. WALL VOLLEY DRILL FOR BM1

(11/28 WAS A SKILL TEST)
FIGURE 3. WALL VOLLEY DRILL FOR BM2

(11/28 WAS A SKILL TEST)
RATE PER MINUTE

GRADE OF "A"

DATE

CORRECT SUCCESSFUL  TOTAL RESPONSES

FIGURE 4. WALL VOLLEY DRILL FOR BL1

(11/28 WAS A SKILL TEST)
FIGURE 5. WALL VOLLEY DRILL FOR BL2

(11/30 WAS A SKILL TEST)
All legal hits landing in this box during a 30 second time period counted. Twenty-five was a perfect score. The serve had to go over the net and land in bounds. Students had eight chances for five correct serves. In the forearm pass test, the teacher tossed the volleyball and students had to return it to the teacher. If the teacher took more than one step to catch the ball, the response did not count. Students had eight chances to make five successful returns.

**Written Assignments**

The written portion of the student’s volleyball grade was determined by two homework assignments, which were graded and handed back the next day, and a unit test. The teacher spent class time explaining the assignment and warning students of possible pitfalls. When the assignments were handed back, they were discussed again and students had the opportunity to ask questions. The test was similar to the homework assignments. Students had been advised to use the homework to help them prepare for the test. The test was given on the last day of the unit and handed back and discussed the following day. Students did ask questions about their test as a portion of this would be used on their comprehensive semester test.

**Management and Instruction**

Mrs. Brown’s point system was used a great deal. She deducted points for inappropriate behavior or lack of
effort. She alerted students about watching their behavior. During the set test, Mrs. Brown would comment on a hit they made or just missed which reinforced the idea that she was monitoring the rest of the class, as well as administering the skill test.

Comments were also made to students during activity time on how to correct technique errors. Student names were used frequently in conjunction with feedback. Mrs. Brown spoke loudly enough so that the entire class could hear her. By positioning herself in a central location, she was able to monitor the entire class.

Whenever Mrs. Brown did activities, skill practice or games, someone was always designated to be in charge/monitor. She utilized her classroom aide on an almost daily basis. Rather than spending possible instructional time giving him directions, these would be given when students were in the locker room changing or during pre-class practice sessions. The aide conducted skill tests, officiated games, and checked for accuracy when students had competitive activities. If an additional person was necessary to monitor, Mrs. Brown would get a former student from study hall to help. On one occasion, team captains were put in charge of a volleyball game. On this day, Mrs. Brown was giving a skill test and the aide was officiating another game. Rather than just allow
students to "play," specific people were designated to make difficult/controversial decisions.

In addition to her point system, Mrs. Brown used detentions to enforce student behavior. She gave three rules on the first day of class. Students were not to shoot the volleyball at a basket, kick or sit on it, or throw it at any person. She explained that misuse led to ruined volleyballs and they cost thirty-two dollars each. Violations of this rule, whether the teacher was present or not, would result in the offender spending 15 minutes of the next day's lunch time in detention with the teacher.

This rule was enforced on three occasions during the unit. As a consequence of this, during the pre-class practice time when the teacher was not yet present, balls were not misused. Students gained 2 or 3 minutes of practice each day because they began practicing as soon as they entered the gymnasium after dressing for class. This time was not included in class time statistics nor were response rates calculated for it.

Pacing in Mrs. Brown's classes was very rapid. Drills were usually short (fifteen to twenty seconds long) followed by additional information, as tasks were often refinements of a previous task. During some practice days, Mrs. Brown used six to eight different tasks and did some of these tasks four times each during a class period. Tasks were altered slightly but repeated several days in
succession (see Table 6), giving the lesson continuity. Mrs. Brown was the only teacher in this study to use refinements regularly.

Mrs. Brown held students accountable for appropriate behavior. Students were expected to stop when signaled to do so. One student was threatened with study hall for failing to stop when told. The entire class was stopped to deal with management problems. Sometimes these episodes lasted as little as 3 seconds, but one was over a minute in length. During this incident, she asked each offender, one at a time, if he/she thought the rule in question was too difficult to follow. These management episodes used a small portion of total class time. Students complied with teacher expectations after the desists.

Mrs. Brown had no negotiation in her classes, either verbally or through student action. The stated task was the actual task done by students. Tasks invariably contained performance, situation, and criterion (both process and product) conditions. Students were held accountable for the actual task specified.

Another feature of Mrs. Brown's management system was that students were expected to listen. On the first day of the unit, students were going over a test that had been given on the day before over the previous unit. Questions were discussed page by page. If students asked about a
question that had already been covered, Mrs. Brown refused to answer the query saying that it already had been answered. The student was further informed that if he/she had been listening, this would have been known.

Although Mrs. Brown normally selected activities for her students that were appropriate for their ability, she did assign a task that in her estimation, caused many students difficulty. The drill was one in which one student tossed the ball to a partner who in turn forearm passed the ball back to the tosser. Mrs. Brown switched to a self-toss pass drill for 2 minutes and then returned to the drill that had been abandoned before.

Accountability checks were utilized after many of the timed drills in Mrs. Brown's class. During these she would ask the students questions such as:

"How many bettered their score from the last time?"

"How many hits did your team get?"

"How many got at least 20?"

When she forgot/neglected to ask this type of question, students were so used to this routine that they reported their results anyway. Although some of the other teachers in this study used accountability checks for game scores and occasionally to ask how many hits students had had in drills, Mrs. Brown was the only teacher that used this technique regularly.
Mrs. Brown expected students to be more skillful as the result of participation in her classes. When a student told her that he/she couldn’t do a given skill, she told him/her: "Oh yes you can. Unless you’re mentally or physically disabled you can do this." She would work with the student one-on-one until he/she had mastered the given skill. When the student performed the skill correctly, she’d say: "I have a saying. The first time’s luck, and the second time’s skill." She’d make the student continue practicing until another successful hit was completed.

BL1 had trouble serving. The teacher worked with her on three different days and by the end of the unit she could serve correctly. When the student wanted to give up, she was reminded about the upcoming skill test. The following conversation ensued:

T- "Start here. Step and just as your foot hits the floor, you hit it. Now. You did it again. Now J___, on the skill test..."

S- Comment (Inaudible)

T- "This won’t be so funny to you. Okay."

S- "I never have been able to serve."

T- "On the skill test you need to get five out of eight across. Now the only way you’re going to do that is concentrate. Okay?"
S- "All right. I'll try again."

T- "Good."

(Transcript from November 21, 1989, p. 14).

Instruction continued and eventually she did have a successful serve on that day.

On another occasion, another student argued with Mrs. Brown about his skill. This is the conversation:

T- "D_. Get the ball off your hands. Forearms. Forearms."

Throw it up a little bit higher for him, M____." 

To another student:

"That's it A___. Good"

Teacher goes back to the first student.

T- "Okay, now. Let me explain something for you, D ___. Every time you hit the ball like you're . . . ."

S- Protests (Inaudible).

T- "Now listen. Every time you hit the ball like you're hitting it, after I told you how to do it right, to me . . . ."

S- Protests (Inaudible).

T- "Now listen to what I'm saying. That's the same thing as if you give the wrong answer in math. So far you've given me
six wrong answers in a row."

A discussion followed and the student identified two causes for his "wrong answer" --- hitting the ball off the wrist/hands and not bending his knees.

The teacher came back to where he was practicing after about two minutes.

T- "See. The ball's going straight ahead, D ___. You want to go up. See, you're not using your legs at all. See, you're never going to be able to play volleyball with me."

S- "I do play. But I haven't played in four or five years."

T- "No. No. Okay. You want the ball . . . Use your arms. Use your legs. Okay. You're standing here with your legs straight like that."

S- "I move around. I can't."

T- "I know. I know. And in phys ed that's called a grade."

S- "I can't do anything."

The teacher addressed class giving a task of passing with a partner. After about a minute, she comes back to D_____.

T- "D_____. Last time. Bend your knees and lift."

S- Comment (Inaudible).
T- "No you're not. You're standing straight up."

S- "I am bending them."

T- "I'll tell you what."

S- (Simultaneously with above statement) "I have to think about it."

T- "You just go right ahead and do it the way you want to and I'll grade accordingly. Whatever you want to do, that's fine."

(Transcript November 20, 1989 pp 10 and 11).

Students had ample opportunity to respond as Mrs. Brown usually had students work in pairs. This, combined with short, high-intensity drills, led to the highest student response rates per minute of any teacher in this study.

Mrs. Brown always called violations both in practice and game situations. She stressed that only legal hits would be allowed for a skill test so students should not waste their time practicing illegal or bad hits.

. . . More control. I can go out to the Columbus Zoo and rent a gorilla and in five minutes teach him to just bang the ball across the net. That doesn't take a lot of skill.

(Transcript November 27, 1989, p. 6).

On four days of the unit, Mrs. Brown's success rate for more skilled students was above 80% (see Table 7). Her less skilled students did not achieve that level on any day. Mrs. Brown's percentage of correct hits was above
80% on all days for her more skilled students except on the day when Mr. Adams was a substitute teacher (see Table 8). Although her less skilled students were at 70% or above on 4 days, they did not ever reach the 80% level.

Students were challenged/encouraged to improve by the teacher’s own performance. Following one of Mrs. Brown’s demonstrations of her volleyball skill, she issued this challenge:

Now if the old teacher can do this, you young bucks certainly ought to be able to, too. Don’t let the old teacher show you up.

(Transcript November 22, 1989, p. 4 and 5)

Mrs. Brown allowed students to practice whatever skills they wished prior to class. She had informed them that if they were having trouble with a given skill, that this is what should be practiced as they needed to be able to do the skills for the test. Class time distributed practice between sets and forearm passes forcing students to practice both skills. A tendency was noted in classes with other teachers in this study for students to practice their best (favorite) skill rather than the one needing the most work. Mrs. Brown required them to work on both.

Peer tutoring was observed in Mrs. Brown’s class. Since students knew what the skill expectations were for the class, they helped each other to improve and reach for those goals. This even happened during skill testing when other
students tried to help BL1 with her serve.

Summary

These classes were skill-oriented with students trying to accomplish the basic hits of forearm pass, set, and serve. Although game play was utilized, it was secondary to the acquisition of the skills named above. Students knew the expectations that the teacher had and attempted to meet these rather than negotiate them to a lower level. The instructional system supported the learning of these goals. Team competition was encouraged and students were especially aggressive on days when bonus points were awarded for winning. Skill improvement was evident for the low skilled students. If a student wanted to earn a good grade in this class, skill was necessary, as well as cooperation and compliance with class rules. Activity time 46.45% and knowledge time was 35.36% (see Appendix G). Mrs. Brown had the highest percentage of knowledge time of any teacher in this study. Her activity time was the lowest, but she had more total student responses than any other teacher.

Mrs. Brown's grading criteria were stated specifically. Both the written and skill tests were performance based. Students were expected to gain skill and knowledge in this class and were held accountable for this with tests.
### TABLE 6

**SUMMARY OF INSTRUCTIONAL TASKS PRESENTED IN MRS. BROWNS' CLASSES**

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TABLE 6 continued

**LEGEND:**

1. Toss ball 15 times to a partner who catches it on the fingertips.

2. Self set ball to a partner 15 times.

3. Toss ball to a partner who sets it back to you 15 times.

4. Set ball back and forth with partner as many times as you can.

5. Repeat #4, above, in 15 seconds.

6. Keep ball alive as long as possible; quit when you miss.

7. Keep ball alive as a team in a circle.

8. Keep ball alive across net as long as you can, both teams on one court, vs. both teams on other court.

9. In a circle, set the ball; when you get 10, sit down.

10. Wall volley shuttle; rotate, each member of the team hit the ball once.

11. First team to have 15 legal sets goes in; others run one lap.

12. Wall volley set for 30 seconds - individually.

13. Set with partner; try for 10 legal hits in 15 seconds.

14. Partner tosses ball; receiver bumps it back; eight chances to get five.
TABLE 6 continued

15. Self toss; bump it to your partner.
16. Partner tosses ball five times; receiver bumps it back.
17. Bump ball back and forth, trying for five in a row, no misses.
18. Get into your teams; modified game; have to have three hits before the ball is returned.
19. Count number of bumps you can get in 15 seconds.
20. You may use sets or bumps; 15 seconds.
21. Serve the ball over the net, one at a time.
22. Game - serve not returned yields one point for the serving team; serve returned with at least two hits yields one point for receiving team.
23. As a team, see how many legal sets you can get in 20 seconds.
24. Set or bumps; you are trying for 10 legal hits in 15 seconds.
25. Game play - tournament.
26. Serving test; eight chances for five legal serves.
27. Toss ball to receiver, who bumps it back.
### TABLE 7

**MEAN PERCENTAGE OF SUCCESSFUL RESPONSES IN MRS. BROWN'S CLASSES**

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<tr>
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### TABLE 8

**MEAN PERCENTAGE OF CORRECT RESPONSES**

**IN MRS. BROWN'S CLASSES**

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</table>
Miss Camp

Miss Camp taught at the second site used for this study. Her students were allowed to select the unit of their choice and 19 elected to play volleyball. There were 7 girls and 12 boys in the class. Because this was a lunch hour class with low enrollment, Miss Camp had an assistant, a fellow teacher, who volunteered to help teach the class. Miss Camp planned the unit, organized the teams, and conducted the class. She was responsible for the instruction. The other teacher circulated, gave feedback, and officiated during game play. On days when Miss Camp was absent, the substitute conducted the class while he assisted.

Because of a district school board policy, this teacher was not allowed to grade on skill. In essence, students were evaluated on how well they complied with rules. If they participated in class without deviant behavior and dressed in the appropriate uniform, they received a good grade. Participation and dress accounted for 80% of the student grade. The remaining 20% was for written work.

Participation and Dress

Miss Camp used a point system for her classes. Students received ten points for each day of attendance and participation. If the student was not dressed appropriately, five points were deducted. Students
could participate if wearing clothing that would not be dangerous for play. Misbehavior and lack of effort could also result in point deductions, depending on the severity of the infraction. The exact number of points that would be deducted was not specified in advance, but would be determined by the teacher for each situation. No point deductions for inappropriate behavior were observed during this study.

**Written Work**

Miss Camp gave one written test during this unit. It was based upon knowledge gained from a volleyball handout. The test was given in two parts because of a school-wide exam schedule. Two 20 minute sessions were scheduled on 2 days of this unit. This was when the written test was administered. These were not observed and the times were not included in the data.

**Management and Instruction**

Miss Camp's teaching agenda was for students to play a three-hit game using team work offensively and defensively. Students were hustled between activities as they "had much to accomplish" and needed to utilize all the practice time possible. Moving to make a hit in games was encouraged, but the main emphasis was on proper positioning for offense and defense so that the player was already in a position to make the proper hit.
Feedback and instruction were both accurate. All students received individual instruction at some point during the unit.

With two teachers present, students were closely monitored at all times. Practice sessions never had a ratio of more than ten students per teacher. Appropriate behavior was expected, even before class. Miss Camp did not stop the class to discipline students. If a student got out of line, that student's name and a following glance was usually all that was necessary for the desist.

Prior to class, students arriving early usually played a mini-game or worked on skill. This was voluntary and not a class expectation. If students initiated undesirable behavior, they were desisted and subsequently started appropriate practice/play. During these practice times, Miss Camp would offer suggestions and feedback. Class did not officially begin with a volleyball warm up, rather with calesthetics and running. Attendance was taken as students ran laps. Miss Camp would then usually communicate information covering skills, the day's activities, team standings, and so on.

When the class was divided between Miss Camp and her assistant, she would work with her half of the class, and continue to go back and forth, monitoring both groups. When giving instruction, both groups could hear what she was saying. She monitored the entire class, despite the
Students were told to stop activity when drills were demonstrated and knowledge given. She would have the class come together as a group for instruction and then move out for activity. Directions for a new task were not given to students from the spot they completed their last task or during transitions. When new tasks were introduced, the teacher allotted longer practice sessions.

Length of practice sessions for the last two classes observed was dictated by the length of games. Two teams were involved in game play. Although a 9 minute limit was imposed, close games were actually allowed more time. The third team was either practicing or playing a three-on-three game on the other court.

Miss Camp changed a task in the unit, taking into account student skill level. Originally she had told students that they would have to serve overhand. She later altered this to include an underhand serve as well. CL2, as well as some others in the class, could not do the overhand serve, thus the reason for the modification.

When a new task was given, Miss Camp would start it but then stop the class to give additional instruction if students were doing things incorrectly. She often did this three or four times until the practice was as she desired. Drills were not repeated on subsequent days (see Table 9).
Each day’s lesson was unique. The formation and practice might be a variation of a previous day’s work, giving the lesson continuity, but it still had a different focus or goal.

Tasks were not modified by the teacher, with the exception of the serve, even when the difficulty level of the drill seemed too high. Students were expected to do their best. Success rate for various tasks were sometimes low (see Table 10). Drills were usually a combination of skills. An example of this would be when one person forearm passed the ball to the net. The setter could put the ball up for the passer to come up and execute a spike. Bad hits or "no hits" resulted when students were not skilled enough to do the drills. Drills were often variations of the one described above.

CL2 usually moved through those various positions without taking a hit. At times because of the previous unsuccessful response, she was not expected to be able to respond. When she was in the position of taking the first hit, it usually went awry. Despite the difficulty that she and others experienced while doing these drills, the teacher did not change or modify them. Because of teacher supervision, the drills were not modified by the students even though they were unable to do them correctly.

Many of the drills Miss Camp utilized involved a combination of skills and several players. Success rate
for the more skilled target students ranged from 60.27 to 86.84% (see Table 10). Means for less skilled target students ranged from 7.14 to 63.33%. More skilled students were engaged above an 80% success level on only one of the 6 days observed, while less skilled students were never above that level. Examination of individual student success rate shows that CL2 was successful less than 10% of the time.

Average rate for topographically correct responses by more skilled target students ranged from 71.23 to 85.53% (see Table 11), with 5 of the 6 days being above 80%. Average rate for less skilled target students ranged from 7.14 to 86.05%, with 1 day being above 80%. The highest rate for less skilled target students occurred on a day that CL2 was not participating and the rate shown was that of CL1. CL2 had 13.04% correct on her best day.

During games the assisting teacher officiated while the target teacher took the third team and practiced various skills on the other court. The target teacher still watched the game and occasionally offered encouragement to them even though her primary duty was to monitor the non-playing team.

Peer tutoring was not observed. Most of the feedback came from the teachers.

Although the teachers tried to improve skill, students
were not held accountable for this through testing. Most of CL2’s hits were incorrect (see Table 11) or she avoided taking a hit at all. At one point during a game, teammates applauded her for a response. It was only the third time she had hit the ball that day, all of which had been incorrect and unsuccessful. When students applauded, this was the first time that she had moved to hit the ball. Previous hits had been reactions to a ball that was going to hit her if she didn’t hit it. On the fourth day of data collection, she elected to sit out and not participate in the class. The day prior to that she had, in every instance, hit the ball incorrectly and unsuccessfully.

Despite the fact that students could not be held accountable by skill tests, they were encouraged to increase skill with feedback statements, prompts, and hustles. The teacher provided instruction at the group level during activity, but then would move in to help a student who was experiencing difficulty. CL2 was instructed by the teacher on several occasions, but was not successful in learning the skills. The teacher did not stay with the student being helped until he/she could do the skill. Miss Camp would work with the student for up to a minute and then move on even though the student was still having problems.

In stressing the offensive positioning, only a maximum of six players were on the court at one time. This limitation only involved one team as all the other teams had
only six players. At various points in the unit, teams had to play with fewer than six players due to absences. In all of these situations, Miss Camp stressed moving into position so as to take a correct hit and also having that hit be part of the bump, set, spike sequence. The serve receive position was emphasized. Illegal hits were called.

**Summary**

Overall, Miss Camp's classes were instructional. The better skilled students had greater success than those with lower skill. Game play, rather than skill development was the focus of the class. Tournament play did not begin until the eighth day of the unit. Regulation, rather than lead up games were used. Knowledge represented 24.60% of the total class time while 64.00% was spent in activity (see Appendix G).
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TABLE 9 continued

Legend:

1. Half class on each side of net; set ball over net and rotate to end of line.
2. Same as #1, above; count them; if you miss, start over; try for 15.
3. Serve - receive drill; toss ball over net; receiver bumps it to a student at the net, who is the target.
4. Overhand serves across the net.
5. Same as #4, above; can only serve one at a time.
6. Serve - receive game; regulation game, concentrating on serve - receive position.
7. In a circle, using legal sets and bumps, keep the ball going; call "mine" prior to the hit.
8. Same as #7, above; use the bump only when you have to.
9. See how many hits you can get; mostly sets.
10. Serve to a partner; start on 10-foot line; move back when teacher tells you to.
11. Down ball hits; person tosses ball at net; hitter comes up and executes a down ball hit.
12. Down ball attack; turn your shoulders more than yesterday.
13. Same as #12, above; tosser now sets instead of just tossing.
TABLE 9 continued

14. Footwork for the spike; no ball.
15. Extension of #14, above; students are now all on the same side of the court.
16. Same as #12, above; uses spike instead of a down ball hit.
17. Serve with partner; underhand or overhand.
18. Set the ball over the net with a partner; nice high sets.
19. Toss ball over net; first person bumps it, second person sets it, first person spikes it.
20. Game play for tournament.
21. Game; goal for today is to call "mine".
22. Three-on-three game.
TABLE 10

MEAN PERCENTAGE OF SUCCESSFUL RESPONSES
IN MISS CAMP'S CLASSES

<table>
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<tr>
<th>DATE</th>
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*DID NOT PARTICIPATE
### TABLE 11

**MEAN PERCENTAGE OF CORRECT RESPONSES IN MISS CAMP'S CLASSES**

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*DNP* Did Not Participate
Mrs. Dunn

Mrs. Dunn taught at the third site used in this study. The class consisted of 7 boys and 22 girls. Grading in this school reflected a departmental policy (see Appendix H). Four areas were evaluated: learning achievement, skill improvement, participation and dress, and cooperation and positive contribution. Each area was of equal importance for determining a student’s grade.

Participation and Dress

Mrs. Dunn utilized a point system with her classes. Students could earn 20 points per day. Five of these points were awarded for dressing, cooperation, positive contribution, and participation. Fifteen points could be deducted for deviant behavior. No student had participation points deducted during the classes observed.

One student was a continual source of concern for Mrs. Dunn. He was desisted on a regular basis, occupying more management time for Mrs. Dunn than any other student in the class. When asked if she deducted points from his participation score, Mrs. Dunn answered negatively indicating that his behavior was more of an irritant than something for which she would deduct points. If students participated in class, they got their 15 points regardless of level of participation or effort.
Skill Tests

Two lessons were devoted to checking student skill prior to the actual skill test. This was done by evaluating half of the class each day while the other two teams played a volleyball game. During this evaluation, the students were given five chances to set a tossed ball over the net and five chances to forearm pass a tossed ball over the net. Students were to use the skill that had been taught in class. The skill's topography was evaluated.

The subsequent "real" skill test was also subjectively graded. Just before the skill test, students had two practice opportunities. Next, the teacher had the captain toss the ball to each teammate two more times. The teacher did not specify that the return had to be over the net. Critical elements of the skill had been presented during the initial skill presentation, but criteria for evaluation were not specified. Students did not know which critical elements were necessary for the various grades. The tests evaluated student topography.

Written Work

One written test was given for this unit. It was not observed so it was not used to calculate total knowledge time. It consisted of questions from information on a handout. Part of one class period was used to administer the test.
Management and Instruction

Approximately 1 to 1 1/2 minutes each day were spent in management time when Mrs. Dunn took attendance. As Mrs. Dunn passed by students, they wandered from the attendance line as she continued taking roll. At the conclusion of this task, additional management time was used to quiet students as she had them gather around her to explain the day's activities or the drill/warmup that they would use next. Some students were holding balls during this which was distracting.

Most of the activities which followed the initial tasks were not complex. Students were sometimes given directions as they were relocating to the new task. These transition/knowledge segments were termed concurrent transitions. After the task had been given during a transition, students would ask a variety of questions to clarify what the teacher intended them to do. The initial instruction given "on the run" was not clear and could not always be heard.

Mrs. Dunn's first practice task for the day was usually for students to do either sets, forearm passes, or a combination of both. As students practiced with their partners, Mrs. Dunn worked her way through the class and gave instruction to individuals after observing them briefly. She spent a large proportion of her time monitoring a group of boys who were prone to go off-task.
DL1 almost always stayed on task, but he executed the skills incorrectly. During skill practice sessions, he received less teacher attention than other boys who were more likely to go off-task.

Pacing in Mrs. Dunn's classes was slow. She told students to practice hits a certain number of times, (i.e., toss the ball to your partner ten times so that he/she can set it back to you and then switch), and then allotted 7 or 8 minutes for the task. Tasks were not repeated on subsequent days (see Table 12).

Mrs. Dunn circulated through the class after giving the task, checking individual students. Task modification and off task behavior resulted because of the excessive time allowance and low level of accountability. DL1's practice was interspersed with conversation with her partner. The girls often finished the task (a given number of hits) prior to the teacher giving the next task. After completing the last task, they would discontinue practice and congregate to chat.

DM1 sometimes followed a similar pattern to DL1. On other occasions she modified the task making it more difficult and continued to practice. Mrs. Dunn observed some of these modifications. Early in the unit she made DM1 return to the stated task. Later in the unit, Mrs. Dunn saw the modification and announced to the class that if other students wanted to do this same modification, this
was permitted.

DM2 would work on task as Mrs. Dunn approached and then go off task as she moved away. Because Mrs. Dunn normally monitored only the small group of students with whom she was working, she might not have been aware of these patterns. Occasionally noise levels rose which would cause Mrs. Dunn to look for the disruption. She then would either call out to the offenders or move over to monitor/instruct those students until they were back on task. When Mrs. Dunn was in the opposite end of the gymnasium, various off-task patterns would emerge. This happened only during practice sessions. During game play, students were relatively on-task. Even when the teacher was not actively monitoring a game, students stayed on-task.

Students were not monitored at all times. During game play, Mrs. Dunn would monitor one game for about 5 minutes and then switch. During skill practice students were monitored when Mrs. Dunn approached, but then were in control of their own responses/actions as she moved out of the area.

The classes in this unit focused on skill practice and game play. Game-like drills were not used. The teacher utilized partner practice situations with an abundance of time allotted for the tasks.
The instructional system for this teacher was oriented to game play, which occupied 47.99% of total activity time. Knowledge was 3.93% of total class time (see Appendix G).

Table 13 shows student level of success. Two of the students were above the 80% level on one occasion each. Students were at 70% or above about 1/3 of the time.

The mean for correct responses for the more skilled students was above 80% on 3 days out of the 9 used for data collection. Less skilled target students were engaged at this level on 2 days of the unit (see Table 14).

Since Mrs. Dunn taught incorrect technique for the volleyball set, she again gave incorrect information when she gave feedback. She didn't want students to bend the wrist and carry the ball. To do this, she had them follow through out in a motion that could best be likened to the initial part of a breast stroke swimming motion. When students utilized this motion, it was virtually impossible for some of the weaker students to generate enough power to make a successful hit. Students practiced incorrect technique when monitored directly by Mrs. Dunn, although many reverted to correct technique when she was not watching.

Although task statements might have specified a performance, situation, and criterion, they lacked clarity. For example, after Mrs. Dunn gave a set task, the researcher
could not tell whether students were to set the ball and catch it themselves or set it to a partner. Students were allowed to do both.

The teacher usually observed the student, gave instruction, observed one more trial, and then moved on to the next students. She did not remain with a student until he/she had performed the skill correctly. Monitoring was the main form of accountability used.

**Summary**

The teacher put students into game play on the third day of this unit. Instruction was very basic, occupying 3.93% of the time. Drills were simple, lasting longer than necessary for students to do the stated criterion of hits. Off-task and task modifications were observed.

During game play, illegal hits were not called. Offensive and defensive strategies were not taught. Students practiced skills, but were not held accountable for them during game play. Positioning was not taught. Each team had seven players and all students were allowed to play.
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**TABLE 12**

**SUMMARY OF INSTRUCTIONAL TASKS PRESENTED**

**IN MRS. DUNN'S CLASSES**
TABLE 12 continued

LEGEND:

1. Partner tosses ball; other person bumps it back 10 times.
2. Overhead serve with partner across net.
3. Captain tosses ball to each team member; they bump the ball back across the net.
4. Game; can only use overhead serve and the bump.
5. Self toss and set to partner 10 times.
6. Drop ball to partner who is lying on the floor; partner sets ball back to you 10 times.
7. Partner tosses ball; set ball back to partner.
8. Spend 2 - 3 minutes bumping; then will play.
9. Warmup serve; serve five times each.
10. Game play.
11. Underhand toss to partner; bump ball back 10 times.
12. Partner tosses; student bumps ball back 10 times; partner toss, set 10 times.
13. Ball is tossed over the net; partner sets it back to student.
14. Toss ball five times for partner to bump; partner sets; both see if they can hit ball back and forth using legal hits.
15. Warm up for five minutes.
TABLE 13

MEAN PERCENTAGE OF SUCCESSFUL RESPONSES
IN MRS. DUNN’S CLASSES

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* Data point excludes H2’s game play because it occurred during H1 testing.
### TABLE 14

**MEAN PERCENTAGE OF CORRECT RESPONSES**

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* Data point excludes H2's game play because it occurred during H1 testing.
Mr. Far

Mr. Far also taught at the third site. This was an all-male class with 28 students. As described for Mrs. Dunn, the grading system used in this school was a departmental policy. Students were evaluated upon four equally weighted areas: skill improvement, learning achievement, dress and participation, and cooperation and positive contribution.

Participation and Dress

Because Mr. Far and Mrs. Dunn taught in the same school, they supposedly used the same point system. Mr. Far, however, divided the points differently giving ten points daily for proper dress and ten for participation in class. Students were allowed to participate in class and receive ten points, even though they did not have the required uniform. Student dress and participation points were recorded daily.

Students could lose points for inappropriate behavior. This did occur one day when a student, who had been desisted several times by the teacher was told to sit out for the remainder of the class. This was the only incident of such a point deduction in the classes observed. There was little off-task behavior in Mr. Far's classes.

Skill Testing

Mr. Far used skill tests for grading students. For
this, he had a partner toss the ball and counted the number of successful returns out of ten made by the person being tested for both sets and forearm passes.

Students assumed they were being rated by the number of successful returns that they made. Mr. Far actually graded students on the topography of the response, rather than the product or number of correct hits. The number of successful hits was used if a student's topography did not fit clearly into one of his grading categories. A good success rate would give the student the higher grade in this situation. Mr. Far's philosophy was that if a student had the correct topography, he had the possibility of perfect accuracy. If he didn't have correct topography, successful hits were only a matter of luck.

Mr. Far tested two students at a time on the set and forearm pass. Students were pulled from a game in the class tournament which was being conducted (one person from each team). They were tested in the area between the courts. After the test, skill-related feedback was given to each person about both skills, telling the student what he did well and what would require more work. The students actually had a learning experience while testing. The whole episode lasted about 4 minutes for each pair. Mr. Far spent 4 days testing his class.

Students had not practiced specifically for their skill tests during prior classes, nor had they been reminded to
practice for their skill tests during the warm up. The test had been shown on day four of the unit. It was presented as a short skill test rather than the skill test that students would take at a later date.

Mr. Far did not specify the various elements necessary for a given grade. These were subjectively determined by the teacher and students were unaware of the requirements for a given grade.

Students who had been tested on the forearm pass and set completed their skill testing at the end of that class day by serving five balls. Topography was evaluated on the serve but no skill feedback given.

Written Work

One written test was given during this volleyball unit. It was primarily based on a handout given by the teacher. No additional homework or written assignments were given. This test was not observed so this knowledge time does not appear in the statistics.

Management and Instruction

When students finished the unit, Mr. Far wanted students to be playing a three hit, pass-set-spike volleyball game. At the end of each of the first 2 days of regulation play, he sat students down to tell them not to be disappointed about the game or be discouraged by their performance as he had seen improvement in their play. His
comments during game play encouraged multiple hits on a side. One team kept trying to put the ball over on the first hit. He told them to "stop putting up lollipops" and try to hit/attack the ball.

Mr. Far's teaching progression was a series of events that gradually gave students all the components that they needed for this type of game. He used a backward chaining technique, starting students with the spike. He kept adding the steps needed for the previous hit until all of the necessary components of the attack were present in drills. Drills were repeated as shown in Table 15. Drills used in this unit became quite complex as more elements of the three-hit game were added. These tasks usually lasted 3 to 4 minutes, giving the class a fairly rapid pace. Classes tended to build upon the previous day's work, giving continuity to the unit.

Because of the complexity of his drills, Mr. Far stopped students to demonstrate these rather than try to extend the previous task while the students were still in activity or during transition. Students were expected to listen and give their attention to the instruction. If students did not do this, Mr. Far stopped his explanation and told them to "listen up." When he used a drill that had been done previously in class, directions were limited and the task was classified as a routine.
With simple drills, Mr. Far demonstrated skills himself (he played on a USVBA team and had a high personal level of skill). His later drills usually required two to four students. For these, he pulled the most highly skilled students from the class and used them for the demonstration. Students were given an example of what they were expected to do as well as verbally given specific directions, which added clarity to his tasks.

The real key to Mr. Far's classes was the three-on-three games. Students were forced to move to cover the court. If they had an error, they lost their opportunity to play as they would be replaced by the next three person team that was waiting off-court for a chance to play. Mr. Far had the best movement in his regulation games of any teacher in this study. Examining the cumulative response graphs (Figures 6, 7, 8, and 9), one sees a leveling off of student responses for the mean of both more and less skilled students for Mr. Adams, Mrs. Brown, and Mrs. Dunn. This is seen for both total responses and correct successful responses. This leveling occurred when these teachers began game play in classes.

Mr. Far used several days of the three-on-three games before he started regulation play, which forced students to move while on the court. Position was also important in regulation games. Extra people had to rotate in as only six
FIGURE 6. CORRECT SUCCESSFUL RESPONSES FOR MEAN OF MORE SKILLED TARGET STUDENTS
FIGURE 7. TOTAL RESPONSES FOR MEAN OF MORE SKILLED TARGET STUDENTS
FIGURE 8. CORRECT SUCCESSFUL RESPONSES FOR MEAN OF LESS SKILLED TARGET STUDENTS
FIGURE 9. TOTAL RESPONSES FOR MEAN OF LESS SKILLED TARGET STUDENTS
were allowed on the court at once. Mr. Far taught students the "W" formation and moved students around when they were not in proper position.

Students moved during game play and covered all areas of the court. Mr. Far's drills had simulated game play. The lead up games had required moving into position to make the play. Mr. Far had encouraged movement and team effort throughout the unit. The volleyball games had many rallies and were not dominated by the serve.

Rules in this class were contingency shaped in many instances. For example, when told to place the volleyballs in the cart, one young man tossed his volleyball at the cart. Mr. Far caught the ball, tossed it back at him, and told him to place it in the cart. Another student exhibited several instances of off-task behavior on the third day of the unit. After being desisted verbally by the teacher during the first half of the class, he was told to sit out for the remainder of the class. On this day he lost his participation points for the inappropriate behavior. In following classes he was also desisted for off-task behavior, but the rate of deviancy decreased. By the end of the unit, his behavior had conformed to teacher expectations.

Monitoring had a whole group focus. Since much of Mr. Far's feedback was loud enough for the class to hear, the
students were aware of his presence and that he was watching them work. When students were divided onto two courts, Mr. Far monitored class activities by switching back and forth between groups.

Mr. Far utilized the two nets for most of his drills. During practice, he tried to divide his time between the two courts. He usually monitored one group from the mid-court area offering feedback and then switched to the other court for similar treatment which gave an affect of almost continuous monitoring. When students were divided into teams for regulation game play, Mr. Far put the higher skilled students onto one court and the lower skilled students on the other. He was the only teacher in this study to group students in this manner. During initial game play, he worked with the low students more than with the highs, but the high group was also monitored and did receive feedback.

Mr. Far had a skill warmup every day. Students had 3 to 5 minutes to practice sets and forearm passes. This was when he took attendance. After the spike was introduced, additional warmup time was allotted so that students could practice the spiking motion, putting correct spin onto the ball. The whole group was monitored during this open practice. Although some individuals got specific feedback, Mr. Far did not focus in on a small group leaving the rest of the class unmonitored. FM1 and FM2
usually worked on sets while FL1 and FL2 practiced forearm passes.

Although students were encouraged to do skills correctly, they were not threatened with point deductions if they did not. The upcoming skill tests were not used to motivate students to do skills correctly. Feedback emphasized skill and legal hits were called during game play. This was the only type of skill-related accountability used during game play.

When Mr. Far gave a student individual instruction, he did not stay with the student until the skill was performed correctly. Comments tended to be brief and then the teacher moved on to other students.

Students did not negotiate tasks in Mr. Far's class. The tasks given were demonstrated and explained clearly. Task statements generally included the performance and situation but did not specify the criterion. Tasks were monitored and supervised so that modification would have been observed.

Mr. Far did call illegal hits in both his lead up and regulation games. Students were encouraged to use topographically correct responses during drills and practice sessions. They were held accountable for these legal hits during game play.

The first regulation games were the more skilled
students playing each other and the less skilled students playing like ability. Later in the class he allowed the lower skilled teams to play the higher skilled ones. Although the "high" versus "low" games were very competitive and quite close in score, the response rates for both more skilled target students and less skilled target students were considerably lower than for previous games. Initially the high students acted as though they would easily defeat the lower skilled players. The game ended up with a fairly close score as one of the low players had added four points to his team's score to even up the game. The high students were not keeping track of the score. After this, game play was more vigorous and competitive, as the score was fairly close.

Summary

Mr. Far taught classes actively. He had an agenda designed to get students playing a three-hit game. He allowed students to choose the skill to be practiced in warm up, but then required a specific skill during later tasks. His drills were complex, and difficult for some of the lower students, as can be seen by percentage of success (see Table 16). They were not so far above that students withdrew from activity from continual lack of success. All students could be successful at least some of the time, as was shown on these charts.
The mean of correct responses for the more skilled students reached 80% on 8 of the 9 days studied (see Table 17). The mean for the less skilled students did not reach this level but was at 70% or above on 3 days.

Mr. Far's forte was his lead up games, the things that he did to encourage active and vigorous game play, and the methods used to hold students accountable. Teacher monitoring was used most frequently for accountability. Students held each other accountable for some tasks.

Students in activity 79.62% of the total class time. Knowledge time was 10.25% (see Appendix G).
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**Summary of Instructional Tasks Presented in Mr. Far's Classes**

Table 15

152
TABLE 15 continued

**LEGEND:**

1. Warm-up skills prior to class. Pass ball back. Get as much practice as possible.
2. Warm-up passing skills; cut down on arm swing.
3. Student tosses ball over net; receiver bumps ball to setter (target).
4. Three-man game; have to bump the serve.
5. Short skill test; lob ball to a partner and see how many he can bump back to you without taking a step.
6. Lob ball to partner and see how many times he can set it to you without taking a step.
7. Student serves from behind the baseline.
8. Count next five serves and see if they are in the court.
9. Warm up with your partner and work on control (bump and sets).
10. Spiking drill warm-ups; put topspin on ball.
11. Practice footwork for spike on command of teacher.
12. Spike technique; partner tosses ball, spiker hits it over the net.
13. Emphasize two-foot jump; three step approach, not five.
14. Drill, toss ball over net to person who bumps it to setter; setter passes it and spiker puts it over the net.
TABLE 15 continued

15. Self toss and set it to a partner, who spikes it (extension of #12).

16. Regular game; must bump the serve.

17. Bump skill test, 10 bumps.
### TABLE 16

**MEAN PERCENTAGE OF SUCCESSFUL RESPONSES IN MR. FAR’S CLASSES**

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<td>74.00</td>
</tr>
<tr>
<td>DATE</td>
<td>M1</td>
<td>M2</td>
<td>L1</td>
<td>L2</td>
<td>MEAN MORE SKILLED</td>
<td>MEAN LESS SKILLED</td>
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<tr>
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<td>------</td>
<td>------</td>
<td>------</td>
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<td>78.79</td>
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<td>74.07</td>
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<tr>
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<td>54.17</td>
<td>90.27</td>
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<tr>
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</tr>
<tr>
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<td>46.77</td>
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<td>52.88</td>
</tr>
<tr>
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<td>40.53</td>
<td>88.64</td>
<td>57.52</td>
</tr>
<tr>
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</tr>
<tr>
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<td>78.38</td>
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<tr>
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<td>62.50</td>
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</table>
Summary

This chapter has described elements of the managerial and instructional systems of the teachers in this study, as well as the ways students were held accountable for these tasks.

Variations existed within these systems for the ways students were held accountable on both formal and less formal levels.

This chapter has shown the variations that existed between the teachers in areas of more formal accountability, as well as those less formal. The degree to which the accountability system is implemented determines the actual ways students are held accountable. This may differ at times from the stated accountability.

These overviews of the contexts are a way of viewing the accountability systems utilized by these teachers. It represents the ways teachers held students responsible for the work of the classroom and as such describes the accountability systems for these teachers.
CHAPTER V

ANALYSIS AND DISCUSSION OF THE DATA

Chapter V addresses the questions associated with this study answering them using the data collected. Reliability of the data will also be reported.

Reliability of the Data

Time logs from eight lessons were checked for agreement. There were 195 segments in 276:00 minutes of the data checked. There were four discrepancies of 2 seconds and two discrepancies of 1 second. This represented 10 seconds or a 99.9994% accuracy. There was one disagreement on the classification of a 6 second task segment or 99.995% agreement on task classification.

Interobserver agreement for student topography and success of responses is shown on Table 18. Criterion was not reached on five occasions. The overall percentage of agreement was 81.18 for the 1,530 responses analyzed.
### TABLE 18

**SCORED INTERVAL INTEROBSERVER AGREEMENT**

**OF STUDENT RESPONSES BY TEACHER**

<table>
<thead>
<tr>
<th>TEACHER</th>
<th>M1</th>
<th>M2</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
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<td>16/4 (80.0)</td>
<td>5/1 (83.3)</td>
<td>8/3 (72.7)</td>
</tr>
<tr>
<td></td>
<td>44/9 (83.0)</td>
<td>67/16 (80.7)</td>
<td>45/10 (81.8)</td>
<td>25/11 (69.4)</td>
</tr>
<tr>
<td>BROWN</td>
<td>23/7 (82.1)</td>
<td>33/3 (91.6)</td>
<td>46/12 (79.3)*</td>
<td>30/7 (81.1)</td>
</tr>
<tr>
<td></td>
<td>105/18 (85.3)</td>
<td>102/10 (91.0)</td>
<td>75/18 (80.6)</td>
<td>75/30 (71.4)*</td>
</tr>
<tr>
<td>CAMP</td>
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<td>12/3 (80.0)</td>
</tr>
<tr>
<td></td>
<td>34/4 (89.5)</td>
<td>N/A</td>
<td>22/4 (84.6)</td>
<td>N/A</td>
</tr>
<tr>
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<td></td>
<td>46/8 (85.2)</td>
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<td>18/5 (78.3)*</td>
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<td>FAR</td>
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<td>37/9 (80.4)</td>
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</tr>
<tr>
<td></td>
<td>64/8 (88.9)</td>
<td>28/5 (84.8)</td>
<td>N/A</td>
<td>66/9 (88.0)</td>
</tr>
</tbody>
</table>

* Below 80% criterion

Note: Numbers in parenthesis are percentage of agreement
Research Questions

1. What are the various types of accountability that can be identified in physical education classes?

   1-a. What types of teacher behaviors describe/define these types of accountability?

Several types of accountability emerged from the data in this study. The first step in this process was to determine broad categories of accountability. These were then divided into smaller, more descriptive sub-categories. The next section will identify and describe first these broad categories and then the sub-categories.

Monitoring, aversives, public recognition, and grading were determined to be broad categories of teacher accountability. They were defined as follows:

   Monitoring: The teacher observes the class but does not hold students accountable for any type of instructional task. Students must exhibit appropriate behavior.

   Aversives: Accountability which leads to punishment or some type of aversive control.

   Public recognition: Accountability which made the student response apparent to other either in the class or to other members of the school or larger community.

   Grading: That which contributed directly to a student's grade either now or at a future date.

These broad categories were divided into sub-categories. Their definitions follow.
Sub-categories of monitoring included:

Monitoring: The teacher monitors the class to prevent off-task or inappropriate behavior.

Monitoring with feedback: The teacher gives instructional comments about student skills.

Feedback on errors: The teacher gives instructional comments about student skills and then holds students accountable for changing their skill topography.

Sub-categories of aversives included:

Aversive exercise: The students were told to do calisthenics or laps as a consequence for a task.

Aversive practice: Students were given additional practice/drills as a result of poor performance. This delayed the start of game play.

Aversive reprimands: Students were verbally admonished for not listening to teacher instruction or for poor performance.

Aversive loss of points: Students had points deducted from their daily participation grade because of poor performance or inappropriate behavior.

Sub-categories related to public recognition were also observed. These included:

Public posting: Student or team results were posted for other members of the class or school population to observe.

Accountability check: Teachers asked students to indicate if they had achieved a teacher's goal or a given level of performance.

Quit when you miss: Student's actual performance was to cease after an error but the task continued for other students.
Grading was the final instructional accountability category that was also subdivided. These sub-categories included:

Grade bonus points: The teacher would award additional participation points for the activity dependent upon student success.

Grade formal: The activity was being formally evaluated for a student grade.

Grade pre-test: The students were pre-tested on a preliminary skill test. Results were not recorded.

Grade practice: Students were practicing for a skill test that would eventually be used for a student grade. Students were aware that this was a future skill test.

Teacher records: The teacher recorded the student performance but this was not used for a grade.

Accountability for instructional tasks in physical education exists in a hierarchical configuration. The lowest form of accountability consists of minimal types of supervision. Teachers monitor the class and hold students accountable for acceptable or on-task behavior. Mr. Adams used this when monitoring some games. Students were observed and held accountable for on-task behavior but no information was given on technique, strategy, or other items pertinent to the game. Another example of this type of accountability occurred when Mrs. Dunn walked past a target student performing a skill incorrectly to monitor another student who had the potential for causing a disruption.
At the next level of the accountability hierarchy, students were given information about the task, but were not held accountable for performing the skills correctly. This feedback had an instructional function rather than one of accountability.

These types of accountability could be termed as quasi-accountability. In essence, the instructional system was suspended in favor of one where only appropriate behavior was required.

When teachers held students accountable for a process or product criterion, several different forms of accountability were utilized. These included feedback on errors, public recognition, aversives, teacher recording, and grading.

The most common instance of feedback on errors was when teachers called illegal hits during games. Students were held accountable for incorrect topography as a process criterion was enforced.

Some teachers noted incorrect topography during skill practice situations and held students accountable for correcting these errors. The feedback on errors in this situation had an instructional function as well as one of accountability.

Several types of public recognition for student achievement were used with process or product criterion in
this study. Mrs. Brown and Miss Camp posted the list of teams and kept the standings current on a bulletin board. Mr. Far, Mrs. Brown, and Miss Camp all publically recognized the team standings in class. In addition, in Mrs. Brown’s class, final team tournament standings were awarded points toward the grade, adding another element to this public recognition.

Another type of public recognition used by Mrs. Brown occurred when students who had performed a skill incorrectly sat down after the error or quit when they missed. The people who were left standing were referred to as the "winners." Mr. Adams had used a similar type of public recognition when he had students stop hitting when they committed an error. This task had continued until only one pair remained.

Accountability checks were utilized most frequently when a product criterion was specified. Students were asked upon completion of a task who had achieved the criterion number. Accountability checks were also used when the teacher had the students count responses and then asked how many students had reached a number specified by the teacher after the task had been completed.

Another form of accountability check occurred when the task was for students to keep the ball in play for a given time. The accountability check occurred when the teacher asked who had reached the criterion.
Aversives were also utilized as an instructional accountability technique. During a game, Miss Camp threatened her students with additional practice if they continued their current level of play. This would have postponed the playing of future games and delayed game-related rewards.

Mrs. Brown verbally admonished several of her students on various occasions for not listening to the teacher and subsequently not knowing what had been said. Although points were not deducted, the students were informed in a negative manner of their shortfall.

Mrs. Brown also used exercise during one game as an aversive consequence. A team was allowing serves to drop, making little effort to hit the ball. Mrs. Brown made this team run one lap.

A final type of punishment was the loss of participation points for failing to meet class behavior or performance standards. Mrs. Brown, Mr. Adams, and Mr. Far implemented this. All teachers had point systems that would potentially enable them to do so, but not all utilized them in this manner.

Teacher recording was a form of grading accountability utilized in this study. Mrs. Dunn did a preliminary topographical evaluation of her students that was recorded but not used to calculate student grades. Pre-tests were
also used for accountability. Their results were not recorded.

There were other types of grading accountability. The most common example was the skill testing, where student performance contributed directly to a student's grade.

Mrs. Brown offered bonus points on three occasions. One was for winning a lead up game. Bonus points were awarded for final places in the class tournament. A final instance of this occurred when the second place team was defeated by the fourth place team. Game play during this situation was more aggressive than usual as some students played the entire court making responses that should have been made by someone else playing the position.

Accountability does not have to function just on the day that the student will do a given activity. By showing the skill tests early in the unit, Mrs. Brown gave students a long range task. Students had several chances to practice for a test at the end of the unit. During these practice sessions, she reminded them of the upcoming test. Students were held responsible for skill improvement throughout the unit because of the upcoming skill test even though they weren't actually being tested during the practice sessions.

Accountability was implemented to enhance performance on various tasks. Challenges were also utilized to enhance performance as an element of competition was introduced with
the task. Several of the accountability techniques named above were used in conjunction with these challenges. Although the categories were similar, actual accountability methods used had a slightly different form.

Different types of challenges were observed in this study. Students were challenged to improve their personal performance. When they tried to get as many responses as possible to better their own previous score, students were competing with themselves.

A second type of challenge used by these teachers was to beat a previous class total or a class record. During drills, teachers had students report scores and then encouraged others in the class to reach or surpass the number obtained by another student or group. On one occasion Mrs. Brown told students of a record from another class and encouraged students to beat this.

Mrs. Brown issued a challenge to surpass a number obtained by herself. She demonstrated the drill that students were to do and then challenged students to better her score. Another example of this type of challenge was when she told students that she had done the wall volley test and could respond with 40 sets in the 30 second time allotment.

Students were challenged while working together to obtain a goal. This occurred when students were trying
to set the ball with a partner ten times. They were to sit if they made an error. The teacher issued a challenge to have the whole class standing after a 15 second practice bout.

The final type of challenge identified was when the teacher gave a number and students tried to reach that goal. By giving a numerical challenge, teachers also gave students a criterion or goal for which to try.

Accountability involving public recognition was used most often with these challenges. It had several different forms.

Teachers might have students sit after they had executed a given number of responses or reached a goal specified by the teacher.

A teacher might also ask students to raise their hands indicating if they had reached the goal. These accountability checks were used by Mrs. Brown following many of her challenge tasks.

Aversive activities (exercises) were also used following teacher challenges. For example, the team reaching ten sets first did not have to do five pushups that the "losing" teams did. Challenges were enhanced when the teacher told students that they had counted erroneously or "cheated" during some of the challenges. This feedback added another component to the instructional accountability system. The monitoring by the teacher in this situation
worked with the negative feedback to hold students accountable.

Discussion

The focus of this study has been accountability. If teachers fail to hold students accountable for a task, then the task ceases to exist (Doyle, 1980b). Doyle recognized two levels to this accountability. Student performance in the classroom has a degree of informality at one level and a more formal requirement at the second.

Accountability in physical education has a hierarchical configuration. At a minimal level, it consists of a teacher monitoring students. As the instructional system becomes more demanding, the teacher uses techniques to not only keep students on-task, but to increase student response rates as well as to improve appropriate responding. The nature or focus of this accountability tends to become more complex as the instructional demands of the tasks increase.

Monitoring was present in all types of accountability. It provided the foundation upon which other types of accountability could be implemented if the teacher chose. "Maintaining order in a classroom is a basic task of teaching" (Doyle, 1980a; p. 6). This was done through monitoring in physical education. The same may not be true in other areas of education where grades have greater importance. In physical education, the grade exchange has
relatively low status. Monitoring preceded other types of accountability, providing the appropriate foundation for implementing them.

Teacher monitoring can be made more effective if the teacher monitors the entire group, giving students the impression that he/she is fairly close to them. Teachers who stood in a central place where the whole class was visible tended to have the most on-task behavior. Teacher proximity to students was closely related to this, which also seemed to enhance feedback and monitoring. As an example, students tended to return to on-task behaviors when Mrs. Dunn approached.

A teacher can simulate proximity by talking loudly enough for the entire class to hear what is being said. Rink (1979) noted that this technique is commonly used by elementary educators. This tactic was observed in this study. The use of students' names and providing feedback to individuals at various places throughout the gymnasium can also enhance the monitoring.

When teachers utilized process or product criteria, other types of accountability were incorporated by some, but not all, teachers. This is not to suggest that monitoring lessened in importance. Monitoring actually provided the foundation for all levels of accountability. Without this in place, student management may well have been
the largest concern for teachers rather than instruction.

As the instructional system became more complex, the function of monitoring seemed to change. Teachers gave feedback on errors along with the monitoring as the task demands increased. Teachers also did checks of student performance as they monitored. A degree of formality was added when the teacher recorded student performance. Response rates were not the highest during this accountability, even when this led to a grade. Limits on time or number of responses precluded this. Students were, however, highly on-task.

Challenges of various sorts were used to motivate students and enhance the accountability system. They functioned to prevent satiation from task repetition. Kounin (1970) noted a positive relationship between these challenges and work involvement. Challenges were also a means for reducing deviancy.

Summary

Several types of accountability were identified with the instructional task system. Broad categories of monitoring, aversives, public recognition, and grading were utilized by the teachers in this study. Monitoring was identified as the most basic form of accountability, creating the foundation for other types of accountability when implemented by some, but not all, teachers.
2. What type of task statement accompanies these different types of accountability?

Task statements can have three parts: a performance, a situation, and a criterion. In past studies (Ocansey, 1986; Coulon, 1987; Marks, 1988; Jones, 1989; Son, 1989), task explicitness as been categorized in the following manner:

1. Implicit tasks were those containing only one component, usually specifying only student performance.

2. Partially explicit task statements included two of the components, usually performance and situation or performance and criteria.

3. Explicit task statements were those including all three elements, performance, situation, and criteria.

This study added another dimension to the criterion element, by differentiating between a process criterion (topographical) and a product criterion (numerical). Some teachers used both process and product criteria when stating tasks to students.

Tables 19, 20, 21, 22, and 23 show the explicitness of the task statements with the various types of accountability identified in this study.

Some form of monitoring accountability was in effect at all times, as the teacher was always present. When other forms of accountability were used, monitoring
was not indicated. The hierarchy of accountability described in question one describes the presence of teacher monitoring at all levels.

Other types of accountability were: aversives, public recognition, accountability checks, grading, feedback on errors, and teacher recording. Mrs. Brown used combinations of these accountability techniques which added additional categories to her chart.

Although a numerical criterion would seem to be needed with accountability checks, this was not always the case. When numerical criteria do not accompany accountability checks, the task for students was to keep the ball going for a specified period of time. The teacher then made the check asking students if they had completed the task. Also in this situation, the teacher might ask students at the conclusion of the task if they had reached a given number.

Teacher recording and grading always accompanied a fully explicit task in this study. The teacher had always specified a performance, situation, and criterion, either numerical, topographical, or both.

Mrs. Brown used the most variety of accountability. She generally used explicit statements with this. If a teacher was going to hold students accountable instructionally for a task, one would assume that the criteria would have to be specified. This was
true for Mrs. Brown. Only 1.06 percent of her accountability did not specify a criteria.

2-a. How do task statements vary among teachers?

As one can see from the previous charts, monitoring was frequently the only type of accountability being implemented by four of the teachers in this study. Mrs. Brown was the exception.

Explicit task statements were used by Mr. Adams 60.87% of the time. He used a product or numerical rather than a process criterion.

Mrs. Dunn used explicit task statements about 1/2 of the time. She did specify a criteria 51.72% of the time, 41.38% of the time it was numerical (product). Mrs. Dunn used a fully explicit task statement that included a process and product criteria once.

Partially explicit statements were used by Miss Camp more frequently than implicit or fully explicit ones. She used only process criteria. Fully explicit task statements, using product criteria, were used 38.10% of the time.

Mr. Far used partially explicit and explicit statements almost equally. They accounted for most of his task statements. Mr. Far was more likely to use a process criterion (41.02%) than a numerical (7.69%) one when he included this with task statements. Mr. Far used no fully
explicit statements with both process and product criteria included.

In addition, Mr. Far used routinized task statements. These had been specified in a past class and were repeated on a subsequent day without including a new situation or criteria. Although these were not explicit, past specification actually made them so. They were classified as routine.

Mrs. Brown used fully explicit task statements most of the time (95.06%). She used an implicit statement once (1.23%) and partially explicit statements on three occasions (3.69%). The majority of her task statements were fully explicit, specifying both process and product criteria. When her task statements included only a process criterion, they were usually connected with a task such as "Let's see how many sets you can get in the next 15 seconds."

Teachers in this study used fully explicit task statements more frequently than in other studies. Marks (1988) reported only 2.0% of the task statements as being explicit in the high schools she studied, with 34% being partially explicit.

The range for explicit task statement for the teachers in this study was 38.10 to 95.06% with 56.66% being the mean.
TABLE 19

FREQUENCY AND PERCENTAGE FOR EXPLICITNESS OF TASKS
ACCORDING TO TYPE OF ACCOUNTABILITY FOR MR. ADAMS

<table>
<thead>
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<th>TASK</th>
<th>EXPLICITNESS</th>
<th>AC</th>
<th>G</th>
<th>M</th>
<th>TOTAL</th>
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<td></td>
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<td>1</td>
<td></td>
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</tr>
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<td>3</td>
<td>4</td>
<td>8</td>
</tr>
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<td>23</td>
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<tr>
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<td></td>
<td>(13.04)</td>
<td>(13.04)</td>
<td>(73.91)</td>
<td>(100.00)</td>
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</table>

LEGEND:

AC = ACCOUNTABILITY CHECK  P = PERFORMANCE
G = GRADE  S = SITUATION
M = MONITORING  C (t) = TOPOGRAPHICAL CRITERION
              C (n) = NUMERICAL CRITERION
**TABLE 20**

**FREQUENCY AND PERCENTAGE FOR EXPLICITNESS OF TASKS ACCORDING TO TYPE OF ACCOUNTABILITY FOR MRS. BROWN**

<table>
<thead>
<tr>
<th>TASK EXPLICITNESS</th>
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<th>PR+G</th>
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<td><strong>TOTAL</strong></td>
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<td>3</td>
<td>3</td>
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**LEGEND:**

V = AVERSIVE  
P = PERFORMANCE  
AC = ACCOUNTABILITY CHECK  
S = SITUATION  
PR = PUBLIC RECOGNITION  
G = GRADE  
C (t) = TOPOGRAPHICAL CRITERION  
C (n) = NUMERICAL CRITERION
TABLE 20 continued

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<tr>
<th>TASK EXPLICITNESS</th>
<th>AC</th>
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<tr>
<td>PSC (n)</td>
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<td></td>
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</tr>
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<tr>
<td></td>
<td>(9.88)</td>
<td>(1.23)</td>
<td>(2.47)</td>
<td>(6.17)</td>
<td>(6.17)</td>
</tr>
<tr>
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<td>(8.64)</td>
<td>(2.47)</td>
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<td>(2.47)</td>
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<tr>
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<td>5</td>
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<td>(9.88)</td>
<td>(6.17)</td>
<td>(6.17)</td>
<td>(8.64)</td>
</tr>
</tbody>
</table>

LEGEND:
AC = ACCOUNTABILITY CHECK  P = PERFORMANCE
G = GRADE  S = SITUATION
R = PRACTICE FOR GRADE  C (t) = TOPOGRAPHICAL CRITERION
F/E = FEEDBACK ON ERRORS  C (n) = NUMERICAL CRITERION
### TABLE 20 continued

<table>
<thead>
<tr>
<th>TASK EXPLICITNESS</th>
<th>F/E+AC</th>
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<th>F/E+R</th>
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<td>PS</td>
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<td>1.23</td>
</tr>
<tr>
<td>PC (n)</td>
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<td></td>
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<td>(1.23)</td>
<td>(1.23)</td>
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<td>TOTAL</td>
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<td>3</td>
<td>1</td>
<td>13</td>
<td>81</td>
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<tr>
<td></td>
<td>(6.17)</td>
<td>(3.70)</td>
<td>(1.23)</td>
<td></td>
<td>(99.99)</td>
</tr>
</tbody>
</table>

**LEGEND:**
- **F/E** = FEEDBACK ON ERRORS
- **PR** = PUBLIC RECOGNITION
- **G** = GRADE
- **R** = PRACTICE FOR GRADE
- **M** = MONITOR
- **C (t)** = TOPOGRAPHICAL CRITERION
- **C (n)** = NUMERICAL CRITERION
- **P** = PERFORMANCE
- **S** = SITUATION

---
### TABLE 21

**FREQUENCY AND PERCENTAGE FOR EXPLICITNESS OF TASKS**
**according to type of accountability for Miss Camp**

<table>
<thead>
<tr>
<th>TASK EXPLICITNESS</th>
<th>F/E</th>
<th>M</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>1</td>
<td>1</td>
<td>(4.76)</td>
</tr>
<tr>
<td>PS</td>
<td>12</td>
<td>12</td>
<td>(57.14)</td>
</tr>
<tr>
<td>PC (n)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC (t)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC (t&amp;n)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSC (n)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSC (t)</td>
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<td>3</td>
<td>(23.81)</td>
</tr>
<tr>
<td>PSC (t&amp;n)</td>
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</tr>
<tr>
<td>TOTAL</td>
<td>5</td>
<td>16</td>
<td>21</td>
</tr>
</tbody>
</table>

**Legend:**
- **F/E** = Feedback on Errors
- **P** = Performance
- **M** = Monitoring
- **S** = Situation
- **C (t)** = Topographical criterion
- **C (n)** = Numerical criterion

**Values:**
- (4.76)
- (57.14)
- (23.81)
- (14.29)
- (38.10)
- (23.81)
- (76.19)
- (100.00)
# TABLE 22

**FREQUENCY AND PERCENTAGE FOR EXPLICITNESS OF TASKS ACCORDING TO TYPE OF ACCOUNTABILITY FOR MRS. DUNN**

<table>
<thead>
<tr>
<th>TASK EXPLICITNESS</th>
<th>TR</th>
<th>G</th>
<th>M</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
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<td>1</td>
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<td>1 (3.45)</td>
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<td></td>
<td></td>
<td></td>
<td>1 (3.45)</td>
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<td>1 (3.45)</td>
</tr>
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<td></td>
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<td>1 (3.45)</td>
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<tr>
<td>PC (t)</td>
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<td></td>
</tr>
<tr>
<td>PC (t&amp;n)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>PSC (n)</td>
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<td>8</td>
<td>10</td>
<td>2 (6.90)</td>
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<td></td>
<td></td>
<td></td>
<td>8 (27.59)</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>10 (34.48)</td>
</tr>
<tr>
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<td></td>
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<td>1 (3.45)</td>
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<td><strong>TOTAL</strong></td>
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<td>3</td>
<td>24</td>
<td>29 (6.90)</td>
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<td></td>
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<td></td>
<td>29 (100.00)</td>
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</table>

**LEGEND:**

- TR = TEACHER RECORD
- G = GRADE
- M = MONITORING
- P = PERFORMANCE
- S = SITUATION
- C (t) = TOPOGRAPHICAL CRITERION
- C (n) = NUMERICAL CRITERION
<table>
<thead>
<tr>
<th>TASK</th>
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<th>G</th>
<th>M</th>
<th>TOTAL</th>
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</tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC (t)</td>
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<td>(7.69)</td>
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<td>(7.69)</td>
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<td></td>
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</tr>
<tr>
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<td></td>
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<td>(2.56)</td>
<td></td>
<td>(5.13)</td>
<td>(7.69)</td>
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</tr>
<tr>
<td>PSC (t)</td>
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<td>3</td>
<td>13</td>
<td>(25.64)</td>
</tr>
<tr>
<td></td>
<td>(25.64)</td>
<td></td>
<td>(7.69)</td>
<td>(33.33)</td>
<td></td>
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<tr>
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<td>ROUTINE</td>
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<td></td>
<td>(15.38)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>TOTAL</td>
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<td>1</td>
<td>3</td>
<td>25</td>
<td>39</td>
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<tr>
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<td>(25.64)</td>
<td>(2.56)</td>
<td>(7.69)</td>
<td>(64.10)</td>
<td>(99.99)</td>
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</table>

**LEGEND:**

- **F/E** = FEEDBACK ON ERRORS
- **AC** = ACCOUNTABILITY CHECK
- **G** = GRADE
- **M** = MONITORING
- **P** = PERFORMANCE
- **S** = SITUATION
- **C (t)** = TOPOGRAPHICAL CRITERION
- **C (n)** = NUMERICAL CRITERION
3. Do teachers differ in the frequency and type of accountability used?

Tables 19, 20, 21, 22, and 23 will also be used to answer this question.

Mr. Adams was most likely to rely solely on monitoring accountability (73.91%). Six of his tasks had other types of accountability. Three of these used accountability checks (13.04%) and three others were graded (13.04%).

Mrs. Dunn also used mostly monitoring accountability (82.76%). On two occasions, she recorded preliminary skill scores (6.90%). The other three instances of additional accountability were for skill tests that were graded (10.34%).

Monitoring was also used by Miss Camp most often for accountability. She used feedback on errors to hold students accountable during game play when games were officiated and illegal hits were called.

Mr. Far used monitoring 64.10% of the time. Three of his tasks (7.69%) were skill tests that were graded. He used an accountability check on one occasion (2.56%). He also used feedback on errors during game play when illegal hits were called, just as Miss Camp had done.

Mrs. Brown utilized more forms of accountability than any other teacher in this study. She relied solely on monitoring 16.05% of the time. On 21 occasions (25.93%),
Mrs. Brown implemented accountability measures simultaneously.

Mrs. Brown's chart indicates that she utilized almost every type of accountability described in question one. By including combinations of instructional accountability, new categories were actually created.

In addition to the variety in instructional accountability, one should note a greater number of tasks for Mrs. Brown. One day was eliminated from the data because of a substitute teaching her class. In 8 days, Mrs. Brown had over three times the tasks of any other teacher in this study, largely due to her use of extension and refinement tasks. This, coupled with their short duration made Mrs. Brown's classes very active. Students were held accountable for these tasks in a variety of ways.
4. How do these accountability systems affect student response rates in terms of total number emitted, topographical correctness, and success?

4-a. Do these accountability techniques affect more and less skilled students differently?

Accountability systems can be defined as the routines and procedures used by teachers for establishing and maintaining student responsibility for the work of the classroom (Worsham & Evertson, 1980). These accountability systems were described in depth in Chapter IV. The following section will describe the systems quantitatively in terms of response rate per lesson, response rate per minute, percentage of correct responses, and percentage of successful responses for each target student in this study.

Table 24 shows the rate of response per lesson for each target student. FM1 has the highest rate of any student. The two competent bystanders, AL2 and CL2, had the lowest rate.

Mrs. Brown's accountability system has the highest student response rates per lesson for both more and less skilled students. In her classes, a variety of techniques were utilized to hold students accountable. Since these response rates were the highest of all the systems, they
must have been the most effective. Mr. Far's system appears to be the next most effective. Mr. Adams' and Mrs. Dunn's systems have similar response rates.

Table 24

RESPONSE FREQUENCY PER LESSON BY TARGET STUDENTS

<table>
<thead>
<tr>
<th>TARGET STUDENTS</th>
<th>ADAMS</th>
<th>BROWN</th>
<th>CAMP</th>
<th>DUNN</th>
<th>FAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>45.44</td>
<td>60.75</td>
<td>39.20</td>
<td>44.67</td>
<td>78.00</td>
</tr>
<tr>
<td>M2</td>
<td>41.00</td>
<td>53.57</td>
<td>34.20</td>
<td>48.71</td>
<td>51.11</td>
</tr>
<tr>
<td>L1</td>
<td>40.78</td>
<td>60.50</td>
<td>41.25</td>
<td>33.43</td>
<td>50.67</td>
</tr>
<tr>
<td>L2</td>
<td>14.33</td>
<td>52.29</td>
<td>13.00</td>
<td>47.29</td>
<td>45.00</td>
</tr>
</tbody>
</table>

Response frequency did not seem to vary by skill level. The frequencies of some of the more skilled students are less than the low skilled students from the same class.

When analyzing the response frequency per minute, again trends emerge by accountability systems rather than by skill level of students.

Mrs. Brown's target students are above all other students with the exception of FM1. This is true for both the more and less skilled target students.

FM1 had the highest response frequency per lesson. He does not have the highest frequency per minute (see Table 25).
Mrs. Brown had the lowest activity time percentage of any teacher in this study. She has the highest frequency of responses per minute which is indicative of her accountability system.

AL2 and CL2 have the lowest response frequencies per minute. Their interresponse intervals, or the time between responses, averaged 1 1/2 to 2 1/2 minutes in length.

Mrs. Dunn's accountability system produced the lowest response frequency per minute of any in this study. This indicates that it was the least effective.

Mr. Adams system seems to be similar to that of Mr. Far's. This is due, in part, to the day when he used Mrs. Brown's lesson plan. He had higher response rates on that day than on any other day of his unit.
Correctness is directly related to accountability. If the teacher holds students accountable for topographical correctness, this rate will be higher. Topographically correct responses are also more likely to be successful. Students receive a natural reinforcement for correctness in this manner.

**TABLE 26**

<table>
<thead>
<tr>
<th>TARGET STUDENTS</th>
<th>ADAMS</th>
<th>BROWN</th>
<th>CAMP</th>
<th>DUNN</th>
<th>FAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>85.33</td>
<td>90.53</td>
<td>79.59</td>
<td>71.64</td>
<td>96.37</td>
</tr>
<tr>
<td>M2</td>
<td>78.05</td>
<td>93.60</td>
<td>81.29</td>
<td>59.53</td>
<td>80.87</td>
</tr>
<tr>
<td>L1</td>
<td>53.68</td>
<td>73.14</td>
<td>78.18</td>
<td>74.19</td>
<td>66.45</td>
</tr>
<tr>
<td>L2</td>
<td>17.83</td>
<td>67.49</td>
<td>9.62</td>
<td>63.44</td>
<td>62.47</td>
</tr>
</tbody>
</table>

As shown in Table 26, all of the more skilled students with the exception of those from Mrs. Dunn were near or above AN 80% correct level. Mrs. Dunn's more skilled target students were the lowest in this study. She did not call legal hits during game play or insist on them during skill practice. Task modification and off-task responses were also responsible for her lower percentages.
The low percentage of correctness should be noted for the competent bystanders (AL2 and CL2). Not only was their response rate low, but the rate of correct responses was low as well. CL2 had five correct responses in the four lessons from which her data came.

The more skilled students tend to have higher percentages of correct responses when compared to the low students. The exceptions to this are CL1, DM2, and DL1. The less skilled students (CL1 and DL1) were incorrectly identified as has been stated previously. Both were actually average or above average in skill. DM2 did not have a low skill level, but tended to modify the tasks during practice sessions when the teacher was monitoring other parts of the class, which accounted for his low response rate.

Rate of success is a function of skill level and the difficulty of the curriculum as well as accountability. Students can hold themselves and others accountable for successful responses, if the teacher has, in some way, indicated the importance of this success.

Percentages of success for Mr. Far and Mrs. Brown's more skilled students are similar to those of their less skilled students. DL1 and CL1, again are higher than might be expected, because they were incorrectly labeled.

FM1 was the most successful target student. He also was the most skilled. BM2 also had a very high rate of
success. She tended to not attempt a response unless success was possible. Mrs. Brown had encouraged this to prevent students from learning incorrect technique.

The lowest success percentages are for AL2 and CL2, the competent bystanders. CL2 had three successful responses during the classes observed.

The low success rate for all of Mrs. Dunn's target students must be viewed as a result of her accountability. The curriculum was not difficult in that class and her students did have an adequate skill level. Off-task and task modifications drove these success rates down.

**TABLE 27**

<table>
<thead>
<tr>
<th>TARGET STUDENTS</th>
<th>ADAMS</th>
<th>BROWN</th>
<th>CAMP</th>
<th>DUNN</th>
<th>FAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>81.91</td>
<td>81.28</td>
<td>73.47</td>
<td>64.18</td>
<td>93.16</td>
</tr>
<tr>
<td>M2</td>
<td>69.65</td>
<td>90.93</td>
<td>68.42</td>
<td>65.40</td>
<td>75.65</td>
</tr>
<tr>
<td>L1</td>
<td>71.39</td>
<td>64.88</td>
<td>80.00</td>
<td>68.38</td>
<td>69.52</td>
</tr>
<tr>
<td>L2</td>
<td>20.93</td>
<td>57.10</td>
<td>5.77</td>
<td>61.33</td>
<td>72.10</td>
</tr>
</tbody>
</table>

Although individual differences exist in skill levels and curriculum difficulty, some trends do emerge from this data. The teachers who varied accountability, scheduled
more tasks, and took into account the needs and abilities of the students, had the highest response rates.

Accountability is the key that determines the effectiveness of the task system. By looking at response rates, percentage of correctness, and percentage of success associated with these various accountability systems, this appears to be true. Systems with the most accountability have the highest response rates as well as the most successful and correct responses.

If teachers fail to hold students accountable, or fail to establish ways for students to hold themselves accountable, this will be reflected in the ways students respond.
5. Do response rates for these types of accountability vary among teachers?

If accountability does make a difference in physical education, then one would expect to see this difference reflected in student response rates. This question addresses that point and looks at student response rates from a variety of perspectives.

A direct comparison of these accountability techniques would be the most optimal way to address this question. The accountability systems found in this study were so different that this was not possible. For this reason, a more indirect comparison will be made.

Table 28 shows the frequency and types of accountability used by the teachers in this study. The response rates shown are for the mean of the more and less skilled target students, respectively.

Teacher monitoring of a task was the most common type of accountability. Mrs. Brown and Miss Camp had the highest response rates per minute for this category for the more skilled students. The less skilled students of Mrs. Brown and Mr. Far had higher rates than others less skilled.

This type of accountability was used by Mr. Far and Miss Camp to monitor practice tasks. Mr. Adams and Mrs. Dunn used it to monitor all games as well as most practice tasks. This was only one of many categories utilized by
TABLE 28

FREQUENCY OF AND MEAN RESPONSE RATE FOR
MORE AND LESS SKILLED TARGET STUDENTS
ACCORDING TO TYPE OF ACCOUNTABILITY

<table>
<thead>
<tr>
<th></th>
<th>ADAMS</th>
<th>BROWN</th>
<th>CAMP</th>
<th>DUNN</th>
<th>FAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring</td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td># of Tasks</td>
<td>17</td>
<td>13</td>
<td>16</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>RR M</td>
<td>2.63</td>
<td>3.91</td>
<td>3.76</td>
<td>1.82</td>
<td>2.99</td>
</tr>
<tr>
<td>RR L</td>
<td>1.69</td>
<td>3.50</td>
<td>2.87</td>
<td>1.51</td>
<td>3.19</td>
</tr>
<tr>
<td>Public Recognition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># of Tasks</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>RR M</td>
<td>3.45</td>
<td></td>
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<td></td>
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<tr>
<td>RR L</td>
<td>3.22</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Feedback on Errors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># of Tasks</td>
<td>7</td>
<td>5</td>
<td>10</td>
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<tr>
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<td>.90</td>
<td>1.13</td>
<td>1.62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RR L</td>
<td>1.87</td>
<td>1.06</td>
<td>.91</td>
<td></td>
<td></td>
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<tr>
<td>Teacher Record</td>
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<tr>
<td># of Tasks</td>
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</tr>
<tr>
<td>RR M</td>
<td></td>
<td>.82</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>RR L</td>
<td></td>
<td>.87</td>
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<td></td>
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</tr>
<tr>
<td>Aversives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># of Tasks</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RR M</td>
<td>4.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RR L</td>
<td>2.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LEGEND:

RR = Response Rate Per Minute
M = More Skilled Student
L = Less Skilled Student
TABLE 28 continued

<table>
<thead>
<tr>
<th></th>
<th>ADAMS</th>
<th>BROWN</th>
<th>CAMP</th>
<th>DUNN</th>
<th>FAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accountability Check</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># of Tasks</td>
<td>3</td>
<td>17</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RR M</td>
<td>5.95</td>
<td>26.00</td>
<td></td>
<td></td>
<td>3.37</td>
</tr>
<tr>
<td>RR L</td>
<td>3.90</td>
<td>18.87</td>
<td></td>
<td></td>
<td>2.53</td>
</tr>
<tr>
<td>Grade Practice</td>
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<td></td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RR M</td>
<td>5.55</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RR L</td>
<td>4.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># of Tasks</td>
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<td>8</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>RR M</td>
<td>.57</td>
<td>2.24</td>
<td>.47</td>
<td>2.14</td>
<td></td>
</tr>
<tr>
<td>RR L</td>
<td>.61</td>
<td>2.33</td>
<td>.47</td>
<td>2.14</td>
<td></td>
</tr>
<tr>
<td>Combination</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># of Tasks</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>RR M</td>
<td>3.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RR L</td>
<td>2.68</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**LEGEND:**

RR = Response Rate Per Minute  
M = More Skilled Student  
L = Less Skilled Student
Mrs. Brown. She used it during some of her tasks with extended practice times as well as some of the fifteen second skill practice tasks.

This was the lowest level of the accountability hierarchy, yet Mrs. Brown had good response rates. Other teachers used this accountability with a type of task. Mrs. Brown used monitoring intermittently with other forms of accountability.

Feedback on errors accountability was similar to monitoring with the addition of teacher comments on the students' skills and then holding them accountable for this feedback. Mr. Far and Miss Camp used this when officiating games. The response rates are indicative of game situations. Mrs. Brown usually utilized this type of accountability when she gave instruction to individuals on skill-related problems. Some of the variation in these response rates then is partially a function of the activity for which the accountability was being used.

Four of the teachers used grading/skill testing accountability. As stated earlier, Miss Camp could not use skill tests to determine student grades and no skill testing was done in her classes. The response rates indicate that Mrs. Brown gave the most efficient skill tests followed closely by Mr. Far. All teachers used either a limited number of responses or a time constraint for their skill testing. This is different from the unlimited response
testing situation described in Alexander’s (1982) study. Responding in that study for the same task under grading conditions was much higher than that for practice. Similar results could not be expected in this study because of the nature of the grading tasks.

Other factors are also important when examining the variations between teachers when discussing the accountability systems. Table 29 shows teacher differences in activity time (game and non-game).

**TABLE 29**

<table>
<thead>
<tr>
<th>TYPE OF ACTIVITY</th>
<th>ADAMS</th>
<th>BROWN</th>
<th>CAMP</th>
<th>DUNN</th>
<th>FAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTIVITY TIME (IN MINUTES)</td>
<td>21.99</td>
<td>17.48*</td>
<td>22.44*</td>
<td>27.80</td>
<td>28.82</td>
</tr>
<tr>
<td>GAME</td>
<td>12.09</td>
<td>10.58</td>
<td>11.76</td>
<td>12.81</td>
<td>18.49</td>
</tr>
<tr>
<td>NON-GAME/ PRACTICE</td>
<td>6.55</td>
<td>4.65</td>
<td>7.74</td>
<td>11.54</td>
<td>9.50</td>
</tr>
<tr>
<td>TEST &amp; PRE-TEST</td>
<td>3.35</td>
<td>2.16</td>
<td>0.0</td>
<td>3.45</td>
<td>0.83</td>
</tr>
</tbody>
</table>

*Remaining activity time spent doing exercises

Mrs. Brown had less total activity time than any teacher in this study while Mr. Far had the most. Game play was the most common type of activity in all classes, except for Mrs. Dunn who divided the practice and activity time
equally. Other teachers had twice as much game time as activity time. Mrs. Brown had the least amount of game time and practice time of any teacher.

Mr. Far and Mrs. Dunn had similar activity time per lesson. Mr. Far spent about 2/3 of this time in game situations, whereas Mrs. Dunn divided this time almost equally between practice and games.

TABLE 30

<table>
<thead>
<tr>
<th>TARGET STUDENT</th>
<th>ADAMS</th>
<th>BROWN</th>
<th>CAMP</th>
<th>DUNN</th>
<th>FAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>MORE</td>
<td>2.06</td>
<td>3.65</td>
<td>1.65</td>
<td>1.57</td>
<td>2.04</td>
</tr>
<tr>
<td>LESS</td>
<td>1.66</td>
<td>3.47</td>
<td>1.22</td>
<td>1.42</td>
<td>1.69</td>
</tr>
</tbody>
</table>

Tables 30 and 31 show that Mrs. Brown had the best response frequency per minute and the most total responses per lesson. Mr. Far's total response frequency per lesson was equivalent to that of Mrs. Brown, but he averaged over eleven more minutes of activity time per lesson. Mrs. Dunn had the most practice time, but the lowest response frequency per minute.
TABLE 31

MEAN RESPONSE FREQUENCY PER LESSON FOR MORE AND LESS SKILLED TARGET STUDENTS

<table>
<thead>
<tr>
<th>TARGET STUDENTS</th>
<th>ADAMS</th>
<th>BROWN</th>
<th>CAMP</th>
<th>DUNN</th>
<th>FAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEAN</td>
<td>45.33</td>
<td>58.56</td>
<td>36.70</td>
<td>46.64</td>
<td>58.83</td>
</tr>
<tr>
<td>LESS</td>
<td>36.44</td>
<td>54.44</td>
<td>28.70</td>
<td>38.86</td>
<td>48.83</td>
</tr>
</tbody>
</table>

The responses that a student makes indicates the real amount of practice that the student had in a lesson, rather than the activity time available. Thus the response rate per minute and response rate per lesson are both indicators of accountability system effectiveness.

If teachers are going to be effective, then the tasks they give to students should be explicit. Table 32 provides a summary of task explicitness. It, too, is an important part of the total system implemented by a teacher. Teacher clarity has had high correlation with instructional success in past research (Evertson & Emmer, 1982).

As shown on Table 32, Mrs. Brown had more instructional tasks per lesson as well as more explicit task statements. She had over twice the number used by Mr. Far, who had the next closest amount.

Mr. Far's routine tasks were also similar to explicit tasks as they had been done by students during previous lessons. Both Mr. Far and Mrs. Brown both had a great deal
of task repetition as was shown in Chapter IV. This can help task clarity. Mr. Far tended not to repeat his instructions for these tasks, making them routine. Mrs. Brown repeated the task statement explicitly.

<table>
<thead>
<tr>
<th>TASK EXPLICITNESS</th>
<th>ADAMS</th>
<th>BROWN</th>
<th>CAMP</th>
<th>DUNN</th>
<th>FAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>TASKS PER LESSON</td>
<td>2.56</td>
<td>10.13</td>
<td>3.20</td>
<td>4.14</td>
<td>4.33</td>
</tr>
<tr>
<td>IMPLICIT</td>
<td>.11</td>
<td>.13</td>
<td>.20</td>
<td>.14</td>
<td>.33</td>
</tr>
<tr>
<td>PARTIALLY EXPLICIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(P &amp; S)</td>
<td>.88</td>
<td>.13</td>
<td>2.40</td>
<td>1.86</td>
<td>1.22</td>
</tr>
<tr>
<td>PARTIALLY EXPLICIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(P &amp; C)</td>
<td>.67</td>
<td>.25</td>
<td>0.00</td>
<td>.14</td>
<td>.33</td>
</tr>
<tr>
<td>EXPLICIT</td>
<td>.89</td>
<td>9.63</td>
<td>.60</td>
<td>2.00</td>
<td>2.11</td>
</tr>
<tr>
<td>ROUTINE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.67</td>
</tr>
</tbody>
</table>

With topographical correctness students are probably practicing skills properly and learning correct technique. Mrs. Brown and Mr. Far had the best percentages of correct responses for the more skilled target students. Mrs. Brown's less skilled students had the best correct response percentage. This is another indication of her effective accountability system. By holding students
accountable for this, teachers can affect this percentage positively.

Mr. Far and Mrs. Brown’s more skilled students also had the best success percentage (see Table 34). Mrs. Brown’s less skilled students had the lowest success rate, but they had the best rate of topographical correctness. Even though their success level was low, they were held accountable for topographically correct responses.

<table>
<thead>
<tr>
<th>TABLE 33</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEAN PERCENTAGE OF CORRECTNESS FOR MORE AND LESS SKILLED TARGET STUDENTS FOR ALL LESSONS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TARGET STUDENTS</th>
<th>ADAMS</th>
<th>BROWN</th>
<th>CAMP</th>
<th>DUNN</th>
<th>FAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>MORE</td>
<td>81.74</td>
<td>92.04</td>
<td>71.13</td>
<td>62.27</td>
<td>87.44</td>
</tr>
<tr>
<td>LESS</td>
<td>47.87</td>
<td>85.85</td>
<td>66.26</td>
<td>74.94</td>
<td>64.16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE 34</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEAN PERCENTAGE OF SUCCESS FOR MORE AND LESS SKILLED TARGET STUDENTS FOR ALL LESSONS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TARGET STUDENTS</th>
<th>ADAMS</th>
<th>BROWN</th>
<th>CAMP</th>
<th>DUNN</th>
<th>FAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>MORE</td>
<td>76.72</td>
<td>86.06</td>
<td>70.94</td>
<td>64.79</td>
<td>83.76</td>
</tr>
<tr>
<td>LESS</td>
<td>64.48</td>
<td>59.43</td>
<td>63.41</td>
<td>68.29</td>
<td>70.31</td>
</tr>
</tbody>
</table>
The last factor that should be considered when analyzing student response rates for these accountability systems is the student to ball ratio (see Table 35). The lower the student to ball ratio, the more responses possible for students.

In this study, ball-to-student ratios are difficult to compare because of the variety of activities used. Also, not all teachers used every possible ball-to-student ratio.

The no-ball ratio occurred when Mr. Far and Miss Camp practiced the footwork for the spike. Mrs. Brown's one-ball-to-one-student ratio occurred in the skill testing situation while other students were otherwise engaged or while she instructed a single student on a certain skill.

All teachers utilized a ratio of one-ball-to-two students in their instruction. This was always in a practice situation when students practiced skills with a partner. When comparing response rates for this ratio, Mrs. Brown's students are better than those of other teachers. Mr. Adams' students have the next highest frequencies, but Mrs. Brown's are almost twice that of his. Mr. Adams had seven tasks in this category. Six of the tasks used for his data occurred on the day he was following Mrs. Brown's lesson plan, which also included some accountability checks.
### TABLE 35

**MEAN FREQUENCY PER MINUTE ACCORDING TO STUDENT : TO : BALL RATIO IN NON-GAME SITUATIONS**

<table>
<thead>
<tr>
<th></th>
<th>ADAMS</th>
<th>BROWN</th>
<th>CAMP</th>
<th>DUNN</th>
<th>FAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>M</td>
<td>2.55</td>
<td></td>
<td></td>
<td>(2)</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>2.41</td>
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<td></td>
<td>(4)</td>
</tr>
<tr>
<td>1 - 1</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td>(3)</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>11.19</td>
<td></td>
<td></td>
<td>13.43</td>
</tr>
<tr>
<td>2 - 1</td>
<td>M</td>
<td>5.54</td>
<td>14.42</td>
<td>4.57</td>
<td>2.53</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>6.01</td>
<td>12.84</td>
<td>2.68</td>
<td>2.33</td>
</tr>
<tr>
<td>3 - 1</td>
<td>M</td>
<td>2.06</td>
<td>4.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>2.70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 - 1</td>
<td>M</td>
<td>2.27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>2.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 - 1</td>
<td>M</td>
<td>4.91</td>
<td></td>
<td>1.70</td>
<td></td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>3.41</td>
<td></td>
<td>1.93</td>
<td></td>
</tr>
<tr>
<td>6 - 1</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 - 1</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 - 1</td>
<td>M</td>
<td>.44</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>.46</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:  
M = Mean of the more skilled target students  
L = Mean of the less skilled target students
### Table 36

**Mean Frequency per Minute According to Student-to-Ball Ratio in Game Situations**

<table>
<thead>
<tr>
<th></th>
<th>Adams</th>
<th>Brown</th>
<th>Camp</th>
<th>Dunn</th>
<th>Far</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>6 - 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>12 - 1</strong></td>
<td>(2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>2.24</td>
<td>.72</td>
<td>.87</td>
<td>.90</td>
<td>1.46</td>
</tr>
<tr>
<td>L</td>
<td>1.0</td>
<td>.37</td>
<td>.69</td>
<td>.82</td>
<td>.60</td>
</tr>
</tbody>
</table>

**Note:**
- M = Mean of more skilled target students
- L = Mean of less skilled target students
Miss Camp's low response frequency in the one-ball-to-four student situation occurred in drills where the second hit was dependent upon a previous response from another student. When comparing this condition to the condition of one-ball-to-two students, her more skilled students had a lower response frequency than in the situation of one ball to two students. Her less skilled students had an equivalent rate in both situations, despite the change in the ball-to-student ratio. This indicates that the target students had a low response frequency in the one-ball-to-two-student situation.

Mrs. Brown has the lowest response frequency in game situations (see Table 36). Her instructional system concentrated on skills rather than on game play. The emphasis for students at this grade level in her school was skill development. Students in this school are required to take an additional semester of physical education the following year and this is when game play is emphasized.

Mr. Far had the highest response frequency during game situations. His instructional system was designed to practice volleyball skills in game situations. His three-on-three games taught students how to move in game play, which probably contributed to the higher response frequency in games. Miss Camp's instructional system was also geared toward game play, but her game response
205

frequencies were below those Mr. Far, Mrs. Dunn, and Mr. Adams. This indicates some problems with her accountability system.

Summary

When one examines student response rates and frequencies under the various accountability systems, the managerial and instructional systems are vital components. Accountability determines the effectiveness of these two systems.

By looking at student response rates and frequencies from various perspectives, reasons for the differences in these are apparent. The most effective instructional systems, as shown by response rates and frequencies, are accompanied by the most types of teacher accountability. However, to credit accountability as being the only factor influencing response rates and frequencies would be an error, neglecting the reality of the classroom. It is an important factor, as shown in this question, and needs to be addressed when examining a classroom task system.
Summary of Chapter

This chapter has addressed the research questions in this study. Student response rates have shown the effectiveness of the various accountability systems in this study. Teacher use of accountability techniques can increase student rate of responding. Variety in this system can prevent satiation and maintain higher levels of performance.

Monitoring is the basis of accountability. As the instructional system becomes more demanding, the complexity of this monitoring increases. Monitoring and other types of accountability can lessen the demands on the managerial system and allow the teacher to put more emphasis on the instructional task system.

Accountability systems that only held students accountable for good behavior were termed quasi-accountability systems. In essence, the instructional accountability was suspended in these systems.

A variety of accountability techniques other than monitoring were identified in this study. Teachers can also hold students accountable for instructional tasks with public recognition, aversives, and grading. Several sub-categories were identified for these broad categories.

Management and instruction are highly interrelated. The preceding chapter has recognized this relationship and
shown how accountability can enhance both systems to create optimal learning conditions.
CHAPTER VI
SUMMARY AND CONCLUSIONS

This study has examined the accountability systems of five physical education teachers from three different sites. The research on task systems as formulated by Water Doyle and his associates guided this study. Research by Kounin (1970), Tousignant (1982), and Alexander (1982) provided additional information to frame this study.

Accountability systems identified in this study have been described using descriptive analytic methodology. This final chapter will review the results and provide recommendations for future directions following this line of research.

Overview of the Study

Several previous studies had indicated the importance of accountability. If there is no accountability then there is no task and whatever effects that are obtained will depend upon the personal interests and motivations of students (Doyle, 1980). Kounin (1970) found that successful managers held students accountable for their work and communicated this to the students. Both Tousignant (1982)
and Alexander (1982) indicated the importance of accountability for performance in physical education.

The five teachers used for this study were all good managers, having low management and transition time as well as good activity times. The comments and discussion in this study are based on observations of these teachers. This limitation should be kept in mind throughout this review.

**Description of Accountability Systems**

All teachers in this study used point systems to hold students accountable for dressing and attendance. Although all systems had the potential for penalizing inappropriate behavior or inferior participation through point deductions, not all teachers invoked this part of their accountability system.

Students were primarily held accountable for good behavior through teacher monitoring. Some teachers monitored to sustain appropriate behavior while others used it to obtain higher levels of student performance. Teachers who had more complex/active instructional systems tended to rely less on monitoring behavior as other types of accountability were implemented.

Four of the teachers utilized skill testing (one could not grade on skill) to determine part of the student’s grade. Some of these skill tests evaluated skill topography. Others included a numerical criterion in
addition to this topographical requirement. Still others had a numerical component, ignoring a topographical criterion. Proficiency components were included for some of the tests. Students were given several opportunities to practice for this type of test. All task statements used for these skill tests were explicit, specifying performance, the situation, and some type of criteria.

Games were officitated in some classes as illegal hits were called. In some instances, peers held each other accountable for these violations while in others the teacher called the game. Any type of response was accepted in some classes, as long as it was successful in terms of court boundaries.

Practice activities were sometimes assigned without the goals being specified while others added a numerical criteria. One teacher usually specified both process and product criteria and then held students accountable for these. In this latter situation, students were encouraged to practice correct responses during drills as this type of practice would be more likely to lead to topographical correctness during skill testing and game play.

Teacher clarity of task statements was usually enhanced through teacher demonstrations. Partially explicit tasks were used most often by four of the subjects while the fifth used explicit tasks almost exclusively.
All teachers gave written assignments. One of the homework assignments was worth points if the student turned it in without consideration of accuracy. All of the tests were graded for correctness of responses. Most of the knowledge required for these was based on a handout given; however, one teacher did hold students accountable for knowledge given during instruction in class.

As one can see through this overview, variations existed in the contexts from which the data were obtained. Some teachers held students accountable for only appropriate behavior while others held students accountable for both behavior and performance.

All of the components mentioned have the potential for holding students accountable. The rigidity with which they are implemented affects the degree to which teachers held students accountable for the instructional tasks.

The more active instructional systems were accompanied by more consistent implementation of accountability. The next section will review this in a more specific manner.

**Synthesis of Findings**

1. What are the various types of accountability that can be identified in physical education classes?

   1-a. What types of teacher behaviors describe/define these types of accountability?
Accountability in physical education exists in a hierarchical configuration. At the lowest level, students are held accountable for appropriate behavior. This is accomplished by teacher monitoring.

At the next level, teacher instruct students on skills, but students are not required to have topographically correct responses in this situation. Both of these levels may be termed as quasi-accountability as students are held accountable for appropriate behavior rather than an instructional task.

When teachers held students accountable for process or product criterion, other forms of accountability, such as feedback on errors, public recognition, aversives, and grading were utilized.

Not all teachers used all of these forms of accountability. Also, among these levels, variations existed depending on how strongly they enforced the accountability.

Sub-categories of accountability were identified for each broad category. Sub-categories of aversives included aversive exercise, aversive practice, aversive verbal and aversive loss of points. Sub-categories of public recognition included public posting, accountability checks, and quit when you miss. Grading sub-categories included grade bonus points, grade formal, grade pre-test, practice and teacher recording.
The accountability system was intricately related to the instructional system. The instructional systems with better student response rates tended to use more types of accountability as well as more instructional tasks.

2. What type of task statement accompanies these different types of accountability?

Tasks statements can contain three elements, performance, situation, and a criterion. In this study, a distinction was made between task statements that specified only a process criterion, only a product criterion, or both.

Partially explicit statements were the most commonly used to accompany monitoring accountability. Some teachers did also use explicit task statements with this accountability.

Task statements associated with grading were always explicit. Explicit task statements almost always accompanied other types of accountability such as aversives, public recognition, feedback on errors, accountability checks, and teacher recording. There were, however, some exceptions to this.

2-a. How do task statements vary among teachers?

Implicit task statements were not used often by teachers in this study. Partially explicit tasks were used most frequently by four of the teachers observed. These partially explicit tasks were almost always used when
teacher monitoring was employed to hold students accountable.

One teacher in this study used a variety of instructional accountability for most of her tasks. This same teacher used far more explicit task statements than any other teacher observed.

This study separated task criterion into product (numerical) and process (topography) categories. Some teachers specified both. Tousignant (1982) had indicated a maximal participation system that specified either process or product requirements. Task statements utilized in this study that specified both are beyond those described by Tousignant.

A more active instructional system requires better clarity of directions as students are held accountable for the specified task. Students must first understand the task before they can be held accountable for it. Specific or explicit task statements are required for this clarity. In most cases, when teachers utilized accountability beyond monitoring, the task was explicit. More task explicitness was found in this study than past physical education task research (Marks, 1988).

If teachers are going to hold students accountable for a task, all three components of a specific task statement, performance, situation, and criteria should be present.
3. Do teachers differ in the frequency and type of accountability used?

All teachers in this study used monitoring to hold students accountable. For most teachers it was the primary method of accountability. Some teachers seemed to use different types of accountability for different types of activities. In this situation, the frequency of accountability depended on the number of times that type of task was given.

The fifth teacher in this study used other forms of accountability than monitoring for both practice situations and games. She also used three times as many tasks as any other teacher. She used different types of accountability for the same activity.

Aversives were used least frequently when the other forms of accountability were used. Also, accountability techniques were combined, in some instances, which created new categories.

As a general practice, teachers seemed to establish accountability procedures to accompany their activities. This does not have to be the case as is indicated by the teacher who was the exception to this general pattern. By using more tasks, the frequency of these types of accountability also increased.
4. How do these accountability systems affect student response rate in terms of total number emitted, topographical correctness, and success?

4-a. Do these accountability techniques affect more and less skilled students differently?

Higher response rates accompanied those systems that utilized more than just monitoring to hold students accountable. Better percentages of correctness and success were associated with these systems as well.

If a student has a correct response, the skill is practiced correctly. By repeating this procedure, the student will theoretically be more likely to do the skill correctly in the future. If a teacher holds the student accountable for correctness, it will be more likely to occur. Teachers implemented accountability measures that reinforced a successful response. A successful response is also naturally rewarding to the student.

Correct successful responses allow the student to practice skills correctly. They can also increase response rate if a partner is involved as the partner is more likely to be able to make a correct and/or successful response as well. These factors all work together to increase student response rate.

The accountability system with the best response rate also had the best percentage for correct responses. Because students were practicing skills correctly, skill level was
likely to improve. Higher skilled students tended to have better success rates.

Stronger accountability systems benefit both more and less skilled students. Correctness appears to be influenced more by the accountability system. Success is a function of student skill level, difficulty of the task, as well as accountability. Because of these additional considerations, accountability effects on response rates were not as clear as for those on topographical correctness.

5. Do response rates for these types of accountability vary among teachers?

On the hierarchy of accountability, teacher monitoring was found at the lowest level. Systems which implemented more of the higher levels of accountability than teacher monitoring were termed stronger accountability systems.

When comparing similar accountability categories, a difference can be seen in response rates between the accountability systems implemented by the teachers. Stronger accountability systems led to higher student response rates.

Student-to-ball ratio is a factor that also affects student response rates. When comparing accountability systems with the same ratio, the system using varied accountability produced response rates that were twice as high as those of the next closest teacher.
Comparing game situations, the system that utilized less monitoring accountability while emphasizing game play, had the highest response rates.

Stronger accountability systems were also accompanied by better task specificity. Because students were then held accountable for these responses, they were more likely to practice the task intended by the teacher.

Good accountability accompanied an active instructional system. When the instructional system was better, less strain was put on the managerial system. Teachers could instruct students without having management concerns. Better accountability systems also had a higher rate of correct student responses for both more and less skilled students.

Summary

Accountability systems in many physical education classes focused on student behavior. Teachers held students accountable for many of the tasks observed in this study by monitoring. When teachers held students accountable for performance, response rates increased. When teachers use additional forms of accountability in conjunction with monitoring, higher response rates resulted.

Accountability has other functions than to just hold students accountable. It can also add variety to the instructional system. By enhancing the instructional
system, there is less strain on the managerial system. When accountability is used regularly, the instructional and managerial systems are better as was shown with higher student response rates, topographical correctness, and success.

Doyle's (1979) classroom accountability is different from that in physical education. Students in regular classrooms are rarely graded upon their participation. Class discussions normally operate at an informal level of accountability.

Class discussion is a form of class participation. Class participation in physical education consists of the student responses made during activity. In physical education this can have a formal level as well as an informal one and the distinction between the two isn't always clear (Tousignant, 1982).

Tasks in physical education don't always have to be graded or recorded in order for the accountability to be effective. Public recognition, feedback on errors, accountability checks, aversives, and practice leading to a grade have been shown in this study to have good response rates.

Teachers don't grade every student activity so to depend on this as the only measure of accountability is impractical. Alexander (1982) recorded very high response
rates under grading conditions. This present study has shown that response rates equivalent to those under grading conditions can be achieved with other types of accountability.

Implications

This study has examined student response rates under various accountability conditions. Most teachers in this study used traditional types of accountability. The exception to this showed a great deal of variety in her approach to accountability and the best student response rates in the study.

By implementing some of these accountability techniques, teachers can enhance student response rates. Public recognition, feedback on errors with a group focus, accountability checks, and combinations of these function most effectively.

Teacher education programs should address the issue of accountability in their programs. Grading and monitoring are the primary methods used for holding students accountable. As this study shows, other means are available and teachers should learn how to implement those identified in this study as well as others.

This study has tried to stress the interrelationship between the managerial and instructional task systems and accountability. These same relationships need to be
stressed to preservice and inservice teachers so that the instructional system and its related accountability is used to take some of the burden off the managerial system.

Student response rates were examined in this study. In the past, teacher effectiveness has been evaluated in terms of academic learning time. This approach needs to be altered. The teacher with the most cumulative responses, as well as the best response rate per minute, had the least activity time of any teacher in this study.

Peers can be utilized to hold students accountable. Although the teacher is the primary source of instruction, students can be utilized in properly designed activities to hold classmates accountable for maximal performance. This can be expanded and students can hold themselves accountable if the activity is properly arranged.

Lastly, teachers need to be aware of the importance of accountability. Giving tasks without holding students responsible for them in essence puts students in control of the class. Teachers must hold students accountable and grading is not the only way to achieve this. Other techniques exist that are effective and can provide variety to the instructional system.

Future Research

Given the importance of accountability, other studies need to be conducted on this topic. That five different
accountability systems were described in this study is an indication that even more do exist. Replication of this study is suggested to determine the nature of these additional systems.

This study confined itself only to volleyball units. Other research needs to be done using other activity units.

Accountability at the elementary level is different from that at the secondary level (Jones, 1989). Accountability at this level as well as in the middle/junior high school needs further study.

An experimental study comparing response rates for the different types of accountability on the same activities would directly measure the effectiveness of the accountability techniques identified in this study. This study described accountability, but did not directly measure their relative effectiveness.

Accountability is frequently associated with evaluation. Future studies with accountability need to explore this relationship. Evaluation can be a component of accountability. It does not have to be the only technique used to hold students accountable. Evaluation as it is currently practiced in physical education is a reflection of teacher beliefs rather than researched needs of students. This realm needs to be examined in depth.
Conclusion

The research on tasks looks at classrooms from a variety of perspectives. This study has focused on the perspective of accountability.

One of the fundamental tenets of Doyle's research is the ecology of the classroom. Although Doyle and Tousignant have both indicted the importance of accountability, the relationship it holds with both the managerial and instructional systems cannot be ignored. All components must function and work together.

Accountability alone cannot ensure effective instruction. The instructional system to which it is intricately tied dictates, in part, how effective accountability will be. The managerial system implemented by the teacher is another component related to what is accomplished in the classroom.

If any part of this ecology is deficient, then the other components will not function optimally. The balance of this ecology must be determined through future research so that the reality of the classroom can provide optimal environments for both students and teachers.
REFERENCES


APPENDIX A

PROSPECTUS SENT TO SCHOOL DISTRICTS
Title: Analysis of Student Responses in Physical Education under Various Accountability Conditions

Investigator's Name: Jacalyn L. Lund
Ph.D. Candidate

Address: The Ohio State University
315 Pomerene Hall
1760 Neil Avenue
Columbus, Ohio 43210-1221

Phone: 292-5679 (Office)
899-7608 (Home)

Graduate Advisor: Dr. Daryl Siedentop

I. Purpose of the Study

The primary purpose of this study will be to examine student response rates under various types of accountability found in secondary physical education classes. Along with response rate, the responses will be examined to determine task congruence, possible task modification, topographical appropriateness, and student success rates. This study is the next step in a series of dissertations, began in 1982 by Dr. Tousignant. These have examined task structures in physical education classes. Work of a similar nature is conducted in academic classes by Dr. Walter Doyle.

II. Methodology

A. Subjects for this study will be secondary physical education teachers.

B. Data will be collected using a modification of an observation system created by C. T. Son (1989), designed to look at student responses to task statements in physical education.

C. The primary subject of this study will be observed for an entire sport unit, lasting approximately ten days. Secondary subjects will be observed for approximately five class periods.

D. Sessions will be audio taped and video taped to help ensure accuracy of data collection.
E. Identification of the teachers, students, and schools will not be revealed in any publications or documents.

F. The foci of this study are events that occur in a real classroom. Because of this, teachers will not be asked to change any classroom routines or procedures to accommodate the researcher.

III. Time Schedule

A. Teachers serving as subjects have indicated a willingness to serve as participants in this study.

B. Data collection will begin immediately at some sites for the previously specified duration. Because the same sport unit is being studied at all sites, data collection will occur when that unit is taught, as determined by the teacher of the classes being observed.
November 8, 1989

Executive Director of Pupil/Personnel Services
City Schools
1000 Pine Street
Columbus, Ohio 43210

Dear Mr. Simms:

I am beginning the dissertation phase of my Ph.D. program at The Ohio State University. I am interested in using one teacher from your district as a subject for my study. I have worked with Susan Camp in the past in a research mode and wish to do more observations of her teaching methods and classes. I have contacted Miss Camp and she has expressed a willingness to participate. Therefore, I am writing to obtain the necessary permission from you and the district.

I have enclosed a brief description of my study, as well as an outline of the procedure, and the proposed time table.

Data collection is scheduled to begin very soon. I would greatly appreciate your help in securing City High School and Miss Camp as a subject for my study.

Thank you for your prompt attention to this matter.

Sincerely,

Jacalyn L. Lund
APPENDIX C

ACTIVITIES EXEMPT FROM REVIEW BY OSU HUMAN SUBJECT REVIEW COMMITTEE
ACTIVITIES EXEMPT FROM REVIEW BY
OSU HUMAN SUBJECT REVIEW COMMITTEE

Research activities in which the only involvement of human subjects will be in one or more of the following categories are exempt from review by The Ohio State University Human Subject Review Committee. These exemptions do not apply when deception of subjects may be an element of the research, when the activity might expose the subject to discomfort or harassment beyond levels encountered in daily life, or when individuals voluntarily confined or detained in penal institutions are subjects of the activity. A judgment that a particular activity falls within one of the categories exempted from review should be made with care, especially when children are subjects of the activity. Questions of interpretation may be directed to 292-9046, from which callers will be referred to the chairperson of the appropriate review committee.

1. Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as:
   a. research on regular and special education instructional strategies.
   b. research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), if information taken from these sources is recorded in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

3. Research involving survey or interview procedures, except where responses are recorded in such a manner that the human subjects can be identified, directly or through identifiers linked to the subjects, and either:
   a. the subject’s responses, if they became known outside the research, could reasonably place the subject at risk of criminal or civil liability or be damaging to the subject’s financial standing or employability, or
b. the research deals with sensitive aspects of the subject's own behavior, such as illegal conduct, drug use, sexual behavior, or use of alcohol.

All research involving survey or interview procedures is exempt, without exception, when the respondents are elected or appointed public officials of candidates for public use.

4. Research involving the observation (including the observation of participants) of public behavior, except where observations are recorded in such a manner that the human subjects can be identified, directly or through identifiers linked to the subjects, and either:

   a. the observations recorded about the individual, if they became known outside the research, could reasonably place the subject at risk of criminal or civil liability or be damaging to the subject's financial standing or employability or

   b. the research deals with sensitive aspects of the subject's own behavior such as illegal conduct, drug use, sexual behavior, or use of alcohol.

5. Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

Exempting an activity from review does not absolve the investigator(s) of the activity from ensuring that the welfare of subjects in the activity is protected and that methods used, and information provided, to gain subject consent are appropriate to the activity.
APPENDIX D

INFORMED CONSENT AGREEMENT FOR VIDEOTAPEING
Informed Consent Agreement for Videotaping

I, ______________________________, agree to have my physical education lessons videotaped at certain times throughout the duration of the dissertation study in which I am involved. I understand that these videotapes are only to be used for the research purposes of the dissertation. These tapes will not be used for any purposes other than research, unless I give my expressed written consent. I may choose at any time not to have my lessons videotaped. I may have any videotape erased if I so choose.

Name of Teacher: ______________________________
School: ______________________________
Date: ______________________________
Researcher: ______________________________
APPENDIX E

EXAMPLE OF COMPLETED TASK ANALYSIS FORM
<table>
<thead>
<tr>
<th>Task #3</th>
<th>Date</th>
<th>Equipment Rate for Each Student</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Duration</strong></td>
<td>15 sec</td>
<td></td>
</tr>
<tr>
<td><strong>M1</strong></td>
<td><strong>M2</strong></td>
<td><strong>L1</strong></td>
</tr>
<tr>
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<td>Present</td>
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<td>1</td>
</tr>
</tbody>
</table>

**Task 3 Details:**
- Bump with partner:
  - 3 sec.
  - If you can't, knock it off the terms and begin.

**Equipment Rate:**
- Students:
  - 5 each
  - 10 total
APPENDIX F

EXAMPLE OF TIME AND TASK SEGMENTS ANALYSIS
Mrs. Brown

11-22 89

0-08  Gives task #1 (knowledge)  :08
09-1:08  Transition  1:00
1:09-1:39  Task #1a (Activity)  30 sec set  :31
1:44-1:50  Did anybody get 20 or above?  :11
          (accountability check)
1:51-2:00  All right switch (transition)  :10
2:01-2:30  Task #1b (Activity)  :30
2:34-2:51  Student desist (Management)  :21
2:53-2:56  How many had 20 or above?  :05
2:57-3:05  See if you can better your first score  :09
3:06-3:35  Task #1c (Activity)  :30
3:40-3:45  How many had 20 or above?  :10
3:46-3:50  Transitions  :05
3:51-4:17  Students wait as teacher instructs an individual  :27
4:18-4:22  Ready?  :05
4:23-4:53  Task #1d (Activity)  :31
4:54-5:00  How many bettered their score?  :07
5:01-5:14  On the test you'll be trying for 25 (knowledge)  :14
5:11-5:26  Transition  :12
5:27-6:05  Knowledge explains task 2 (knowledge)  :39
6:06-6:16  Transition  :11
6:17-6:31  Task #2a (Activity)  :15
6:32-6:45  Did anybody get 10? (Accountability check)  :14
6:46-7:30  Students wait as teacher instructs an individual  :45
7:31-8:14  Knowledge  :44
8:15-8:32  Task #2b (Activity)  :18
8:33-8:40  Anybody have 10 or above?  :08  (accountability check)
8:41-9:08  Let's go to the bump (knowledge)  :28
9:09-9:24  Task #3 (Activity)  :16
9:25-9:33  Everybody come sit down (Transition)  :09
9:34-10:53  Bump technique (knowledge)  1:20
10:54-11:11  Don't let an old lady show you up (challenge)  :18
11:12-11:26  Knowledge - moves students - too far apart  :15
11:45-11:49  Students tell what number they got  :05
11:50-12:15  Continue incorrectly and you'll get a zero (knowledge)  :26
12:16-12:24 Talk to an individual student - class wait or knowledge :09
12:25-12:40 Task #3c (Activity) :16
12:41-12:47 Anybody get 10 or above (accountability check) :07
12:48-13:10 Task #4 explained (count only sets or bumps) (knowledge) :23
13:11-13:26 Task #4 (Activity) :16
13:34-13:40 Knowledge :07
13:58-14:03 Anybody? (Accountability check) :06
14:04-14:26 Knowledge :23
14:27-14:42 Task #4 (Activity) :16
14:43-14:49 Who kept it going? (Accountability check) :07
14:50-15:18 Transition :29
15:19-15:33 Tells who has the ball - Transition :15
15:34-15:47 Knowledge :14
15:48-15:51 Student desist - Management :04
15:52-16:03 Tells who will monitor which group :12
16:04-16:36 Knowledge - rules for task :33
16:37-16:50 Transition :14
16:51-16:50 Move the chair (Management) :08
17:59-17:04 Knowledge :06
17:05-17:13 Student desist :09
17:14-17:41 Activity Task #5a :28
17:42-17:54 How many did you get? (Accountability check) :13
17:55-18:11 All right go again (Knowledge) :17
18:12-18:32 Activity Task #5b :21
18:33-18:43 How many did you get? (Accountability check) :11
18:44-19:39 Knowledge :56
19:40-20:04 Task #5c (Activity) :25
20:05-20:15 Sit down on the floor (Transition) :11
10:16-21:34 Announcements (Management) :1:19
21:35-21:40 Knowledge :06
22:17-24:08 Knowledge :1:52
24:09-26:08 Activity Task #6a - Teacher officiates :2:00
26:09-26:28 Transition for other game (target teams) :20 wait (Knowledge)
26:29-27:20 Task #6b Activity :52
27:49-29:04 Task #6b (Activity) :1:16
29:05-27:30 Game stops (Knowledge) :26
29:31-29:44 Task #6b (Activity) :14
29:45-30:05 Wait - teacher talks to other game :21
30:06-30:45 Task #6b continues :40
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<thead>
<tr>
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<th>Activity</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>30:46-31:07</td>
<td>Transition</td>
<td>:22</td>
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<tr>
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<td>Task #6c 3rd game</td>
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<tr>
<td>32:21-32:40</td>
<td>Transition</td>
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<tr>
<td>32:41-33:45</td>
<td>Task #7 (Activity)</td>
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<td>33:46-36:06</td>
<td>Students wait as teacher instructs</td>
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</tr>
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<td>36:07</td>
<td>Dismiss</td>
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</tbody>
</table>
APPENDIX G

TEACHER TIME SUMMARY TABLE
TABLE 37
TEACHER TIME SUMMARY CHART BY PERCENTAGE

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>ADAMS</th>
<th>BROWN</th>
<th>CAMP</th>
<th>DUNN</th>
<th>FAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL TIME (in minutes)</td>
<td>327:26</td>
<td>342:38</td>
<td>209:46</td>
<td>308:65</td>
<td>325:48</td>
</tr>
<tr>
<td>KNOWLEDGE</td>
<td>16.82%</td>
<td>35.36%</td>
<td>24.60%</td>
<td>3.93%</td>
<td>10.25%</td>
</tr>
<tr>
<td>ACTIVITY</td>
<td>60.45%</td>
<td>46.45%</td>
<td>64.00%</td>
<td>79.36%</td>
<td>79.62%</td>
</tr>
<tr>
<td>WAIT</td>
<td>----</td>
<td>2.15%</td>
<td>0.51%</td>
<td>2.23%</td>
<td>0.80%</td>
</tr>
<tr>
<td>MANAGEMENT</td>
<td>9.29%</td>
<td>4.19%</td>
<td>0.72%</td>
<td>4.33%</td>
<td>0.98%</td>
</tr>
<tr>
<td>TRANSITION</td>
<td>12.80%</td>
<td>9.14%</td>
<td>8.22%</td>
<td>9.58%</td>
<td>7.70%</td>
</tr>
<tr>
<td>CONCURRENT TRANSITION</td>
<td>0.37%</td>
<td>0.12%</td>
<td>1.94%</td>
<td>0.57%</td>
<td>0.56%</td>
</tr>
<tr>
<td>ACCOUNTABILITY CHECK</td>
<td>0.28%</td>
<td>2.60%</td>
<td>----</td>
<td>----</td>
<td>0.07%</td>
</tr>
</tbody>
</table>
APPENDIX H

DEPARTMENTAL GRADING POLICY FROM THIRD SITE
PHYSICAL EDUCATION GRADING SYSTEM

PHYSICAL EDUCATION SEMESTER WRITTEN EXAM GIVEN!

The four areas of evaluation are:

1. Dressing (5 points daily) and participation (5)
2. Cooperation (5) and positive contribution (5)
3. Skill improvement
4. Learning achievement

A GRADE -
1. Loss of not more than 30 points in areas one and two.
2. 90%-100% on written tests
3. 90%-100% on skill tests.
4. Shows leadership and positive direction.

B GRADE -
1. Loss of not more than 60 points in areas one and two.
2. 80%-89% on skill tests.
3. 80%-89% on skill tests.
4. Shows leadership and positive direction.

C GRADE -
1. Loss of not more than 90 points in areas one and two.
2. 70%-79% on written tests.
3. 70%-79% on skill tests.
4. Shows leadership and positive direction.

D GRADE -
1. Loss of not more than 120 points in areas one and two.
2. 60%-69% on written tests.
3. 60%-69% on skill tests.
4. Shows leadership and positive direction.

F GRADE -
1. Less than 60%.

Any injury that prevents a student from participating in Physical Education for more than 15 days must drop the course and enroll another semester.
Students who have notes from parents, must be dressed for physical activity but will not have to participate.

In special situations, students have the right to appeal to a committee of the four physical education teachers.