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THE APPLICATION OF A COMPETENCY-BASED MODEL
TO PHYSICAL EDUCATION STUDENT TEACHING
IN HIGH SCHOOL

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

By
Keith Edward Hamilton, B.S., M.Ed.

The Ohio State University
1974

Reading Committee:
Dr. Daryl Siedentop
Dr. Edward Coates
Dr. Barbara Nelson

Approved By
Dr. Daryl Siedentop
Advisor
Department of Physical Education
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VITA

September 3, 1942 . . . . . . . Born - Sandusky, Ohio
1964 . . . . . . . . . . . . . B.S., Bowling Green State University
1964-1965 . . . . . . . Teacher and Coach, Bowling Green City Schools, Bowling Green, Ohio
1965-1966 . . . . . . . Graduate Assistant, Bowling Green State University
1966 . . . . . . . . . . . M.Ed., Bowling Green State University
1966-1968 . . . . . . . Instructor and Coach, Wake Forest University
1968-1969 . . . . . . . Director of Secondary Physical Education, Toledo, Ohio
1969 . . . . . . . . . . . Assistant Professor and Coach, The Citadel, Charleston, South Carolina
1972-1974 . . . . . . . Graduate Teaching Associate, The Ohio State University

FIELDS OF STUDY

Major Field: Physical Education
  Dr. Daryl Siedentop
  Dr. Bruce Bennett

Minor Field: Health Education
  Dr. Robert Kaplan
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Reliability of Total Number of Events Observed for Each Subject</td>
<td>58</td>
</tr>
<tr>
<td>2.</td>
<td>Reliability of Classifying Events for Each Subject</td>
<td>59</td>
</tr>
<tr>
<td>3.</td>
<td>Category Reliability for Each Subject</td>
<td>60</td>
</tr>
<tr>
<td>4.</td>
<td>Placheck Reliability for Appropriate - Inappropriate Behavior</td>
<td>61</td>
</tr>
<tr>
<td>5.</td>
<td>Placheck Reliability for Active - Inactive Behavior</td>
<td>62</td>
</tr>
<tr>
<td>6.</td>
<td>Reliability for Total Class Time In Managerial Activities</td>
<td>63</td>
</tr>
<tr>
<td>7.</td>
<td>Reliability for Individually Directed Feedback</td>
<td>64</td>
</tr>
<tr>
<td>8.</td>
<td>Time Sampling Reliability for Appropriate - Inappropriate Behavior</td>
<td>65</td>
</tr>
<tr>
<td>9.</td>
<td>Time Sampling Reliability for Active - Inactive Behavior</td>
<td>66</td>
</tr>
<tr>
<td>10.</td>
<td>Percentage Change of Positive Interactions Per Minute</td>
<td>77</td>
</tr>
<tr>
<td>11.</td>
<td>Percentage Change of Specific Information with Positive Interactions</td>
<td>79</td>
</tr>
<tr>
<td>12.</td>
<td>Percentage Change of Negative Interactions Per Minute</td>
<td>81</td>
</tr>
<tr>
<td>13.</td>
<td>Percentage Change of Rate per Minute of First Name Use</td>
<td>83</td>
</tr>
<tr>
<td>14.</td>
<td>Percentage Change of Rate per Minute of Instructional Feedback</td>
<td>85</td>
</tr>
<tr>
<td>15.</td>
<td>Percentage Change of Specific Information in Feedback</td>
<td>87</td>
</tr>
<tr>
<td>16.</td>
<td>Percentage Change of Individually Directed Feedback</td>
<td>89</td>
</tr>
<tr>
<td>Table</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>17.</td>
<td>Percentage Change of Class Appropriate Behavior</td>
<td>100</td>
</tr>
<tr>
<td>18.</td>
<td>Percentage Change of Class Active Participation</td>
<td>102</td>
</tr>
<tr>
<td>19.</td>
<td>Percentage Change of Time in Managerial Activities</td>
<td>104</td>
</tr>
<tr>
<td>20.</td>
<td>Percentage Change of Appropriate Behavior of Pupils A and B</td>
<td>107</td>
</tr>
<tr>
<td>21.</td>
<td>Percentage Change of Active Behavior of Pupils A and B</td>
<td>110</td>
</tr>
<tr>
<td>22.</td>
<td>TBO Analysis for School Policies and Procedures Module</td>
<td>115</td>
</tr>
<tr>
<td>23.</td>
<td>TBO 1 Analysis for Interpersonal Relationships Module</td>
<td>116</td>
</tr>
<tr>
<td>24.</td>
<td>TBO 2 Analysis for Interpersonal Relationships Module</td>
<td>117</td>
</tr>
<tr>
<td>25.</td>
<td>TBO 3 Analysis for Interpersonal Relationships Module</td>
<td>118</td>
</tr>
<tr>
<td>26.</td>
<td>TBO 4 Analysis for Interpersonal Relationships Module</td>
<td>119</td>
</tr>
<tr>
<td>27.</td>
<td>TBO 1 Analysis for Management Module</td>
<td>120</td>
</tr>
<tr>
<td>28.</td>
<td>TBO 2 Analysis for Management Module</td>
<td>121</td>
</tr>
<tr>
<td>29.</td>
<td>TBO 3 Analysis for Management Module</td>
<td>122</td>
</tr>
<tr>
<td>30.</td>
<td>TBO 1 Analysis for Instructional Feedback Module</td>
<td>123</td>
</tr>
<tr>
<td>31.</td>
<td>TBO 2 Analysis for Instructional Feedback Module</td>
<td>124</td>
</tr>
<tr>
<td>32.</td>
<td>TBO 3 Analysis for Instructional Feedback Module</td>
<td>125</td>
</tr>
</tbody>
</table>
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>33. TBO Analysis for Student Assessment Module</td>
<td>126</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figures</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intervention Schedule on Multiple Baseline Design</td>
<td>42</td>
</tr>
<tr>
<td>2. Behavior Profile of Subject One</td>
<td>68</td>
</tr>
<tr>
<td>3. Behavior Profile of Subject Two</td>
<td>69</td>
</tr>
<tr>
<td>4. Behavior Profile of Subject Three</td>
<td>70</td>
</tr>
<tr>
<td>5. Behavior Profile of Subject Four</td>
<td>71</td>
</tr>
<tr>
<td>6. Behavior Profile of Subject Five</td>
<td>72</td>
</tr>
<tr>
<td>7. Behavior Profile of Subject Six</td>
<td>73</td>
</tr>
<tr>
<td>8. Behavior Profile of Subject Seven</td>
<td>74</td>
</tr>
<tr>
<td>9. Multiple Baseline of Positive Interactions Per Minute</td>
<td>76</td>
</tr>
<tr>
<td>10. Multiple Baseline of Specific Information In Interactions</td>
<td>78</td>
</tr>
<tr>
<td>11. Multiple Baseline of Negative Interactions Per Minute</td>
<td>80</td>
</tr>
<tr>
<td>12. Multiple Baseline of First Name Use Per Minute</td>
<td>82</td>
</tr>
<tr>
<td>13. Multiple Baseline of Instructional Feedback Rate Per Minute</td>
<td>84</td>
</tr>
<tr>
<td>14. Multiple Baseline of Percentage of Specific Information in Feedback</td>
<td>86</td>
</tr>
<tr>
<td>15. Multiple Baseline of Percentage of Individually Directed Feedback</td>
<td>88</td>
</tr>
<tr>
<td>16. Behavior Profile of Subject One's Class</td>
<td>91</td>
</tr>
<tr>
<td>17. Behavior Profile of Subject Two's Class</td>
<td>92</td>
</tr>
<tr>
<td>18. Behavior Profile of Subject Three's Class</td>
<td>93</td>
</tr>
<tr>
<td>19. Behavior Profile of Subject Four's Class</td>
<td>94</td>
</tr>
</tbody>
</table>
### LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figures</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.</td>
<td>Behavior Profile of Subject Five's Class</td>
<td>95</td>
</tr>
<tr>
<td>21.</td>
<td>Behavior Profile of Subject Six's Class</td>
<td>96</td>
</tr>
<tr>
<td>22.</td>
<td>Behavior Profile of Subject Seven's Class</td>
<td>97</td>
</tr>
<tr>
<td>23.</td>
<td>Multiple Baseline of Percentage of Class Appropriate Behavior</td>
<td>99</td>
</tr>
<tr>
<td>24.</td>
<td>Multiple Baseline of Percentage of Class Active Behavior</td>
<td>101</td>
</tr>
<tr>
<td>25.</td>
<td>Multiple Baseline of Percentage of Time in Managerial Activities</td>
<td>103</td>
</tr>
<tr>
<td>26.</td>
<td>Multiple Baseline of Percentage of Pupil A Appropriate Behavior</td>
<td>105</td>
</tr>
<tr>
<td>27.</td>
<td>Multiple Baseline of Percentage of Pupil B Appropriate Behavior</td>
<td>106</td>
</tr>
<tr>
<td>28.</td>
<td>Multiple Baseline of Percentage of Pupil A Active Behavior</td>
<td>108</td>
</tr>
<tr>
<td>29.</td>
<td>Multiple Baseline of Percentage of Pupil B Active Behavior</td>
<td>109</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>ii</td>
</tr>
<tr>
<td>VITA</td>
<td>iii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>iv</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>vii</td>
</tr>
<tr>
<td>CHAPTER</td>
<td></td>
</tr>
<tr>
<td>I. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>II. REVIEW OF LITERATURE</td>
<td>13</td>
</tr>
<tr>
<td>III. METHODS AND PROCEDURES</td>
<td>26</td>
</tr>
<tr>
<td>IV. ANALYSIS AND DISCUSSION OF THE DATA</td>
<td>50</td>
</tr>
</tbody>
</table>

**CHAPTER I. INTRODUCTION**
- Statement of the Problem
- Scope of the Study
- Hypotheses
- Definitions
- Assumptions

**CHAPTER II. REVIEW OF LITERATURE**
- Competency-based Teacher Education
- Changing Teacher and Student Teacher Behavior
- Changing Teacher Behavior and Subsequent Effects on Student Behavior
- Changing Pupil Behavior
- Summary of the Literature

**CHAPTER III. METHODS AND PROCEDURES**
- Subjects and Settings
- Observations and Behaviors
- Experimental Conditions
- Analysis and Design

**CHAPTER IV. ANALYSIS AND DISCUSSION OF THE DATA**
- Reliability
- Student Teacher Behavior Profiles
- Multiple Baselines and Percentage Change for Student Teachers
- Behavior Profiles of Subjects' Classes
- Multiple Baselines and Percentage Change for Subjects' Classes
- TBO Analysis
- Summary

ix
<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS</td>
<td>132</td>
</tr>
<tr>
<td>Summary</td>
<td></td>
</tr>
<tr>
<td>Conclusions</td>
<td></td>
</tr>
<tr>
<td>Recommendations</td>
<td></td>
</tr>
<tr>
<td>APPENDIX A: SCHOOL POLICIES AND PROCEDURES MODULE</td>
<td>139</td>
</tr>
<tr>
<td>APPENDIX B: PLANNING MODULE</td>
<td>145</td>
</tr>
<tr>
<td>APPENDIX C: INTERPERSONAL RELATIONSHIPS MODULE</td>
<td>160</td>
</tr>
<tr>
<td>APPENDIX D: MANAGEMENT MODULE</td>
<td>172</td>
</tr>
<tr>
<td>APPENDIX E: INSTRUCTIONAL FEEDBACK MODULE</td>
<td>184</td>
</tr>
<tr>
<td>APPENDIX F: STUDENT ASSESSMENT MODULE</td>
<td>193</td>
</tr>
<tr>
<td>APPENDIX G: EVENT RECORDING SHEET</td>
<td>197</td>
</tr>
<tr>
<td>APPENDIX H: PLACHECK AND TIME SAMPLING SHEET</td>
<td>199</td>
</tr>
<tr>
<td>APPENDIX I: STUDENT TEACHER GOAL SHEET</td>
<td>201</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>203</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

Efforts in education to meet the challenges and demands of those who point accusing fingers at shortcomings and failures of the contemporary educational structure (Clark, 1969; Goodman, 1964; Illich, 1971; Rafferty, 1963; Toffler, 1970) have ushered in the era of accountability. This movement has encouraged educators to focus on specific goals and outcomes that students master as a result of their exposure to an educational setting designed to enable them to attain these objectives. The development of behavioral objectives has provided a viable means for teachers to examine their curricula, establish empirically verifiable objectives students should master, and satisfy the demand for accountability. Contrary, then, to the traditional programs of the teacher disseminating information to the student who, failing to repeat it for the teacher at a proper time is termed "lazy", "dull", or "incorrigible", the responsibility for the failure of the students to learn is now being placed squarely upon the teacher and the school.

One method attempting to provide stability for this new emphasis on teacher accountability is the competency-based teacher education movement. One need only to attend
professional meetings of educational organizations to ascertain the extent to which competency-based education is spreading in this country. Programs are usually saturated with meetings focusing on this movement. It is quite obvious, therefore, that the era of accountability is justifiably attending to a need for revision of teacher education programs (Anderson, et al. 1973).

The proponents of the competency-based teacher education movement offer this program as a solution to the shortcomings of the so-called traditional programs (Houston and Howsam, 1974; Rosner and Kay, 1974). The teacher-in-training would follow the format suggested by the competency-based programs; focusing on specific skills the prospective teacher will demonstrate, providing instructional alternatives to facilitate his progress, and holding him accountable for the attainment of the target objectives (Anderson, et al., 1973).

The genesis of CBTE programs can be traced to a project funded by the United States Office of Education: the Elementary Teacher Education Models Program. The task of this project was to reconceptualize both preservice and inservice elementary teacher education. Ten funded institutions developed the basic specifications for their models. Each model used the systems approach to design and operate the program and was competency-based (Anderson, et al., 1973).
The major point of emphasis for competency-based teacher education programs is that objectives and criteria are unambiguously specified. A teacher's competency can be measured against these criteria, which are as explicit as possible. Consequently, the teacher demonstrates competency on specific criteria rather than on course work taken (Anderson, et al., 1973).

The primary assessment channels for the teacher-in-training involve both performance and consequence criteria, with the assumption being that as the student teacher performs well, so shall the students under the direction of the student teacher.

The culmination of most teacher training experiences is student teaching. Armed with methods from courses taken too long ago and more than a little trepidation, the student teacher begins what Oestreich (1974) has termed the "professional osmosis phenomenon." Theoretically, this experience, of varying length and intensity, is established to provide the setting for the development of teaching skill by the close proximity of the student teacher to the cooperating teacher. Whereas the value system of the cooperating teacher has been the dominant factor in bringing about changes in student teacher behavior in the traditional setting, this process leaves much to be desired. Since the cooperating teacher is the agent of evaluation of the student teaching experience, the tendency for the student teacher to emulate the cooperating teacher is intensified. Consequently,
the student teacher assumes this situational behavior which may or may not generalize to the first year's teaching experience.

As the student teacher begins teaching, he has little awareness of the impact of his teaching on his students. The modeling effect of the cooperating teacher and infrequent visitations by the university supervisor provide some insight into methodology and organization, usually based on personal preferences. Following the competency-based format, the student teacher is given specific competencies and passes or fails the student teaching experience contingent upon the degree to which he is able to master the competencies. The teacher trainee is assessed by his performance in meeting the criteria found in three areas of objectives: (1) cognitive objectives, which, in teacher training, may include subject matter knowledge, psychological theories, educational strategies, and other matters where intellectual skills are demonstrated; (2) performance objectives, which require the trainee to actually demonstrate an ability to perform teacher-related tasks; and, (3) consequence objectives, which are expressed in terms of the results of the teacher trainee's actions. Consequence assessment is usually made in light of the accomplishment of pupils under the direction of the teacher trainee (Houston and Howsam, 1972). The importance of and difficulties encountered in this format stems from selecting
those competencies for which the student teacher will be held accountable.

Although the methodology of the competency-based movement is freely discussed, little research has been done to determine the effectiveness of programs where specific competencies have been identified. Critics of the competency-based teacher education movement have expressed bewilderment at the extent to which states have mandated competency-based certification without a research base to provide justification (Maxwell, 1974; Sandoz, 1974). Proponents of the movement also recognize the need for research (McDonald, 1974; Flanders, 1974; Quirk, 1974). Frederick J. McDonald is openly critical of the limited research that has been done, since it either lacks teacher accountability or is correlational in nature (McDonald, 1973).

Critics of CBTE recognize the inability of the movement's proponents to identify the specific competencies teachers should possess. What is needed in the era of accountability and teacher responsibility for student learning are behaviors of teachers that are most effective in producing changes in the behaviors of their students (Siedentop, 1972; Skinner, 1973).

Although the use of applied behavior analysis techniques has been slow in developing in educational institutions, they seem well suited for the CBTE model. Teacher competencies of providing positive reinforcement to increase
the probability of desired behavior recurring, writing and implementing behavioral objectives, and using contingency management systems in the classroom or gymnasium are competencies that have a research base and will affect student behavior. The need exists, however, to substantiate the effects of these teacher behaviors on students in a variety of educational settings.

The effects of different types of instruments used to alter teacher behavior, modification interventions, needs to be thoroughly explored. It is within this framework that this study is undertaken to determine the effects of a competency-based format on the behavior of student teachers and high school pupils.

Statement of the Problem

The purpose of this study is to investigate the effects of a competency-based format on the behavior of student teachers and pupils in Columbus area high schools. More specifically, this study deals with the following questions:

1. Can student teacher behavior be changed as the result of an introduction to modules designed for that purpose under a competency-based format?

2. If student teacher behavior change does occur, will there be a subsequent change in the behavior of individual students and the entire class with which the student teacher comes in contact?
3. Is this model feasible in a practical situation where the supervisor maintains a full load of student teachers and a one-time per week observation and feedback session?

This study was intended to be a reality test using a competency-based teacher education model. The reality test was to determine if it is possible to implement this model into what is referred to as a normal supervisory situation. Specifically, this made reference to bringing about teacher and student behavior changes within the confines of a one-time per week supervision and feedback session while maintaining a full load of student teachers during an academic quarter.

The reality test was individualized according to student teacher strengths and weaknesses. This "situation specific" approach permitted the experimenter to establish priorities for emphasizing those modules which helped the student teacher overcome situations calling for immediate remediation. If, for example, the level of student appropriate behavior fell below a pre-determined criterion level in a particular class, the student teacher could cope with the situation by reference to items within the Interpersonal Relationships Module relating to improving class behavior. Baseline rates of teacher behavior helped in determining where needs for improvement existed, and modules designed to improve these rates were given priority. School factors were also considered in setting criterion rates.
Scope of the Study

The study was limited by the following factors:
1. The independent variables of the competency-based package classified into modules, instructions, graphic feedback, cueing and reinforcement, and goal setting were employed.
2. An attempt was made to alter the behavior of seven student teachers from The Ohio State University.
3. Target behaviors were observable and measurable with an average inter-observer agreement of 85% or greater concerning the occurrence of the selected behaviors.

Hypotheses

1. Student teacher behavior will be changed in the desired direction after intervention.
2. Low levels of inappropriate and inactive behavior will increase or decrease respectively as changes in the behavior of the student teachers occur.
3. If measures of pupil behavior are occurring at criterion levels, they will be maintained as changes in the behavior of student teachers occur.

Definitions

Active Participation — refers to actual physical involvement in the activity that is the appropriate activity
of the class.

Activity Episode - the cumulative time from the beginning of an active participation period to the teacher initiated behavior that ends the period.

Appropriate Behavior - any pupil behavior that is considered to be contributing to the educational environment in other than skill attempts.

Baseline - the level at which behavior is occurring before attempts are made to modify it (Hall, 1971, p. 2).

Behavior - things that people do that are observable and measureable, such as walking, talking, reading, etc. (Siedentop and Rushall, 1972).

Behavior Game - any technique which has a class or subsets of a class striving for attainment of a pre-determined criterion level of good behavior in order to gain the reinforcing agent.

Behavioral Objective - a statement which communicates the intention of the teacher as to what the learner will do to demonstrate his achievement. The objective states a terminal performance, the conditions under which the performance will occur, and the criterion for successful completion of the performance.

Competency-Based Format - the utilization of behavioral objectives, a diversity of enabling activities, and student teacher accountability to establish desired outcomes. Competence is determined by the performance and con-
sequence assessment of the student teacher against explicit criteria.

Contingency Contracting - refers to the most sophisticated form of contingency management (changing a behavior by controlling and altering the relationship between a behavior and a consequence). It is an agreement between the teacher and the student that a specified reinforcement will be given following the completion of a specified task.

Event Recording - making a tally of discrete events of a certain class, a frequency of events as they occur (Hall, 1971, p. 3).

Extinction - refers to a situation where reinforcement is discontinued. No reinforcement, positive or negative, is given contingent upon student response.

Inappropriate Behavior - any pupil behavior that is considered to be detracting from the educational environment.

Inactive Participation - refers to a lack of physical involvement in activity.

Interactions - refers to all verbal and non-verbal and positive or negative teacher-pupil communications.

Intervention - the intentional exposure of the subject to a variable with the purpose being to modify the subject's behavior.

Instructional Feedback - refers to all teacher verbal or non-verbal, positive or corrective reactions to an
appropriate skill attempt by a pupil.

**Lesson Plan** - a detailed guide to teacher and student behaviors which will occur during a single class meeting. It refers to teacher-student interactions, management methods, equipment needed to carry out instruction, and objectives to be accomplished. Generally, the lesson plan details the means by which learning activities are established and carried out.

**Managerial Activity** - refers to all events needed to organize for the initial class activity, changing from one activity to another, or ending the final activity and leaving the play area.

**Managerial Episode** - the cumulative time from the beginning of a discriminative stimulus or teacher-initiated managerial behavior to the beginning of the next pupil activity.

**Multiple Baseline** - a behavioral research design permitting the measurement of the same behaviors on several subjects where each can act as a control of another by sequencing the time of intervention.

**Package Intervention** - the instrument used to change behavior which includes a number of independent variables to which the behavior change may be attributable.

**Placheck Recording** - making a tally, at a specified time, of the number of a group of people engaging in previously determined behaviors (Hall, 1971, p. 2).
Reliability - the percentage of agreement of independent observers on what they have observed in the same subjects during the same observation.

Significant Improvement - a level of improvement that meets the criterion level as determined by the supervisor and cooperating teacher. Baseline levels of behavior determine what each student's teacher's significant improvement will be.

Target Behavior - the behavior toward which the intervention is directed.

Time Sampling Recording - dividing the observation session into equal intervals and recording only behavior that occurs at the end of each interval (Hall, 1971, p. 3).

Additional definitions are found in Chapter III as they relate in context to the modules comprising the competency-based intervention.

Assumptions

The following statements are assumed to be true:

1. An inter-observer reliability of 85% or higher increases the probability that the subject's behavior was altered and not the behavior of the observer.

2. Changes in behavior that occur subsequent to intervention on consecutive subjects increase the probability that changes were due to unidentified variables.
CHAPTER II

REVIEW OF LITERATURE

A major criticism of the competency-based movement has been the lack of a research base to give stability to the substantial claims that have been made for the movement. At the present time, an embarrassingly small amount of research related information is available pertaining to competency-based educational endeavors (Siedentop, 1973). Despite this fact, however, a wealth of related research exists in categories which are related to this study. The use of behavioral techniques for changing target behaviors in applied educational settings has been well documented. Areas of research pertinent to this study include the following: (1) research related to competency-based programs in teacher education; (2) research related to changing teacher and student behavior; (3) research related to changing teacher behavior and subsequent change in student behavior; and, (4) research related to changing student behavior. It is because of the lack of research in competency-based programs in teacher education that this study was undertaken.
Competency-Based Teacher Education

Most of the literature available in this area is of a descriptive nature. Since evaluations of the programs are speculative in these descriptions and not based on empirical findings, they are examined only briefly in this research review.

Clegg and Ochoa (1970) established a field-based program for training teachers which included behavioral objectives and performance criteria. Courses within the program were of a pass-fail nature. Seventeen of the twenty subjects who went through the program passed. Feedback indicated more rigorous demands on the students than had previously been the case. As a result of this experience, they concluded that there exists a need for a closer relationship with the public schools, in-service training for cooperating teachers, and student involvement in developing the behavioral objectives and performance criteria.

Ziebarth and Jones (1971) compared achievement and attitudes of students in a traditionally taught course with one that was systems-oriented and competency-based. The competency-based course contained explicit directions, behavioral objectives, assessment modes, reading materials, and criterion checks. The results indicated no significant differences between the two groups regarding academic achievement. Negative attitudes toward the competency-based approach surfaced. Many incompletes and failures resulted in the com-
petency-based course where the responsibility for progress rested with the students.

Levine (1972) conducted a study in a teacher training program to determine relationships among key variables. Subjects were randomly assigned to criterion-referenced and control groups. Subjects were given written checks and ratings by observers to determine their mastery of instruction. Subjects were also assigned pupils to teach identical units. The data indicated that pupils taught by those in the criterion-referenced group significantly outperformed control group pupils on a post-test.

Cohan (1973) constructed and tested a performance-based module for use with student teachers in an effort to develop those behaviors which produce critical thinking. As a result of the use of module materials, the student teacher's verbal behaviors were modified and maintained.

Hurst (1973) compared three groups: (1) used an individualized learning module; (2) used a group learning module; and, (3) used regular classroom instruction in an effort to determine the effects of a competency-based learning modules on probing-inquiry teaching. He found that both module groups produced significant increases in knowledges, attitudes and performances. Hurst concluded that flexible learning modules developed through a systems approach may provide the means to creative reform in teacher education in the future.
Changing Teacher and Student Teacher Behavior

Sandefur (1967) compared a traditional teacher education program with an experimental one that included laboratory experiences, readings and seminars. The experimental program attained the more desirable of the behavior ratings studied. Pupils studied in the classes taught by those in the experimental group attained higher grades and behaved more desirably. Sandefur concluded that factual information alone is insufficient in changing teaching behavior and that direct involvement in the teaching-learning process more readily alters these behaviors.

A follow-up to this study (Sandefur, 1971) was done to examine the extent to which classroom behaviors are affected by course content in teacher education programs. Teachers from the experimental group were found to possess more desirable teacher behaviors. It was also found that teachers who were made aware of the use of praise and acceptance and encouragement of student ideas in pre-service programs expanded the use of these behaviors in their own teaching.

Briest and Butts (1969) used a pre-test and post-test to measure the effects of a teacher education program on the development of teacher competencies. Both pre-service and in-service groups of teachers made significant positive changes in their instruction decision behaviors.
Students and student feedback have been found to be effective in changing teacher behavior. Graubard, Rosenberg and Miller (1971) taught pupils reinforcement techniques to apply to teaching behaviors. The use of positive statements, maintaining eye contact with the teacher and asking for extra help were used by the students contingent upon teacher performance. Breaking eye contact and ignoring the teacher was employed when teacher performance was not appropriate. Results indicated that students could modify teacher behaviors.

Gage (1960) further demonstrated pupil effects when he used pupil ratings of the characteristics of an ideal teacher to modify teaching behavior in the direction of these characteristics. Edwards (1973), in a study with physical education teachers, found that student feedback produced teacher behavior rates opposite the desired direction. He attributed these results to too long a period of time before providing feedback. Centra (1973) found changes in college instructors' practices after receiving student feedback.

The use of media for analyzing and changing teacher behavior has been extensive. Cummins (1973) used audio tapes for self-analysis of classroom behaviors of teachers. Magaro (1973) compared three groups using audio tapes, video tapes, and no media feedback in an effort to improve interrogative ability of pre-service teachers. Micro-teaching (Borg, 1969; Davis, 1969; Mocaldo, 1973; Perlberg, 1968; Young and Young, 1969) has also been found to be an effective method of ana-
lyzing and changing teaching behaviors. Brashear (1970) found, however, that teacher behavior changes which occurred during micro-teaching experiences continued only for a short span of time.

Other uses of videotape feedback evaluation ranges from increasing probing questions and reducing rhetorical questions in elementary school teachers (Adair and Kyle, 1969) to statistical analysis of videotape recordings for training intern teachers (Rousch, 1969). Acheson (1964) found that feedback from television recordings improved teacher performance. Separate studies by Rutherford (1971) and Rousch (1969) found videotape feedback to be ineffective in producing significant changes in teacher behavior as compared to no feedback.

Thomas (1971) trained junior high teachers to code and tally specific behaviors. He concluded that defining categories of teacher behavior and using videotapes to analyze their teaching with respect to the defined categories of behavior is effective in producing teacher behavior changes. Saudergas (1972) used videotape and observation sessions with a supervisor as the types of feedback used, while Rule (1972) compared instructions and experimenter feedback, videotape scoring of teacher behavior, and a direct intervention to change teacher performance. The direct intervention, which consisted of the teacher being replaced by the experimenter when behavior rates fell below a pre-
set criterion level, produced the most significant change. Video recordings produced some small changes, while there were no predictable changes resulting from the instructions plus feedback condition.

Although Tuckman and Oliver (1968) found that teachers receiving feedback from supervisors changed in opposite the desired directions, other studies (Graubard, et al., 1971; Pollack, 1971) have found that feedback from supervisor consultations have changed teacher behavior significantly in the desired direction.

Hughley (1973) used directed information feedback to reduce negative interactions on the part of student teachers while increasing the rates of positive interactions.

Other studies have examined the effects of modeling on changes in teacher behavior (Koran, 1970; Orme and Oliver, 1966; Hill and Medley, 1968) and have found it to be an effective means of changing teacher strategies.

One study (Silverman and Kimel, 1972) used wireless hearing aids to furnish concurrent feedback to prospective teachers while they taught. Results indicated significant changes in verbal behaviors of those equipped with the hearing aids compared to those who were not equipped.

Changing Teacher Behavior and Subsequent Effects on Student Behavior

Research efforts linking the relationships between
teacher behavior and student behavior have been limited. Since this appears to be the focal point of the competency-based model, identification of these effective teaching behaviors must be forthcoming.

Kazdin and Klock (1973) conducted a study to determine the effects of verbal and non-verbal teacher behaviors that were delivered after appropriate student behavior. Appropriate student behavior was defined as pupil attentiveness. Using a reversal design, the experimenters found that pupil attentiveness increased from 50.2% to 75.9% when the use of non-verbal attentive behaviors were increased. When these non-verbal attentive behaviors were withdrawn, pupil attentiveness dropped to 52.7%.

Cossairt, Hall and Hopkins (1973) noted that pupil attentiveness increased significantly as teachers emitted pupil praise. They studied the effects of three different variables on teacher praise and student attending behavior. Using a multiple baseline design, the experimenters found that a package intervention of experimenter's instructions, feedback, and praise produced more teacher praise and subsequent pupil attending behavior than did the variables used as independent interventions.

Studies by Kosier (1971) and Klein (1972) found that increasing the rates of positive interactions emitted by teachers led to a greater percentage of pupils engaged in defined on-task behaviors. An attempt to examine the effects
of contingency management programs in the schools (Thompson, et al., 1974) found that in twelve of fourteen classrooms of teachers trained to reinforce appropriate conduct while minimizing attention to inappropriate conduct, there were significantly fewer disruptions and more on-task involvement than with the control groups. A similar study (Pinkston, et al., 1973) reduced the aggressiveness of a pre-school child and increased peer interaction by ignoring aggressiveness and praising social interactions.

Some documentation exists which links teacher behavior changes to increases in student achievement (Hasazi and Hasazi, 1972; Strickler, 1973). A study using feedback to teachers from videotape recordings and supervisors (Widell, et al., 1969), however, found no significant gains in pupil achievement resulting from changes in target teacher behaviors.

Rushall (1973) conducted an intensive single subject study of a swimming coach. Interactions were developed of a positive nature. As positive interactions emitted by the coach increased, the amount of training-related work output of members of the swimming team increased. It was found that on the day the coach emitted the highest rate of positive interactions, the greatest amount of training occurred.
Changing Pupil Behavior

The application of behavior techniques have been used extensively for bringing about changes in pupil behavior. Effective applications range from token economy (Glaser and Sarason, 1970; Brown, Copeland and Hall, 1972; Jenkins and Gorrafa, 1972; McLaughlin and Malaby, 1972; Ringer, 1973; Walker, 1972) to contingent free time (Long and Williams, 1973; Medlin and Stachnik, 1972; Siedentop, Rife and Boehm, 1973). Changes in behaviors of pupils include reducing disruptive classroom behavior (Hall, 1970; Harris and Sherman, 1972; Herman and Tramontana, 1971; Williams and Anandam, 1973), academic achievement (Bridgeman, 1974; Ayllon and Kelly, 1972; DeVries and Edwards, 1973; Webb and Cormier, 1972), and motor performance (Kahn and Burdett, 1967; Solomon, 1968).

Webb and Cormier (1972) measured the effects of behavioral objectives, criterion evaluation, and remediation upon the classroom behavior of disruptive adolescents. Analysis of the data showed statistically significant differences between experimental and control groups. Another study (Stedman, 1972) attempted to evaluate the effectiveness of behavioral objectives designed for secondary biology students. No significant differences between the three experimental groups and the control group were found.

Ferritor and his colleagues (1972), using a rever-
sal design, established behavioral and performance contingencies. He found significant effects of the specific contingencies on the specific target behaviors, but no generalization of the contingencies to the non-specific behaviors. Performance contingencies, therefore, improved performance, but caused declines in appropriate behavior levels. Young (1973) concluded that an intervention on physical skill did raise the level of appropriate behavior of elementary school children, but did not effect skill development. His implementation of a behavior game affected positively the rate of disruptive behavior, but did not improve skill. These findings are contrary to Ferritor's, since Ferritor concluded that interventions must be specifically designed to affect target behaviors.

Walker's study (1972) used a token reinforcement system to decrease deviant behavior among emotionally disturbed elementary school children. An interesting facet of this study showed that as in-school deviant behavior decreased, this same behavior increased in the homes of the subjects. Walker concluded that these target behaviors were merely suppressed at school, resulting in the increase in these behaviors in out-of-school settings.

Knapczyk and Livingston (1973) used a token economy system to increase the accuracy with which special education students answered questions about reading assignments. They found that the accuracy with which students answered ques-
tions was higher when the token system was in effect than when it was not.

Test score feedback that told subjects they had scored high on a sham pre-test scored significantly higher on an actual post-test than did a group given failure feedback about the sham test in a study by Bridgeman (1974). A third group received no feedback and was not significantly different than the average of the two feedback groups.

Solomon and Wahler (1973) found that peer and teacher interactions increased social behaviors and reduced disruptive behaviors of five children in an elementary classroom. During baseline, it was found that peer attention to these five children centered around their disruptive behavior. Manipulations of peer attention after baseline illustrated that peer attention was reinforcing disruptive behavior, and these behaviors were extinguished as peer attention shifted to social behaviors of a positive nature.

Siedentop, Rife and Boehm (1973) studied the effects of contingent free time on management efficiency in junior high physical education classes. Response latency to student-teacher initiated managerial behaviors was significantly decreased as the classes attempted to earn free time contingent upon quick responses to managerial behaviors. Each response to a teacher-initiated managerial behavior within a pre-set time limit earned one minute of free time for the class. Failure to respond within the time limit produced no
awarding of free time. The pupils were praised by the student teacher when they earned the free time in an attempt to provide additional reinforcement for their responses.

**Summary of the Literature**

The limited number of studies relating to competency-based teacher education has produced inconclusive results, a factor correlated to many areas where empirical data are lacking. Related literature findings illustrate a number of methods that can be utilized for changing the behaviors of teachers and students, with some of the literature linking changes in teacher behavior to subsequent changes in pupil behavior.

Most of the literature pertains to research endeavors with exceptional children, or is directed at elementary school levels. There is little research data available from studies directed at post-adolescent youth. The need exists to find contingencies which will be as effective with high school age pupils as token economy and behavior games are with pre-adolescent pupils.

Obviously, also, is the dearth of research efforts in physical education, both from the standpoint of teacher and student behaviors. Methods which will best facilitate the development of teacher behaviors that will influence student success in physical education at all levels must be sought and substantiated.
CHAPTER III

METHODS AND PROCEDURES

This study examined differences between rates of behavior of student teachers and high school students during baseline and after intervention with the competency-based format. The research design employed to show causation was the multiple baseline design (Hall, 1971; Hall, Cristler, Cranston and Tucker, 1970; Baer, Wolf and Risley, 1968). Topics examined in this chapter include the subjects and settings, observations and behaviors, experimental conditions, and analysis and design.

The hypotheses state: (1) that student teacher behavior will be changed in the desired direction after intervention; (2) that low level of inappropriate and inactive behavior will increase or decrease respectively as changes in the behavior of the student teachers occur; and, (3) that if measures of pupil behavior are occurring at criterion levels they will be maintained as changes in the behavior of student teachers occur. In order to test these hypotheses, data were collected on the behaviors of student teachers and high school students using the observation techniques of event recording, duration recording, placheck, and time sampling.
Subjects and Settings

The subjects for this study were seven student teachers from The Ohio State University who student taught during the spring quarter of the 1973-1974 academic year. Four of the subjects were male, ranging in age from twenty-one to twenty-six years. The remaining three female subjects were twenty-one years old. All were physical education majors. Five of the subjects were attempting to become certified at the elementary and secondary levels by student teaching at the elementary level one-half day and at the high school the other half-day. The other two subjects had student taught at the elementary level the previous quarter. Prior experience in teaching-related areas ranged from various coaching assignments as part of their undergraduate training to youth work on playgrounds and in summer camps. All seven subjects had previous course work dealing with the principles of applied behavior analysis as a portion of their teacher education curriculum. They did not have, however, any direct experience in applying these principles to teaching situations prior to their student teaching at the high school level.

The schools to which the seven subjects were assigned included three high schools which are in the Columbus City School's system, North, Northland, and Walnut Ridge, and one independent suburban school, Upper Arlington. All are relatively large high schools ranging in size from
approximately twelve-hundred to eighteen-hundred students in the upper three grades. Two student teachers each were assigned to North, Walnut Ridge, and Upper Arlington and taught between eight to ten class periods per week. The other subject was placed at Northland with the same teaching load. Two of the high schools met physical education classes five times per week. The other two schools met these classes three times per week. Each school had satisfactory indoor and outdoor activity space and an adequate amount of equipment of various kinds.

The three schools of the Columbus City Schools system were located in districts that ranged from low to middle socio-economic class. Upper Arlington is considered to be an upper-middle class community located immediately west of The Ohio State University.

Observations and Behaviors

Teaching behaviors were those emitted by the student teachers during the class period set aside for physical education and were recorded periodically during the class. Because of the difficulty in hearing verbalizations by the student teacher, it became necessary for the experimenter to follow the student teacher at close-range while attempting to be as inconspicuous as possible. Some situations permitted the observer to place himself in a central location from which it was possible to record all discrete
events emitted by the student teacher. The observer recorded teaching and managerial behaviors using event recording and duration recording. Discrete teaching behaviors were recorded for a period of three minutes. Managerial episodes were recorded at any time during the class that they occurred. A cassette tape was programmed to cue the observer for each three minute observation period and the subsequent three-minute rest period. An ear plug was used when the observer maintained a close proximity to the student teacher to avoid disruption. This procedure was continued throughout the class period. A stopwatch was used to time the duration of each managerial episode as it was observed. This was done independently of the programmed tape.

During the three-minute recording period, the observer made a judgement based on the teacher behavior definitions as to whether or not a discrete target behavior had been emitted by the student teacher. Where this was judged to have occurred, the behavior was categorically recorded on the event recording sheet (See Appendix G). Prior to the study, reliability checks were made between independent observers to ensure an 85% reliability in the observations of the target teacher behaviors. Reliability percentages were determined by calculating the number of agreements over the number of agreements plus disagreements times one-hundred. Reliability analyses conducted during the study are included in the analysis of data chapter. Pre-study reliability was
maintained above the 85% criterion level.

Target teaching behaviors were categorized into three of the six modules designed as the competency-based format (See Appendixes C, D, E). The targeted teaching behaviors were partially based on The Ohio State Teacher Behavior Scale (Siedentop and Hughley, 1972). The three modules and the student teacher behaviors categorized in each are defined as follows:

**Interpersonal Relationships Module**

**Positive Interactions** - all positive verbal and non-verbal teacher reactions to pupil behavior in other than skill attempts. An example would be a teacher statement, "Thank you for getting quiet", following the response of the class to a teacher-initiated action.

**Negative Interactions** - all negative verbal and non-verbal teacher reactions to pupil behavior in other than skill attempts. An example would be a teacher statement, "Be quiet!", following a teacher-initiated request for attention.

**Positive Specific Verbal Interactions** - all precise or explicit positive verbal reaction by the teacher to pupil behavior. An example would be a teacher statement, "Thank you for getting quiet so quickly after I blew the whistle.", following a response of the class to a teacher-initiated action.
**First Name Use** - an attempt to individualize behavior and skill attempt feedback by using the first name of each student with which the student teacher is interacting at some point during the interaction.

**Instructional Feedback Module**

**Instructional Feedback** - refers to all student teacher verbal or non-verbal reactions to an appropriate skill attempt by a pupil.

**Positive General Feedback** - refers to a positive reaction by the teacher resulting from a skill attempt. It lacks information about the exactness of what was positive about the skill attempt. An example would be, "Nice Going!"

**Positive Specific Feedback** - refers to a positive reaction by the teacher resulting from a skill attempt. It includes precise or explicit information as to the exactness of the positive reaction. An example would be, "That's the way to use the wrist in the overhead smash!"

**Negative (Corrective) General Feedback** - feedback of a corrective nature resulting from pupil difficulty in executing the skill attempt. It lacks precise information about errors made by the pupil. An example would be, "No, you don't have it yet."

**Negative (Corrective) Specific Feedback** - feedback of a corrective nature resulting from pupil difficulty in executing the skill attempt. It includes precise information
about the error made by the pupil. An example would be, "Keep your left arm straight during the backswing."

**Management Module**

*Managerial Episode* - the cumulative time from the beginning of a student teacher-initiated managerial behavior or a discriminative stimulus to the beginning of the next pupil activity.

*Total Time* - refers to the amount of time per class the student teacher spends in organizing for activity or instruction.

In an effort to determine the person or persons at whom the target student teacher behaviors were directed, a code was established to differentiate between group or individually directed feedback (See Appendix G).

Three additional modules were devised (See Appendices A, B, and F.) The School Policies and Procedures module was developed in an effort to make the student teacher accountable for and to develop competencies in the areas for which teacher knowledge is essential for proper organization within the school (See Appendix A). The Planning module was designed to help the student teacher develop competencies in the writing of lesson plans which include explicit behavioral objectives and in formulating strategies for coping with behavior problems among pupils (See Appendix B). The Student Assessment module was employed to provide an additional
assessment channel for the evaluation and impact of the student teacher (See Appendix F). The terminal behavioral objectives for the student teachers were constructed as follows:

School Policies and Procedures Module

1. The student teacher will demonstrate a cognitive awareness of school policies and procedures by carrying out such procedures during his tenure as a student teacher and by passing a written exam at 90% or better by the end of the second week of student teaching covering the following areas:

   a. Teacher attendance
   b. Teacher dress regulations
   c. Teacher tardiness
   d. Guidance office - reviewing pupil records
   e. Discipline and corporal punishment
   f. Pupil excuses and pupil tardiness
   g. Hallway passes
   h. Fire drills
   i. Bomb threats
   j. Unusual weather conditions - school closings
   k. First aid and injury
   l. Grading
   m. Smoking - pupils and teachers
Planning Module

1. The student teacher will hand in copies of lesson plans one week in advance, i.e., on the day he is observed, which will meet the criterion level established by the supervisor and cooperating teacher.

2. The student teacher will include explicit behavioral objectives as part of the lesson plans which satisfy the criteria established by Mager or an additional approved authority.

3. The student teacher will devise and implement behavior games and strategies for use with total class and individual inappropriate behavior resulting in significant improvement in appropriate behavior, including:
   a. Individual and class contracting
   b. Extinction

Interpersonal Relationships Module

1. The student teacher will emit a specific rate per minute of positive interactions.

2. The student teacher will emit a specific ratio of positive to negative verbal or non-verbal interactions relative to pupil behavior.

3. The student teacher will emit specific information in a specific percentage of all positive behavioral interactions.
4. The student teacher will initiate student contacts on a first name basis at a specified rate per minute.

5. The student teacher will be able to identify the last names and grade level taught of certified teachers and administrators in the school at a criterion level established by the supervisor.

Management Module

1. The student teacher shall attain and maintain a specific percentage of appropriate pupil behavior during class time.

2. The student teacher shall spend no more than a specific percentage of class time in managerial activities.

3. The student teacher shall organize each class so that at least a specific percentage of the students are engaged in active learning during each activity episode.

4. The student teacher shall make all pupils aware of the rules and regulations that govern the physical education class (i.e., listen to the teacher during explanations or quiet when the whistle blows). The cooperating teacher and supervisor will judge the performance of the student teacher relative to this TBO.

Instructional Feedback Module

1. The student teacher shall emit instructional feedback at a specific rate per minute.
2. The student teacher shall emit specific information in a specific percentage of all instructional feedback.

3. The student teacher shall direct instructional feedback toward specific individuals a specific percentage of the time.

Student Assessment Module

1. Based on student evaluation, the student teacher will demonstrate levels of behavior which will ensure 70% of student responses in the "yes" category of a questionnaire over the following areas:
   a. Attitude toward activities he teaches
   b. Attitude toward his students
      1.) Names of students
      2.) Like or dislike of students
      3.) Helping students increase skill levels
   c. Well-planned lessons
   d. Class control

In an effort to center cooperative efforts on the part of the university supervisor and the cooperating teacher to change student teacher behaviors, the cooperating teacher of each high school was asked to become a part of the observation team for this study. Specifically, the cooperating teacher was asked to assess pupil behavior by using the plachek and time sampling observation methods
(Hall, 1971). Plachecks were used to determine the appropriate-inappropriate and active-inactive behaviors of the entire class. Time sampling was used to observe these same behaviors in two individuals in the class designated by the cooperating teacher. These pupils were selected due to previously high rates of inappropriate and/or inactive behavior. The purpose of the student behavior observations was to determine if changes in the behavior of the student teacher would cause changes in class and target individual's behavior.

The cooperating teacher was trained to make these observations in the two weeks immediately preceding the beginning of the subjects' student teaching. An audio tape was programmed to cue the cooperating teacher in making these observations.

**Observation Sequence for Placheck and Time Sampling**

- **Placheck** - Appropriate/Inappropriate Behavior (ten seconds)
- **Rest** - (twenty seconds)
- **Placheck** - Active/Inactive Behavior (ten seconds)
- **Rest** - (twenty seconds)
- **Time Sampling** - Student A, Appropriate/Inappropriate Behavior (ten seconds)
- **Rest** - (ten seconds)
Time Sampling - Student B, Appropriate/Inappropriate Behavior (ten seconds)

Rest - (ten seconds)

Time Sampling - Student A, Active/Inactive Behavior (ten seconds)

Rest - (ten seconds)

Time Sampling - Student B, Active/Inactive Behavior (ten seconds)

Observations for the time sampling procedure were recorded in the interval from the last second of observation time to the first second of rest time.

The placheck and time sampling sequence took approximately two minutes and ten seconds. This sequence was followed by a rest of two minutes and fifty seconds, making the observe and rest sequence five minutes in length. This five minute sequence was repeated for the duration of the physical education class period.

Reliability checks made during this training period were above the 85% minimum criterion level. Reliability analyses during the study are included in the analysis of data chapter.

A coding format was developed for the recording of the data derived from the placheck and time sampling observations (See Appendix H).

Definitions of the target behaviors of the high school pupils were as follows:
**Appropriate Behavior** - any pupil behavior that is considered to be contributing to the educational environment. Examples included:

a. Responding to teacher's directions within five seconds.
b. Maintaining eye contact with the teacher when the teacher was instructing or demonstrating.
c. Waiting in line.
d. Helping another student practice a skill.

**Inappropriate Behavior** - any pupil behavior that is considered to be detracting from the educational environment. Examples included:

a. Talking during teacher instruction or demonstration.
b. Failing to carry out directions quickly.
c. Not participating in an activity as part of the class.
d. Pushing or otherwise physically abusing another student.

**Active Participation** - refers to actual physical involvement in the activity that is the appropriate activity of the class. Examples included:

a. Shooting, dribbling or rebounding in basketball.
b. Spotting in gymnastics.
c. Playing in and attending to the action of a game of volleyball.
d. Returning to a place in line after completing a drill.

Inactive Participation - refers to a lack of physical involvement in an activity. Examples included:

a. Standing in line waiting a turn.

b. Any inappropriate student behavior.

c. Waiting for a batter to come to bat in softball.

d. Any time-out period from actual play of a game.

The cooperating teacher was instructed to record active or inactive participation only during activity episodes and not during instruction or management time. These procedures generally force the student into being inactive and are not, therefore, valid observations.

**Experimental Conditions**

In an effort to increase the rates of the categorized target behaviors, the subjects were given a package intervention based on a competency-based format (Anderson, *et al.*, 1973; Dickson, *et al.*, 1973; Elam, 1972; Houston and Howsam, 1972; Siedentop, Rife and Dodds, 1973). Each module contained general goals, terminal behavioral objectives for the student teacher to attain, various learning activities to aid in objective attainment, and the method by which the student teacher would be assessed. Each module also contained a reading sheet to guide the student teacher and provide additional explanations about the module (See Appendixes...
A, B, C, D, E, F).

After baseline rates on each subject had been established, intervention was instituted starting with three observations on subject one and adding one observation for each of the remaining subjects (See Fig. 1).

Insert Figure 1
Baseline Intervention

Observations and Feedback Sessions

Figure 1 - Schedule of Interventions on Multiple Baseline Design
On the day before the student teachers reported to their respective schools, a meeting was held between the seven subjects and the experimenter. The subjects were told that the experimenter would be doing an analysis of their teaching as part of a new method of student teacher observations. They were told, in addition, that at a point in time this analysis would be completed, and the student teacher would receive a report on this analysis from the experimenter. It was explained that until that time, there would be no feedback given by the experimenter. The student teachers were then given the School Policies and Procedures module (See Appendix A) and told that they would be given the assessment at the end of the second week of student teaching.

Following the collection of baseline rates on each of the seven subjects, intervention occurred. Subjects were given a goal sheet (See Appendix I) which listed mean baseline rates for the target behaviors. They were told that they would be observed during the same class hour on a one-time per week basis. Observations were made each week and plotted on the goal sheet in the space for the behaviors observed. Goals for rates of behavior were established for the next observation based on baseline rates to start and behaviors observed each week thereafter. Where, for example, a weekly goal was established and not attained, the goal remained the same for the next observation to be made. Where goal attainment for the week occurred, the criteria was set
higher for the next observation. If the terminal goal was met, the student teachers were asked to attempt to maintain that level for the remainder of the observation sessions. These goals were established for the Interpersonal Relationships module, the Instructional Feedback module, and the Management module at a successive weekly rate in building toward the terminal objective for each of the categories of behavior within the modules. The entire intervention consisted of the modules of the competency-based format, instruction, cueing and reinforcement, graphic feedback, and successive goals for building toward the terminal goal.

Instructions

1. Subjects were given the competency-based package intervention. Detailed explanations were given for each of the modules.

2. Subjects were given copies of the goal sheet, and thorough explanations were given for each of the seven behavior categories.

3. Subjects were told that they would be observed on a one-time per-week basis during the same class period. In addition, they were told that the observation would be immediately followed by a feedback session with the experimenter.

4. Subjects were told to emphasize those modules where low rates of behavior were apparent either during base-
line or in a weekly observation for the observation to occur the following week.

5. Subjects were told at the conclusion of baseline what the terminal behavioral objectives were that the student teacher would have to attain to pass student teaching.

6. Subjects were given specific information about the use of behavioral objectives as part of the respective units they were teaching.

**Graphic Feedback**

Graphic feedback was provided by the competency-based modules, the goal sheets, and the observation sheets.

**Cueing and Reinforcement**

The experimenter complimented the subjects for increased rates of target behaviors and for carrying out technique suggestions within their classes.

**Goal Setting**

After identifying the terminal behavioral objectives, successive weekly goals were established in the feedback session immediately following an observation. These successive weekly goals were established to build toward the mastery of the terminal behavioral objective in each category of behavior. Since there exists no research support for a specific rate of behavior emitted by good teachers, the experimenter set the terminal behavioral objectives for each behavioral
category at a goal that was realistically attainable for each subject, based primarily on baseline rates.

**Analysis and Design**

Behaviors that are tallied and coded during observations prior to an intervention designed to change those behaviors are termed baseline rates. Baseline rates of student teacher and pupil behavior were established prior to the introduction of the competency-based intervention. These observations were made by the experimenter, the cooperating teacher and, when reliability checks were made, by a third party. Following intervention, weekly observations were conducted by these same persons. Data were analyzed by means of a multiple baseline design (Hall, 1971). This design is employed in behavioral research in an effort to show causality without reducing the effects of the intervention as is done with studies using reversal designs. The multiple baseline design permits measurement of the same behaviors on several subjects. Intervention with the experimental variable, in this case the competency-based format, was introduced to the subjects at different times. Changes in rates of behavior in the target subjects and continued baseline data collecting on the remaining subjects, along with behavior changes that subsequently occur with remaining subjects, indicates that changes in rates of behavior were due to the introduction of the experimental variables.
The applied research design of this study used what is termed a "package" intervention. A criticism of this intervention states that the package does not make it possible to determine the amount of the effect that is attributable to any one of a number of variables (Kazdin, 1973).

The concern of applied behavioral research is to find some way to modify behaviors (Wolf, 1973). If the package does, indeed, affect target behaviors, the role of each specific component may not be too important. Because of the multiplicity of variables which can accrue from any single variable, attempts to isolate all conceivable variables would prove fruitless. The concern for a single causative variable is not the major intention of behavioral studies; changes in target behaviors are. Wolf (1973) has stated that the significance of the effects of praise, a pat on the back, or a token are meaningless when isolated by themselves if the end result, the change in pupil behavior, is achieved. Although outside the realm of this study, implications for future studies may well include efforts to determine the parts of the package intervention which are most important in bringing about behavior changes.

Generalization or induction effects also negate attempts to isolate the single causative variable. An aspect of the Planning module, for example, may affect student behavior in the Management module. Cause-effect relationships, therefore, are most difficult to show in behavioral studies.
relative to the single causative variable producing the change. An assumption made is that any changes in teacher or student behavior which occurred was due to the total competency-based package intervention and not to any single variable within the package.

Besides the previously mentioned factors of reliability and causality, the factors of significance and generality are of the utmost importance in research studies. Risley (1969) has stated that significance refers to a comparison between the accomplished behavior change and the level necessary for social usefulness. In this study, significance refers to changes in student teacher behavior that are judged to be significant by the university supervisor-experimenter, the cooperating teacher in the high schools, and the student teacher. These accomplished behavior changes of the student teacher are judged to be significant if they increase the learning environment of the physical education classes taught by the student teacher. The opinion of the student teacher as to the usefulness of these behaviors may be more important than that of another person or of any statistical treatment.

Behavioral research usually concentrates on intensive work with a few subjects to determine procedures which can produce significant changes. Once this is done, the experimental variable can be generalized to other settings, and the procedures can be applied to other subjects. As a
result, a range of variations of the procedures needed to produce significant changes in all subjects can be determined. It is with this intent that the experimenter attempted to determine the effects of a competency-based format on seven student teachers from The Ohio State University.
CHAPTER IV

ANALYSIS AND DISCUSSION OF THE DATA

The basic data for this study were teacher and pupil behavior. Eight categories of teacher behavior were defined. Event recording was utilized to code the behaviors emitted by the student teachers during three minute observation periods spaced sequentially throughout a class period. The data were converted to percentages and rates per minute. Differences between behavior rates and percentages during baseline and intervention were analyzed by a behavior profile for each subject. The data were further analyzed by computing rate and percentage of increase or decrease for each of the student teacher behaviors during baseline and intervention. Differences among subjects were examined by use of the multiple baseline (Hall, 1971). The terminal behavioral objectives for each student teacher were analyzed by comparing mean baseline and intervention rates and percentages, whether or not the objective was attained, and the duration of objective maintenance.

Pupil behavior of the total class was coded into three categories. Using duration recording, the amount of time spent in managerial activity was recorded. The total class time spent in managerial activity was converted to per-
percentage of total class time.

Placheck recordings were used to observe the appropriate and inappropriate and active and inactive behaviors of the total class. These categories were converted to percentages by dividing the total class into the number of pupils engaged in appropriate and active behavior during the observation sessions. Appropriate/inappropriate and active/inactive behaviors were also observed for two students in each subject’s class. These students were selected by the cooperating teacher as pupils who did not participate often and emitted high rates of inappropriate behavior. Time sampling was used to record these observations. The two students’ appropriate and active behavior were expressed as the percentage of observations per class that were spent in these behaviors. Differences in behavior between baseline and intervention were analyzed by a behavior profile for each class and the two pupils within the class. Differences between classes and individual pupils were examined by using the multiple baseline.

The format for this analysis and discussion chapter is as follows: (1) presentation and discussion of the reliability data; (2) presentation and discussion of the experimental data; (3) presentation and discussion of the TBO data; and (4) summary.

Reliability

In order to check the experimenter’s observing and
coding of student teacher and pupil behavior, an independent observer recorded teacher behaviors for one-half of a class period and student behaviors during the other half. Reliability checks were made during baseline and after intervention. Three reliability checks were made on all behavior categories.

**Subject Reliability**

The first reliability check method yields the percentage of agreement of the total number of events observed per session. The larger number of the independent observers' observations was divided into the smaller total (Hall, 1971). Table 1 shows the percentage of agreement of the total number of events recorded between the experimenter and the independent observer for each subject during the three reliability checks.

The second measure of reliability is that established by classifying events during each session. This measure was determined by computing the number of agreements and disagreements in each category and inserting the sums across all categories into the following formula (Hall, 1971, p. 18):

\[ \frac{\text{Agreements}}{\text{Agreements plus Disagreements}} \times 100 \]

Table 2 presents the percentage of agreement in classifying events for each subject. These figures represent the reliability of the accuracy of the observers in classifying...
ing discrete events into the proper categories. These data are presented for each subject and each session.

A third method of computing reliability yielded the percentage of agreement between independent observers for the teacher behavior categories one through eight. The larger total number of events observed in a given category by one observer was divided into the smaller total number of events tallied for the same category by the second observer. These reliability percentages are found in Table 3.

**Plachecck Reliability**

Reliability for plachecck observations of each subject's total class was also calculated. Two categories of class behavior were observed. Reliability for appropriate/inappropriate behavior and active/inactive behavior was checked by cumulatively totaling the number of agreements and disagreements for each plachecck observation conducted per class. Table 4 shows the data for total class appropriate/inappropriate behavior reliability. Table 5 lists similar data for the active/inactive behavior of the subjects' classes.

**Reliability for Total Class Time in Managerial Episodes**

Reliability for total class time spent in managerial episodes was done by dividing the lower time observed by the higher time and multiplying times one hundred. Table 6 shows...
the results of this reliability check.

Reliability for Individually Directed Feedback

Reliability for individually directed feedback was determined by dividing the larger number of the independent observers' observations into the smaller number. Table 7 shows the reliability that was calculated for feedback that was directed at individuals.

Time Sampling Reliability

Time sampling reliability for observations on two selected individual pupils within each subject's class was also computed. Appropriate/inappropriate and active/inactive behavior of these two pupils was observed. Reliability was determined by dividing the number of agreements by the number of agreements plus disagreements for each time sampling observation per class. Table 8 shows the reliability for these pupils relative to their appropriate/inappropriate behavior. Table 9 presents the active/inactive reliability for this observed pupil behavior.

Discussion of Reliability

Subject Reliability

The reliability for the total number of events yielded mean percentages well over the predetermined 85 percent.
cent criterion level, ranging from .93 to .98. This method of reliability, however, is the least informative, since the difficulty lies not in identifying discrete events, but in the classification of these events. Table 2 illustrates this point. Reliability for classifying events for each subject was somewhat lower. The exception to this was in the first reliability check where only one percentage point difference was found between total number of events observed and classifying events for each subject. The low number of events occurring during the first reliability check and total agreement on these few events may have lead to a deceptively high classifying events reliability. Reliability for classifying events for each subject was well over the predetermined 85 percent criterion level.

Category reliability for each of the subject's teaching behaviors was also at a satisfactory level. In the teacher behavior categories one, two, three, and six, the low number of events made it difficult to judge reliability. The first three categories were found to be cued by student appropriate/inappropriate and active/inactive behavior. Since rates of student appropriate behavior were exceedingly high (See Figure 23) and rates of active behavior were generally above the TBO criterion level, low numbers of events contingent upon student responses were observed. Categories four, five, seven, and eight showed a sufficient number of events to make a reasonable judgment that the coding for
these categories was reliable and well above the predetermined criterion level.

**Plachek Reliability**

Reliability checks for appropriate/inappropriate and active/inactive behavior of each subject's class produced high agreement percentages between independent observers. Mean reliability was .98 and higher for each of the three checks. Mean reliability for active/inactive behavior ranged from .88 to .99, well over the 85 percent criterion level. Determining the appropriate and active behaviors of class members appeared to be not too difficult, once definitions were well formulated and made available to the independent observers.

**Reliability for Total Class Time In Managerial Episodes**

Reliability for total time spent in managerial episodes per class also yielded high reliability. Differences in time per episode appeared to come from that point at which the episode ended. Observers appeared to agree on the start of each managerial episode, but disagreed on the ending. A clarification of a criterion of 50% class participation to end an episode aided the observers. Although this difficulty did arise, mean reliability was over .95 for each check.
Time Sampling Reliability

Despite checks where a low number of events of active behavior were observed for the individual students within the subjects' classes, reliability for active/inactive and appropriate/inappropriate behavior was .90 and higher. This indicates a high degree of definitional agreement between independent observers and the relative ease of observing the behavior of a single subject.

Reliability for Individually Directed Feedback

Reliability for agreements percentages of feedback directed at individuals within the total class yielded satisfactory results. Most student teacher feedback was individually directed, and this high incidence of events yielded an accurate reliability. Mean reliability for individually directed feedback ranged between .89 and .96, well above the minimum acceptable level.

Insert Tables 1 through 9
## Table 1

Reliability for total number of events observed for each subject

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<tr>
<th>Subject</th>
<th>Reliability Checks</th>
<th>Mean</th>
</tr>
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<tbody>
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<tr>
<td>S2</td>
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<td>S4</td>
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</tr>
<tr>
<td>S5</td>
<td>1.00(4/4)</td>
<td>0.95</td>
</tr>
<tr>
<td>S6</td>
<td>1.00(1/1)</td>
<td>0.94</td>
</tr>
<tr>
<td>S7</td>
<td>1.00(1/1)</td>
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</tr>
<tr>
<td>Mean</td>
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<td>0.96</td>
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### TABLE 2

RELIABILITY FOR CLASSIFYING EVENTS FOR EACH SUBJECT

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<td>.91</td>
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<td>.87</td>
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<td>2</td>
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<td>1.00(2/2)</td>
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Mean  .98  .98  .99  .98
### TABLE 5

**RELIABILITY FOR ACTIVE - INACTIVE PUPIL BEHAVIOR**

*Plachecks - Each Subject's Classes Per Session*

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<th>Reliability Checks</th>
<th>Mean</th>
</tr>
</thead>
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<td>C2</td>
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<td>C3</td>
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<td>.94</td>
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<td>C5</td>
<td>.76</td>
<td>.86</td>
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<td>.89</td>
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Mean: .94  .88  .99  .94
<table>
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<th>Reliability Checks</th>
<th>Mean</th>
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<tbody>
<tr>
<td>C1</td>
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<td>.98</td>
</tr>
<tr>
<td>C2</td>
<td>.97</td>
<td>.97</td>
</tr>
<tr>
<td>C3</td>
<td>.96</td>
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<td>.96</td>
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<tr>
<td>C7</td>
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Mean: .98 .98 .96 .97
### TABLE 7

RELIABILITY FOR INDIVIDUALLY DIRECTED FEEDBACK

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<td></td>
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<tr>
<td>Mean</td>
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<tr>
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### TABLE 8

**RELIABILITY FOR INDIVIDUAL APPROPRIATE - INAPPROPRIATE PUPIL BEHAVIOR**

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<thead>
<tr>
<th>Subject's Pupils</th>
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<td></td>
<td>1</td>
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<td>3</td>
<td>Mean</td>
</tr>
<tr>
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<td>.66</td>
<td>1.00</td>
<td>1.00</td>
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<tr>
<td>P 1-B</td>
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<td>1.00</td>
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<td>-</td>
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<td>1.00</td>
</tr>
<tr>
<td>P 2-B</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>P 3-A</td>
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<td>-</td>
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<tr>
<td>P 5-B</td>
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Mean 1.00 .93 .95 .96
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<td>-</td>
<td>-</td>
<td>1.00</td>
</tr>
<tr>
<td>P 7-B</td>
<td>1.00</td>
<td>1.00</td>
<td>-</td>
<td>1.00</td>
</tr>
<tr>
<td>Mean</td>
<td>.97</td>
<td>1.00</td>
<td>.90</td>
<td>.95</td>
</tr>
</tbody>
</table>
Experimental Data

Student Teacher Behavior Profiles

Behavior rates for each of the subjects illustrates a profile of teaching behaviors. This profile presents an overview of the discrete events the subject emitted during the observed class periods. The plotting of these data reveals individual teaching styles during baseline and after intervention occurred. Figures 2 through 8 represent data as they comprise the student teacher behavior profiles.

Insert Figures 2 through 8
Figure 2 - Sub. 1 - Behavior Profile

Observations and Feedback Sessions

- Behavior Inter. Rate/min.

% of Spec. Info. in all feedback

First name use Rate/min.

+ Behavior Inter. Rate/min.

% of Indv. Directed Feedback Rate/min.

Feedback % of Spec. Info. in Inter.
Figure 3 - Sub. 2 - Behavior Profile

Observations and Feedback Sessions

- Behavior Inter. Rate/min. % of Spec. Info. in all feedback First name use + Behavior Inter. Rate/min.

0 2 4 6 8 1.0 0 2 4 6 8 1.0 0 2 3 4 1.0

1 3 5 7 9 11 1 3 5 7 9 11

% of Indv. Directed Feedback Feedback Rate/min. % of Spec. Info. in Inter.

0 2 4 6 8 1.0 0 2 3 4 1.0 0 2 4 6 8 1.0

1 3 5 7 9 11 1 3 5 7 9 11
Figure 4 - Sub. 3 - Behavior Profile

Observations and Feedback Sessions:

- Behavior Inter. Rate/min.

% of Spec. Info. in all feedback

First name use + Behavior Inter. Rate/min.

% of Indv. Directed Feedback

Feedback Rate/min.

% of Spec. Info. in Inter.
Figure 6 - Sub. J - Behavior Profile

Observations and Feedback Sessions

- Behavior Inter. Rate/min.

- First name use + Behavior Inter. Rate/min.

- % of Spec. Info. in all feedback

- % of Spec. Info. in Inter.

- % of Indv. Directed Feedback

- Directed Feedback Rate/min.

20 40 60 80 100

0 0.2 0.4 0.6 0.8 1.0

0 2 4 6 8 10 12 14 16
Figure 7 - Sub. 6 - Behavior Profile

Observations and Feedback Sessions

- Behavior Inter.
  Rate/min.
% of Spec. Info. in all feedback
First name use
  Rate/min.
+ Behavior Inter.
  Rate/min.

% of Indv. Directed Feedback
Feedback
  Rate/min.
% of Spec. Info.
in Inter.
- Behavior Inter. Rate/min.  
% of Spec. Info. in all feedback  
First name use Rate/min. + Behavior Inter. Rate/min.

Figure 8 - Sub. 7 - Behavior Profile

Observations and Feedback Sessions

% of Indiv. Directed Feedback  
Feedback Rate/min.  
% of Spec. Info. in Inter.
Multiple Baselines and Percentage Change

In order to facilitate comparisons among subjects and to show causation, the behavior rates for each of the seven subjects were plotted by category. This allowed for comparison with the same behaviors emitted by the other subjects. Each of the multiple baselines for a teacher behavior category (See Figures 9 through 15) are followed by a table showing the percentage change that occurred between baseline and intervention for each of the teacher behavior categories (See Tables 10 through 16).

Insert Figures 9 through 15

Insert Tables 10 through 16
Figure 9 - Positive Behavior Interactions - Rate/Minute
TABLE 10
RATE AND PERCENTAGE CHANGE FOR STUDENT TEACHERS
POSITIVE BEHAVIOR INTERACTIONS - RATE/MINUTE

<table>
<thead>
<tr>
<th>Subject</th>
<th>Mean Baseline</th>
<th>Mean Intervention</th>
<th>Mean Increase</th>
<th>% Increase or Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>0/min.</td>
<td>0/min.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>S2</td>
<td>.1/min.</td>
<td>0/min.</td>
<td>-.1/min.</td>
<td>-</td>
</tr>
<tr>
<td>S3</td>
<td>.16/min.</td>
<td>.04/min.</td>
<td>-.12/min.</td>
<td>-</td>
</tr>
<tr>
<td>S4</td>
<td>.02/min.</td>
<td>.05/min.</td>
<td>.03/min.</td>
<td>-</td>
</tr>
<tr>
<td>S5</td>
<td>.01/min.</td>
<td>.03/min.</td>
<td>.02/min.</td>
<td>-</td>
</tr>
<tr>
<td>S6</td>
<td>0/min.</td>
<td>.2/min.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>S7</td>
<td>0/min.</td>
<td>0/min.</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 10 shows very little mean rate of increase or decrease. Percentage of increase or decrease is negligible. Figure 9 shows that intervention causation was not in evidence.
Observations and Feedback Sessions

Figure 10-Percentage of Specific Information in Interactions
TABLE 11
RATE AND PERCENTAGE CHANGE FOR STUDENT TEACHERS
PERCENTAGE OF SPECIFIC INFORMATION IN POSITIVE INTERACTIONS

<table>
<thead>
<tr>
<th>Subject</th>
<th>Mean Baseline</th>
<th>Mean Intervention</th>
<th>Mean Increase or Decrease</th>
<th>% Increase or Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>0%</td>
<td>0%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>S₂</td>
<td>0%</td>
<td>0%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>S₃</td>
<td>0%</td>
<td>20%</td>
<td>+20%</td>
<td>-</td>
</tr>
<tr>
<td>S₄</td>
<td>4%</td>
<td>0%</td>
<td>-4%</td>
<td>-</td>
</tr>
<tr>
<td>S₅</td>
<td>0%</td>
<td>0%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>S₆</td>
<td>0%</td>
<td>20%</td>
<td>+20%</td>
<td>-</td>
</tr>
<tr>
<td>S₇</td>
<td>0%</td>
<td>0%</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 11 shows negligible changes between baseline intervention.

Figure 10 shows that intervention had no effect on this category.
Figure 11 - Negative Interactions - Rate/Minute
### Table 12

**Rate and Percentage Change for Student Teachers**

**Negative Interactions - Rate/Minute**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Mean Baseline</th>
<th>Mean Intervention</th>
<th>Mean Increase/Decrease</th>
<th>% Increase/Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>.23/min.</td>
<td>.02/min.</td>
<td>-.21/min.</td>
<td>91%</td>
</tr>
<tr>
<td>S₂</td>
<td>0/min.</td>
<td>0/min.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>S₃</td>
<td>.16/min.</td>
<td>0/min.</td>
<td>-.16/min.</td>
<td>-</td>
</tr>
<tr>
<td>S₄</td>
<td>.12/min.</td>
<td>.07/min.</td>
<td>-.05/min.</td>
<td>42%</td>
</tr>
<tr>
<td>S₅</td>
<td>.06/min.</td>
<td>.05/min.</td>
<td>.01/min.</td>
<td>17%</td>
</tr>
<tr>
<td>S₆</td>
<td>.18/min.</td>
<td>0/min.</td>
<td>-.18/min.</td>
<td>-</td>
</tr>
<tr>
<td>S₇</td>
<td>.03/min.</td>
<td>.02/min.</td>
<td>-.01/min.</td>
<td>33%</td>
</tr>
</tbody>
</table>

Table 12 shows slight decreases in rates of negative interactions per minute.

Figure 11 shows a slight reduction and stabilization after intervention.
Observations and Feedback Sessions

Figure 12 - First Name Use - Rate/Minute
### Table 13

**Rate and Percentage Change for Student Teachers**

**First Name Use - Rate/Minute**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Mean Baseline</th>
<th>Mean Intervention</th>
<th>Mean Increase or Decrease</th>
<th>% Increase or Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>0/min.</td>
<td>1.34/min.</td>
<td>+1.34/min.</td>
<td>-</td>
</tr>
<tr>
<td>S₂</td>
<td>0/min.</td>
<td>.875/min.</td>
<td>+.875/min.</td>
<td>-</td>
</tr>
<tr>
<td>S₃</td>
<td>.1/min.</td>
<td>1.5 /min.</td>
<td>+1.4 /min. 140%</td>
<td>-</td>
</tr>
<tr>
<td>S₄</td>
<td>0/min.</td>
<td>1.3 /min.</td>
<td>+1.3 /min.</td>
<td>-</td>
</tr>
<tr>
<td>S₅</td>
<td>0/min.</td>
<td>1.6 /min.</td>
<td>+1.6 /min.</td>
<td>-</td>
</tr>
<tr>
<td>S₆</td>
<td>.05/min.</td>
<td>1.5 /min.</td>
<td>+1.45 /min. 2900%</td>
<td>-</td>
</tr>
<tr>
<td>S₇</td>
<td>0/min.</td>
<td>.86 /min.</td>
<td>+.86 /min.</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 13 shows a significant increase in first name use.

Figure 12 shows that the change was due to the intervention.
Figure 13- Instructional Feedback - Rate/Minute
### TABLE 14

**RATE AND PERCENTAGE CHANGE FOR STUDENT TEACHERS**

**INSTRUCTIONAL FEEDBACK - RATE/MINUTE**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Mean Baseline</th>
<th>Mean Intervention</th>
<th>Mean Increase/Decrease</th>
<th>% Increase/Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>1.9/min.</td>
<td>2.7/min.</td>
<td>+0.8/min.</td>
<td>42%</td>
</tr>
<tr>
<td>S2</td>
<td>2.3/min.</td>
<td>2.2/min.</td>
<td>+1.9/min.</td>
<td>633%</td>
</tr>
<tr>
<td>S3</td>
<td>2.3/min.</td>
<td>2.6/min.</td>
<td>+2.3/min.</td>
<td>766%</td>
</tr>
<tr>
<td>S4</td>
<td>2.1/min.</td>
<td>2.5/min.</td>
<td>+2.4/min.</td>
<td>240%</td>
</tr>
<tr>
<td>S5</td>
<td>2.7/min.</td>
<td>2.7/min.</td>
<td>+2.0/min.</td>
<td>285%</td>
</tr>
<tr>
<td>S6</td>
<td>3.3/min.</td>
<td>3.1/min.</td>
<td>+2.8/min.</td>
<td>933%</td>
</tr>
<tr>
<td>S7</td>
<td>2.2/min.</td>
<td>1.5/min.</td>
<td>+1.3/min.</td>
<td>650%</td>
</tr>
</tbody>
</table>

Table 14 shows significant increases in rates of feedback/minute.

Figure 13 shows that this change was due to the intervention.
Figure 14—Percentage of Specific Information of all Feedback
Table 15 shows little change between mean percentages during baseline and intervention.

Figure 14 shows the stabilization effect caused by the intervention.
Figure 15-Percentage of Individually Directed Feedback
Table 16 shows slight increases in percentages after intervention. Figure 15 shows the stabilization effect of the intervention.
Behavior Profiles of Subjects' Classes

The total class, selected pupils within the class, and total time spent in managerial episodes were observed and recorded for the classes taught by each of the seven subjects. The percentages of appropriate/inappropriate and active/inactive behavior of the class and the selected students and the management total time presented a profile of class and individual conduct during each class observed. Figures 16 through 22 represent the data as they comprise the behavior profiles of the subjects' classes.

Insert Figures 16 through 22
Figure 16 - Sub. 1's Class-Behavior Profile

- % of Class Time In Managerial Activities
- P1-B - % of Appropriate Behavior
- P1-A - % of Appropriate Behavior
- C1 - % of Appropriate Behavior

Observations and Feedback Sessions

P1-B - % of Active Participation
- P1-A - % of Active Participation
- C1 - % of Active Participation
Figure 17 - Subject 2's Class-Behavior Profile

Observations and Feedback Sessions

% of Class Time In

P2-A - % of Appropriate Behavior

P2-B - % of Appropriate Behavior

P2-A - % of Active Participation

P2-B - % of Active Participation

C2 - % of Active Participation

C2 - % of Appropriate Behavior

P2-B - % of Active Participation
Figure 18 - Sub. 3's Class-Behavior Profile

Observations and Feedback Sessions

% of Class Time In

Managerial Activities

P3-B - % of Appropriate Behavior

P3-A - % of Appropriate Behavior

C3 - % of Appropriate Behavior

P3-B - % of Active Participation

P3-A - % of Active Participation

C3 - % of Active Participation
Figure 19 - Sub. 4's Class Behavior Profile

% of Class Time In Managerial Activities, Appropriate Behavior

P4-B - % of Active Participation

P4-A - % of Active Participation

C4 - % of Active Participation

Observations and Feedback Sessions

0 10 20 30 40 50 60 70 80 90 100
Observations and Feedback Sessions

Figure 22 - Sub. 7's Class-Behavior Profile
Multiple Baselines and Percentage Change

Comparisons between subjects' classes and effects of the intervention on pupil behavior were presented by using multiple baselines. The categories of student behavior were compared singularly with the behavior of pupils of other subjects. These data are found in Figures 23 through 29.

Each of the category multiple baselines is followed by a table which presents the changes that occurred between baseline and intervention for each subject's class and for the selected individual pupils within the class. These data are found in Tables 17 through 21.

Insert Figures 23 through 29

Insert Tables 17 through 21
Figure 23 - Percentage of Class Appropriate Behavior
### TABLE 17

RATE AND PERCENTAGE CHANGE FOR STUDENT TEACHERS

PERCENTAGE OF CLASS APPROPRIATE BEHAVIOR

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Mean Baseline</th>
<th>Mean Intervention</th>
<th>Mean Increase</th>
<th>% Increase or Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>100%</td>
<td>98%</td>
<td>-2%</td>
<td>2%</td>
</tr>
<tr>
<td>C2</td>
<td>97%</td>
<td>99.5%</td>
<td>+2.5%</td>
<td>2.5%</td>
</tr>
<tr>
<td>C3</td>
<td>94%</td>
<td>94%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>C4</td>
<td>89%</td>
<td>95%</td>
<td>+6%</td>
<td>6%</td>
</tr>
<tr>
<td>C5</td>
<td>95%</td>
<td>99%</td>
<td>+4%</td>
<td>4%</td>
</tr>
<tr>
<td>C6</td>
<td>99%</td>
<td>97%</td>
<td>-2%</td>
<td>2%</td>
</tr>
<tr>
<td>C7</td>
<td>99%</td>
<td>98%</td>
<td>-1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Table 17 shows no change between baseline and intervention percentages.

Figure 23 shows that the intervention maintained existing high rates of appropriate behavior.
Figure 24 - Percentage of Class Active Participation
<table>
<thead>
<tr>
<th>Behavior</th>
<th>Mean Baseline</th>
<th>Mean Intervention</th>
<th>Mean Increase</th>
<th>% Increase or Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>C 1</td>
<td>82%</td>
<td>97%</td>
<td>+15%</td>
<td>18%</td>
</tr>
<tr>
<td>C 2</td>
<td>56%</td>
<td>66%</td>
<td>+10%</td>
<td>17%</td>
</tr>
<tr>
<td>C 3</td>
<td>21%</td>
<td>31%</td>
<td>+10%</td>
<td>47%</td>
</tr>
<tr>
<td>C 4</td>
<td>48%</td>
<td>93%</td>
<td>+45%</td>
<td>93%</td>
</tr>
<tr>
<td>C 5</td>
<td>48%</td>
<td>63%</td>
<td>+15%</td>
<td>31%</td>
</tr>
<tr>
<td>C 6</td>
<td>43%</td>
<td>74%</td>
<td>+31%</td>
<td>72%</td>
</tr>
<tr>
<td>C 7</td>
<td>51%</td>
<td>58%</td>
<td>+7%</td>
<td>13%</td>
</tr>
</tbody>
</table>

Table 18 shows significant change between baseline and intervention percentages.

Figure 24 shows that this increase was due to the intervention.
Figure 25 - Percentage of Class Time in Managerial Activities
**TABLE 19**

RATE AND PERCENTAGE CHANGE FOR STUDENT TEACHERS

PERCENTAGE OF CLASS TIME IN MANAGERIAL ACTIVITIES

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Mean Baseline</th>
<th>Mean Intervention</th>
<th>Mean Increase or Decrease</th>
<th>% Increase or Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>27%</td>
<td>14%</td>
<td>-13%</td>
<td>48%</td>
</tr>
<tr>
<td>C2</td>
<td>35%</td>
<td>17%</td>
<td>-18%</td>
<td>51%</td>
</tr>
<tr>
<td>C3</td>
<td>24%</td>
<td>17%</td>
<td>-7%</td>
<td>29%</td>
</tr>
<tr>
<td>C4</td>
<td>26%</td>
<td>16%</td>
<td>-10%</td>
<td>38%</td>
</tr>
<tr>
<td>C5</td>
<td>28%</td>
<td>13%</td>
<td>-15%</td>
<td>53%</td>
</tr>
<tr>
<td>C6</td>
<td>35%</td>
<td>26%</td>
<td>-9%</td>
<td>25%</td>
</tr>
<tr>
<td>C7</td>
<td>44%</td>
<td>23%</td>
<td>-21%</td>
<td>47%</td>
</tr>
</tbody>
</table>

Table 19 shows significant decreases in the percentage of class time spent in managerial activities.

Figure 25 shows that this decrease was due to the intervention.
Figure 26 - Pupil A - Percentage of Appropriate Behavior
Observations and Feedback Sessions

Figure 27 - Pupil B - Percentage of Appropriate Behavior
### TABLE 20

**TIME SAMPLING - RATE AND PERCENTAGE CHANGE**

**PERCENTAGE OF APPROPRIATE BEHAVIOR**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Mean Baseline</th>
<th>Mean Intervention</th>
<th>Mean % Increase or Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1-A</td>
<td>87%</td>
<td>93%</td>
<td>+ 6% 7%</td>
</tr>
<tr>
<td>P1-B</td>
<td>100%(2)</td>
<td>100%</td>
<td>- -</td>
</tr>
<tr>
<td>P2-A</td>
<td>90%</td>
<td>98%</td>
<td>+ 8% 9%</td>
</tr>
<tr>
<td>P2-B</td>
<td>68%</td>
<td>100%(2)</td>
<td>+32% 47%</td>
</tr>
<tr>
<td>P3-A</td>
<td>100%(2)</td>
<td>100%(2)</td>
<td>- -</td>
</tr>
<tr>
<td>P3-B</td>
<td>100%(2)</td>
<td>57%</td>
<td>-43% 43%</td>
</tr>
<tr>
<td>P4-A</td>
<td>10%</td>
<td>100%</td>
<td>+90% 900%</td>
</tr>
<tr>
<td>P4-B</td>
<td>87%</td>
<td>81%</td>
<td>- 6% 7%</td>
</tr>
<tr>
<td>P5-A</td>
<td>90%</td>
<td>91%</td>
<td>+ 1% 1%</td>
</tr>
<tr>
<td>P5-B</td>
<td>63%(2)</td>
<td>100%(2)</td>
<td>+37% 59%</td>
</tr>
<tr>
<td>P6-A</td>
<td>89%(2)</td>
<td>86%</td>
<td>- 3% 3%</td>
</tr>
<tr>
<td>P6-B</td>
<td>100%(1)</td>
<td>77%</td>
<td>-23% 23%</td>
</tr>
<tr>
<td>P7-A</td>
<td>100%</td>
<td>-</td>
<td>- -</td>
</tr>
<tr>
<td>P7-B</td>
<td>93%</td>
<td>95%</td>
<td>+ 2% 2%</td>
</tr>
</tbody>
</table>

Table 20 shows inconclusive change.

Figures 26 and 27 show no effect of the intervention.
Figure 28 - Pupil A - Percentage of Active Participation
Observations and Feedback Sessions

Figure 29 - Pupil B - Percentage of Active Participation
<table>
<thead>
<tr>
<th>Behavior</th>
<th>Mean Baseline</th>
<th>Mean Intervention</th>
<th>Mean % Increase</th>
<th>% Increase or Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1-A</td>
<td>100%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P1-B</td>
<td>83%</td>
<td>100%</td>
<td>+17%</td>
<td>20%</td>
</tr>
<tr>
<td>P2-A</td>
<td>55%</td>
<td>100%</td>
<td>+45%</td>
<td>82%</td>
</tr>
<tr>
<td>P2-B</td>
<td>70%(2)</td>
<td>100%(2)</td>
<td>+30%</td>
<td>43%</td>
</tr>
<tr>
<td>P3-A</td>
<td>0%</td>
<td>0%(2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P3-B</td>
<td>35%(2)</td>
<td>0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P4-A</td>
<td>0%</td>
<td>98%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P4-B</td>
<td>73%</td>
<td>64%</td>
<td>-9%</td>
<td>12%</td>
</tr>
<tr>
<td>P5-A</td>
<td>63%</td>
<td>90%</td>
<td>+27%</td>
<td>43%</td>
</tr>
<tr>
<td>P5-B</td>
<td>25%(2)</td>
<td>100%(2)</td>
<td>+75%</td>
<td>300%</td>
</tr>
<tr>
<td>P6-A</td>
<td>55%(2)</td>
<td>85%</td>
<td>+30%</td>
<td>55%</td>
</tr>
<tr>
<td>P6-B</td>
<td>25%(1)</td>
<td>62%</td>
<td>+37%</td>
<td>148%</td>
</tr>
<tr>
<td>P7-A</td>
<td>82%</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P7-B</td>
<td>63%</td>
<td>58%</td>
<td>-5%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Table 21 shows slight increases in active participation, but is influenced by a small number of observations.

Figures 28 and 29 show no intervention effect.
Discussion of Experimental Data

Subject Data

In two of the teacher behavior categories, rates per minute of first name use and instructional feedback, the change effected by the intervention was obvious. The remaining five categories, however, present no significant changes in rates and percentages.

The low rates of positive and negative interactions emitted by the student teachers were influenced by the existing high rates of appropriate behavior of the subjects' classes. It is apparent that the control of the behavior of the class existed prior to the student teacher taking over the class. The reduction and stabilization of negative interactions after intervention also had no effect on class behavior, providing further evidence that the class was under the control of some other agent. Subjects felt uncomfortable emitting positive behaviors contingent upon student responses and saw little value in emitting these behaviors when they were informed that the level of appropriate behavior of their classes was extremely high when given this information during feedback sessions. The percentages of specific information in interactions were obviously also quite low, since this was tied to rates of positive interactions.

A stabilization causation can be shown in the categories of percent of individually directed feedback and
specific information in all feedback. It appears that intervention maintained percentages at or near the highest baseline percentages. Subjects one, two, three, four, six, and seven showed marked stabilization of their percentages of individually directed feedback after intervention. The range of baseline percentages before stabilization occurred was not due to feedback that was not individually directed, but due to low rates of instructional feedback being emitted by the subjects. Data on the rates of feedback per minute during baseline are supportive of this.

Subjects two through seven showed stabilization of the percentage of specific information of all instructional feedback after intervention. Subject one's percentages after intervention were all at baseline levels and higher.

Subjects' Classes Data

No conclusions can be drawn from the change in the appropriate behavior levels of all subjects' classes, since existing high rates during baseline were maintained after intervention. This factor indicated that the behavior of the pupils was controlled by some other agent.

Effects of the intervention on the pupil categories of percentage of class time in managerial episodes and active participation were significant. Classes were obviously better managed as significant decreases in total class time spent in managerial episodes occurred in all of the seven
subjects' classes. The student teachers better organized their classes to involve more students in the activities being taught. Subject three's percentage of active participation was low due to indoor archery and golf units where space and equipment were quite limited.

The data for selected pupils A and B were totally inconclusive. These students, selected by the cooperating teacher as problematic, were absent much of the time. The data does not reflect changes in appropriate and active behavior, since it merely conveys high absence rates. Subject 7A, who had the most consistent attendance during baseline observations, dropped out of school during the spring break. From the limited data obtained, the attempt to link changes in teacher behavior with changes in the behavior of selected pupils remains unsubstantiated.

**TBO Data**

Tables 22 through 33 restate the terminal behavioral objectives each subject was given for the rate or percentage each was expected to attain during the student teaching experience and shows how each subject did in the attempt to attain and maintain each objective. The assessment method for each TBO is also stated.

Results of the TBO's that were based on the judgment of the experimenter and the cooperating teacher are found in the discussion section for TBO data as they pertain
to each of the subjects.

Insert Tables 22 through 33
1. The student teacher will demonstrate a cognitive awareness of school policies and procedures by carrying out such procedures during his tenure as a student teacher and by passing a written exam of 90% or better over school policies.

<table>
<thead>
<tr>
<th>TBO - X Baseline</th>
<th>Terminal Goal</th>
<th>Maximum Rate</th>
<th>Goal Attained</th>
<th>Goal Maintained</th>
</tr>
</thead>
<tbody>
<tr>
<td>$S_1$</td>
<td>90%</td>
<td>100%</td>
<td>First Attempt</td>
<td></td>
</tr>
<tr>
<td>$S_2$</td>
<td>90%</td>
<td>100%</td>
<td>First Attempt</td>
<td></td>
</tr>
<tr>
<td>$S_3$</td>
<td>90%</td>
<td>100%</td>
<td>First Attempt</td>
<td></td>
</tr>
<tr>
<td>$S_4$</td>
<td>90%</td>
<td>100%</td>
<td>First Attempt</td>
<td></td>
</tr>
<tr>
<td>$S_5$</td>
<td>90%</td>
<td>100%</td>
<td>First Attempt</td>
<td></td>
</tr>
<tr>
<td>$S_6$</td>
<td>90%</td>
<td>100%</td>
<td>First Attempt</td>
<td></td>
</tr>
<tr>
<td>$S_7$</td>
<td>90%</td>
<td>100%</td>
<td>First Attempt</td>
<td></td>
</tr>
</tbody>
</table>

Assessment - Ten question examination worth ten points each.
TABLE 23
TBO ANALYSIS
INTERPERSONAL RELATIONSHIPS MODULE

1. The student teacher will emit a specific rate per minute of positive interactions.

<table>
<thead>
<tr>
<th>TBO-X Baseline</th>
<th>Terminal Goal</th>
<th>Maximum Rate</th>
<th>Goal Attained</th>
<th>Goal Maintained</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁ 0/min.</td>
<td>1/min.</td>
<td>0/min.</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>S₂ 0.2/min.</td>
<td>1/min.</td>
<td>0.07/min.</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>S₃ 0/min.</td>
<td>1/min.</td>
<td>0.1/min.</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>S₄ 0.03/min.</td>
<td>1/min.</td>
<td>0.17/min.</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>S₅ 0/min.</td>
<td>1/min.</td>
<td>0.17/min.</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>S₆ 0/min.</td>
<td>1/min.</td>
<td>0.9/min.</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>S₇ 0/min.</td>
<td>1/min.</td>
<td>0/min.</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Assessment - Rates determined by Event Recording
2. The student teacher shall emit a specific ratio of positive to negative verbal or nonverbal interactions relative to pupil behavior.

<table>
<thead>
<tr>
<th>TBO-X Baseline</th>
<th>Terminal Goal</th>
<th>Maximum Rate</th>
<th>Goal Attained</th>
<th>Goal Maintained</th>
</tr>
</thead>
<tbody>
<tr>
<td>S + to - 1 1 to 2</td>
<td>+ to - 2 to 1</td>
<td>+ to - 0 to 0</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>S 3 to 0 2</td>
<td>2 to 1</td>
<td>1 to 0</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>S 1.2 to 1 3</td>
<td>2 to 1</td>
<td>1 to 0</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>S 3 to 5 4</td>
<td>2 to 1</td>
<td>2 to 0</td>
<td>Fourth (last) observation</td>
<td></td>
</tr>
<tr>
<td>S 1 to 6 5</td>
<td>2 to 1</td>
<td>1 to 1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>S 0 to 9 6</td>
<td>1 to 1</td>
<td>3 to 0</td>
<td>First observation</td>
<td>Two out of Five</td>
</tr>
<tr>
<td>S 4 to 7 7</td>
<td>2 to 1</td>
<td>0 to 0</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Assessment - Ratio determined by Event Recording
TABLE 25
TBO ANALYSIS
INTERPERSONAL RELATIONSHIPS MODULE

3. The student teacher will emit specific information in a specific percentage of all positive behavioral feedback.

<table>
<thead>
<tr>
<th>TBO-X Baseline</th>
<th>Terminal Goal</th>
<th>Maximum Rate</th>
<th>Goal Attained</th>
<th>Goal Maintained</th>
</tr>
</thead>
<tbody>
<tr>
<td>S! 0%</td>
<td>50%+</td>
<td>0%</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>S2 0%</td>
<td>50%+</td>
<td>0%</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>S3 0%</td>
<td>50%+</td>
<td>100%</td>
<td>Third Observation</td>
<td>One out of three</td>
</tr>
<tr>
<td>S4 0.05%</td>
<td>50%+</td>
<td>0%</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>S5 0%</td>
<td>50%+</td>
<td>0%</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>S6 0%</td>
<td>50%+</td>
<td>66%</td>
<td>First Observation</td>
<td>One out of five</td>
</tr>
<tr>
<td>S7 0%</td>
<td>50%+</td>
<td>0%</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Assessment - Percentage determined by Event Recording
4. The student teacher will initiate student contacts on a first name basis at a specified rate per minute.

<table>
<thead>
<tr>
<th>TBO-X Baseline</th>
<th>Terminal Goal</th>
<th>Maximum Rate</th>
<th>Goal Attained</th>
<th>Goal Maintained</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1 0/min.</td>
<td>1.5/min.</td>
<td>2.3/min.</td>
<td>Third observation</td>
<td>Two out of three</td>
</tr>
<tr>
<td>S2 0/min.</td>
<td>1.5/min.</td>
<td>2.2/min.</td>
<td>Fourth (last) observation</td>
<td>--</td>
</tr>
<tr>
<td>S3 0.1/min.</td>
<td>1.5/min.</td>
<td>3.0/min.</td>
<td>Third observation</td>
<td>Two out of three</td>
</tr>
<tr>
<td>S4 0/min.</td>
<td>1.5/min.</td>
<td>1.9/min.</td>
<td>Third observation</td>
<td>Two out of two</td>
</tr>
<tr>
<td>S5 0/min.</td>
<td>1.5/min.</td>
<td>2.0/min.</td>
<td>First observation</td>
<td>Two out of four</td>
</tr>
<tr>
<td>S6 0.05/min.</td>
<td>1.5/min.</td>
<td>2.1/min.</td>
<td>Second observation</td>
<td>Four out of four</td>
</tr>
<tr>
<td>S7 0/min.</td>
<td>1.5/min.</td>
<td>2.2/min.</td>
<td>Fifth (last) observation</td>
<td>--</td>
</tr>
</tbody>
</table>

Assessment - Rates determined by Event Recording
TABLE 27
TBO ANALYSIS
MANAGEMENT MODULE

1. The student teacher shall attain and maintain a specific percentage of appropriate pupil behavior during class time.

<table>
<thead>
<tr>
<th>TBO-X Baseline</th>
<th>Terminal Goal</th>
<th>Maximum Rate</th>
<th>Goal Attained</th>
<th>Goal Maintained</th>
</tr>
</thead>
<tbody>
<tr>
<td>S 1 100%</td>
<td>95%+</td>
<td>100%</td>
<td>First ob. after inter.</td>
<td>5 out of 5 observations</td>
</tr>
<tr>
<td>S 2 97%</td>
<td>95%+</td>
<td>100%</td>
<td>First ob. after inter.</td>
<td>4 out of 4 observations</td>
</tr>
<tr>
<td>S 3 89%</td>
<td>90%+</td>
<td>100%</td>
<td>First ob. after inter.</td>
<td>4 out of 4 observations</td>
</tr>
<tr>
<td>S 4 94%</td>
<td>90%+</td>
<td>100%</td>
<td>First ob. after inter.</td>
<td>4 out of 5 observations</td>
</tr>
<tr>
<td>S 5 95%</td>
<td>95%+</td>
<td>100%</td>
<td>First ob. after inter.</td>
<td>4 out of 4 observations</td>
</tr>
<tr>
<td>S 6 99%</td>
<td>95%+</td>
<td>100%</td>
<td>First ob. after inter.</td>
<td>5 out of 5 observations</td>
</tr>
<tr>
<td>S 7 99%</td>
<td>95%+</td>
<td>100%</td>
<td>First ob. after inter.</td>
<td>5 out of 5 observations</td>
</tr>
</tbody>
</table>

Assessment - Percentage determined by Placheck Recording
2. The student teacher shall spend no more than a specific percentage of class time in managerial activities.

<table>
<thead>
<tr>
<th>Subject (S)</th>
<th>TBO-X Baseline (%)</th>
<th>Terminal Goal (%)</th>
<th>Maximum Rate (%)</th>
<th>Goal Attained</th>
<th>Goal Maintained</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>22%</td>
<td>15%</td>
<td>09%</td>
<td>Third ob. after inter</td>
<td>3 out of 3 observations</td>
</tr>
<tr>
<td>S2</td>
<td>35%</td>
<td>20%</td>
<td>11%</td>
<td>Third ob. after inter</td>
<td>2 out of 2 observations</td>
</tr>
<tr>
<td>S3</td>
<td>24%</td>
<td>20%</td>
<td>10%</td>
<td>First ob. after inter</td>
<td>4 out of 5 observations</td>
</tr>
<tr>
<td>S4</td>
<td>26%</td>
<td>15%</td>
<td>15%</td>
<td>Second ob. after inter</td>
<td>2 out of 3 observations</td>
</tr>
<tr>
<td>S5</td>
<td>28%</td>
<td>15%</td>
<td>08%</td>
<td>Second ob. after inter</td>
<td>3 out of 3 observations</td>
</tr>
<tr>
<td>S6</td>
<td>35%</td>
<td>25%</td>
<td>22%</td>
<td>Fourth ob. after inter</td>
<td>2 out of 2 observations</td>
</tr>
<tr>
<td>S7</td>
<td>44%</td>
<td>25%</td>
<td>15%</td>
<td>Third ob. after inter</td>
<td>3 out of 3 observations</td>
</tr>
</tbody>
</table>

Assessment - Percentage determined by Duration Recording
TABLE 29
TBO ANALYSIS
MANAGEMENT MODULE

3. The student teacher shall organize each class so that at
least a specific percentage of the students are engaged
in active learning during each activity episode.

<table>
<thead>
<tr>
<th>TBO-X Baseline</th>
<th>Terminal Goal</th>
<th>Maximum Rate</th>
<th>Goal Attained</th>
<th>Goal Maintained</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁ 82%</td>
<td>50%+</td>
<td>100%</td>
<td>First ob.</td>
<td>5 out of 5</td>
</tr>
<tr>
<td>S₂ 56%</td>
<td>50%+</td>
<td>100%</td>
<td>Second ob.</td>
<td>3 out of 3</td>
</tr>
<tr>
<td>S₃ 21%</td>
<td>50%+</td>
<td>50%</td>
<td>Fourth ob.</td>
<td>1 out of 2</td>
</tr>
<tr>
<td>S₄ 48%</td>
<td>50%+</td>
<td>96%</td>
<td>First ob.</td>
<td>4 out of 4</td>
</tr>
<tr>
<td>S₅ 48%</td>
<td>50%+</td>
<td>91%</td>
<td>Second ob.</td>
<td>2 out of 3</td>
</tr>
<tr>
<td>S₆ 43%</td>
<td>50%+</td>
<td>84%</td>
<td>First ob.</td>
<td>5 out of 5</td>
</tr>
<tr>
<td>S₇ 51%</td>
<td>50%+</td>
<td>66%</td>
<td>First ob.</td>
<td>5 out of 5</td>
</tr>
</tbody>
</table>

Assessment - Percentage determined by Placheck Recording
TABLE 30
TBO ANALYSIS
INSTRUCTIONAL FEEDBACK MODULE

1. The student teacher shall emit instructional feedback at a specific rate per minute.

<table>
<thead>
<tr>
<th>TBO-X Baseline</th>
<th>Terminal Goal</th>
<th>Maximum Rate</th>
<th>Goal Attained</th>
<th>Goal Maintained</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1 1.9/min.</td>
<td>3.5/min.</td>
<td>4.0/min.</td>
<td>Fourth ob.</td>
<td>1 out of 2</td>
</tr>
<tr>
<td>S2 2.3/min.</td>
<td>3.0/min.</td>
<td>3.5/min.</td>
<td>Fourth ob.</td>
<td>1 out of 1</td>
</tr>
<tr>
<td>S3 3.3/min.</td>
<td>3.0/min.</td>
<td>4.0/min.</td>
<td>Fifth ob.</td>
<td>1 out of 1</td>
</tr>
<tr>
<td>S4 4.1/min.</td>
<td>3.0/min.</td>
<td>3.3/min.</td>
<td>Third ob.</td>
<td>2 out of 2</td>
</tr>
<tr>
<td>S5 4.68/min.</td>
<td>3.0/min.</td>
<td>3.3/min.</td>
<td>Second ob.</td>
<td>3 out of 3</td>
</tr>
<tr>
<td>S6 4.3/min.</td>
<td>3.0/min.</td>
<td>4.7/min.</td>
<td>Third ob.</td>
<td>3 out of 3</td>
</tr>
<tr>
<td>S7 4.23/min.</td>
<td>2.5/min.</td>
<td>2.4/min.</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Assessment - Rate determined by Event Recording
TABLE 31
TBO ANALYSIS
INSTRUCTIONAL FEEDBACK MODULE

2. The student teacher shall emit specific information in a specific percentage of all instructional feedback.

<table>
<thead>
<tr>
<th>TBO-X Baseline</th>
<th>Terminal Goal</th>
<th>Maximum Rate</th>
<th>Goal Attained</th>
<th>Goal Maintained</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1 52%</td>
<td>60%+</td>
<td>80%</td>
<td>First ob.</td>
<td>3 out of 5</td>
</tr>
<tr>
<td>S2 62%</td>
<td>60%+</td>
<td>64%</td>
<td>Third ob.</td>
<td>2 out of 2</td>
</tr>
<tr>
<td>S3 77%</td>
<td>60%+</td>
<td>95%</td>
<td>First ob.</td>
<td>4 out of 5</td>
</tr>
<tr>
<td>S4 61%</td>
<td>60%+</td>
<td>79%</td>
<td>First ob.</td>
<td>4 out of 4</td>
</tr>
<tr>
<td>S5 80%</td>
<td>60%+</td>
<td>71%</td>
<td>Second ob.</td>
<td>3 out of 3</td>
</tr>
<tr>
<td>S6 64%</td>
<td>60%+</td>
<td>100%</td>
<td>First ob.</td>
<td>3 out of 5</td>
</tr>
<tr>
<td>S7 36%</td>
<td>50%+</td>
<td>90%</td>
<td>Second ob.</td>
<td>3 out of 4</td>
</tr>
</tbody>
</table>

Assessment - Percentage determined by Event Recording
TABLE 32
TBO ANALYSIS
INSTRUCTIONAL FEEDBACK MODULE

3. The student teacher shall direct instructional feedback toward specific individuals a specific percentage of the time.

<table>
<thead>
<tr>
<th>TBO-X Baseline</th>
<th>Terminal Goal</th>
<th>Maximum Rate</th>
<th>Goal Attained</th>
<th>Goal Maintained</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁ 43%</td>
<td>75% ± 10%</td>
<td>100%</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>S₂ 28%</td>
<td>75% ± 10%</td>
<td>98%</td>
<td>First ob.</td>
<td>1 out of 4</td>
</tr>
<tr>
<td>S₃ 80%</td>
<td>75% ± 10%</td>
<td>100%</td>
<td>Third ob.</td>
<td>2 out of 3</td>
</tr>
<tr>
<td>S₄ 58%</td>
<td>75% ± 10%</td>
<td>100%</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>S₅ 94%</td>
<td>75% ± 10%</td>
<td>71%</td>
<td>Third ob.</td>
<td>2 out of 2</td>
</tr>
<tr>
<td>S₆ 64%</td>
<td>75% ± 10%</td>
<td>100%</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>S₇ 46%</td>
<td>75% ± 10%</td>
<td>100%</td>
<td>Fifth (last)</td>
<td>ob.</td>
</tr>
</tbody>
</table>

Assessment - Percentage determined by Event Recording
1. Based on student evaluation, the student teacher will demonstrate levels of behavior which will ensure 70% of student responses in the "yes" category of a Questionnaire.

<table>
<thead>
<tr>
<th>TBO-X Baseline</th>
<th>Terminal Goal</th>
<th>Maximum Rate</th>
<th>Goal Attained</th>
<th>Goal Maintained</th>
</tr>
</thead>
<tbody>
<tr>
<td>S 1</td>
<td>70%</td>
<td>81%</td>
<td>First questionnaire</td>
<td></td>
</tr>
<tr>
<td>S 2</td>
<td>70%</td>
<td>77%</td>
<td>First questionnaire</td>
<td></td>
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<tr>
<td>S 3</td>
<td>70%</td>
<td>79%</td>
<td>First questionnaire</td>
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<tr>
<td>S 4</td>
<td>70%</td>
<td>92%</td>
<td>First questionnaire</td>
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<tr>
<td>S 5</td>
<td>70%</td>
<td>82%</td>
<td>First questionnaire</td>
<td></td>
</tr>
<tr>
<td>S 6</td>
<td>70%</td>
<td>90%</td>
<td>First questionnaire</td>
<td></td>
</tr>
<tr>
<td>S 7</td>
<td>70%</td>
<td>98%</td>
<td>First questionnaire</td>
<td></td>
</tr>
</tbody>
</table>

Assessment - Percentage determined by Pupil Questionnaire Responses
Discussion of TBO Data

School Policies and Procedures Module

Each of the seven subjects successfully passed the examination over school policies and procedures which was administered to them at the end of the second week of student teaching. Cooperating teachers universally agreed that the student teachers carried out school rules and procedures when called upon to do so during their teaching.

Planning Module

Lesson plans met the criterion level established by the experimenter. The inclusion of behavioral objectives as part of each plan was deemed satisfactory. Student teachers often had difficulty planning one week in advance, since no curriculum guide was available at any of the schools. Although many of the plans were changed extensively from when they were first submitted, each of the subjects satisfactorily attained this aspect of the objective. Due to high rates of appropriate behavior in all of the subjects' classes, the objective for devising behavior games and strategies to cope with low levels of appropriate behavior was omitted.

Interpersonal Relationships Module

Other than the significant increases in first name use after intervention and the satisfactory identification
of other teachers and administrators within the school, all seven subjects generally failed to attain the remaining coded objectives. The reason, as previously stated, was due to the uncomfortable status of the subjects in complimenting existing high rates of appropriate behavior. Very few behavior interactions, positive or negative, were needed and emitted.

Management Module

Analysis of the TBO's within the management module shows total attainment and satisfactory maintainance of the goals by all seven subjects. The subjects were judged to have satisfactorily clarified the rules of the class to their students.

Instructional Feedback Module

All except subject seven attained the objective for rate of instructional feedback per minute. The remaining subjects attained and maintained the goals for instructional feedback. The seven subjects met the criterion level for specific information of all feedback. The percent of individually directed feedback appeared to be contingent upon the activity. Subjects one, four, and six taught individual sports. Emitting feedback to the group, for example, by modeling, is obviously not a skill that beginning student teachers possess. Subjects two, three, five, and seven en-
gaged in more group activities where group feedback was more readily emitted.

**Student Assessment Module**

Each of the seven subjects attained the criterion level for student responses in the proper category after the first administration of the pupil questionnaire. Question eight was eliminated from tabulation of the results due to its faulty construction.

The terminal behavioral objectives appeared to be useful in holding the student teacher accountable for a variety of areas which have previously been assumed to have taken place in traditional supervisory relationships. Obviously, the objectives would be more valid if data were available pertinent to rates of behavior emitted by "good" teachers. Those objectives where the criteria were attained during baseline are of questionable merit where efforts are made to improve the quality of teaching during the student teaching experience. The important factor in using TBO's with student teachers is arriving at goals that will discriminate between competent and incompetent teacher trainees.

A very definite need exists to get at the consequence assessment of the student teacher by analyzing the amount of student learning that takes place during the tenure of the student teacher. An objective that pertains to student attainment of the behavioral objectives of the stu-
dent teacher's lesson plans may provide a method for deter-
mining the effects of the student teacher on pupil learning.

Because of the number of variables that can affect
percentages, the terminal behavioral objectives would be more
valid if they were expressed in terms of rates and ratios to
be attained. These rates and ratios would be specific to
each goal where improvement is desired and would eliminate
questionable criterion level attainment. Subject attainment
of the percentage of specific information in all instruction-
al feedback was attained through high percentages or cor-
rective feedback. This factor precluded the desired objec-
tive of having the student teachers increase percentage of
use of positive specific instructional feedback. Rates or
ratios of corrective to positive instructional feedback would
have more adequately dealt with the desired objective.

Summary

The data strongly substantiated that behavior
change and stabilization in the subjects did occur after
intervention with the competency-based intervention. High
inter-observer reliability reduced the possibility of the
observers' behavior being changed.

Behavior profiles for each subject showed an over-
all picture of subject baseline and intervention rates and
percentages of behavior for each category. Causation effects
of the intervention are obvious in the rates per minute of
first name use and instructional feedback emitted. Stabilization effects are shown in the categories of individually directed feedback and specific information in all feedback.

Analysis of the TBO data indicates that the terminal behavioral objectives exerted some degree of accountable control over the student teachers.

Existing high rates of pupil appropriate behavior were maintained, while changes in total class time in managerial episodes and active participation of pupils improved significantly.

The effects of changes of student teacher behavior on the behavior of selected students within the subjects' classes are inconclusive.
CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this study was to determine the effects of a competency-based format on the behavior of seven student teachers from The Ohio State University. These subjects were placed in four high schools in urban and suburban Columbus, Ohio. Since the competency-based format stresses both performance and consequence assessment of teaching skills, an attempt was made to determine if changes in the behavior of the student teachers lead to subsequent changes in the behavior of the pupils for whom the student teachers were responsible. Eight categories of teaching behavior were observed, both during baseline and after intervention with the competency-based package. Pupil behavior of the total class was categorized three ways: (1) appropriate/inappropriate; (2) active/inactive; and, (3) total time in managerial episodes. Two pupils in each of the subjects' classes were selected for additional observations of their appropriate/inappropriate and active/inactive behavior.

Research literature in competency-based education is lacking. The little that has been done is inconclusive,
and continued investigations are needed to support or refute the claims made on the movement's behalf. Related literature indicates that a variety of methods can be used to change teacher and pupil behavior. Some research literature has linked changes in teacher behavior to subsequent changes in the behavior of pupils. Most of the literature has been related to areas other than the high school level. Consequently, the need exists for research studies dealing exclusively with high school teachers and students. Very limited research exists in physical education which deals with teacher and student behaviors. Research literature in physical education is necessary for valid conduct of undergraduate teacher training programs.

The seven subjects, four males and three females, were observed using event recording for three minute observation sessions. Their pupils were observed using placheck and time sampling observation methods. Duration recording was used to determine the total amount of class time spent in managerial episodes. These teacher and pupil observations occurred during baseline and after intervention with the competency-based package. Intervention consisted of the competency-based format, instructions, cueing and reinforcement, graphic feedback, and goal setting.

Three reliability checks were made on each subject and class. Teacher behavior reliability checks yielded 96% for total number of events observed and 88% for categoriza-
tion of events. Placheck reliability was 98% and 94% for appropriate/inappropriate and active/inactive behavior, respectively. Total time in managerial episodes per class yielded a reliability of 97%. Individually directed feedback produced a 91% reliability. Time-sampling reliability was 96% and 95% for appropriate/inappropriate and active/inactive behavior.

Behavior profiles presented an overview of the behaviors emitted by each subject and the classes taught by the subjects. Multiple baselines were used to make comparisons among subjects and classes and to show the effects of the intervention on each of the observed behaviors. Teacher behavior rates, percentages of appropriate and active behavior, and total class time spent in managerial episodes were analyzed by using the multiple baseline, both during baseline and after intervention.

Conclusions

Within the limits of this study, the experimenter concluded that the observation system constructed from the competency-based format of explicit performance criteria exerted a degree of accountable control over the behavior of the student teachers. This conclusion is supported by the data as they relate to the following:

1. As a result of the competency-based package intervention, the student teachers satisfactorily attained the criterion level established for lesson plans containing ex-
plicit behavioral objectives.

2. After intervention, the student teachers were able to satisfactorily identify the names and subject area of certified teachers and administrators in their respective schools.

3. After intervention, the student teachers satisfactorily established rules and regulations which governed their physical education classes.

4. As a result of the intervention, the student teachers were able to individualize instructional feedback and enhance their interpersonal relationships with students by emitting first names at the established criterion level.

5. As a result of the intervention, the specific information included in all instructional feedback stabilized above the criterion level as rates of instructional feedback increased.

6. As a result of the intervention, the student teachers became better agents of instructional feedback as evidenced by percentages of increase over baseline rates.

7. As a result of the intervention, the total time spent in managerial episodes per class decreased significantly in all subjects.

8. As a result of the intervention, the percentages of the subjects' classes engaged in active participation increased significantly over baseline percentages.
Recommendations

The persistence of the behaviors concluded to have been affected by the intervention into the first year of teaching by the subjects would provide interesting follow-up information.

A continued need exists for studies which would compile mean rates of teacher behavior and mean percentages of pupil appropriate and active behavior. These data would be invaluable in devising competencies for teacher trainees that would be both challenging and discriminatory.

Necessary improvements in observation systems based on a competency-based format should come from the formulation of more appropriate teacher and student analytical tools. The relevance of behavior categories remains speculative, since all high schools obviously had control of their student's behavior. Categories for this study were based on previous work done with elementary level pupils. The need exists for category identification allied more closely with high school level pupils. It was believed by the experimenter that appropriate behavior definitions were quite stringent and that criteria levels for student behavior were high enough to conclude that the pupils in the high schools observed behaved appropriately. What is needed, then, is category identification of such behaviors as productive and un-productive, whereby students who are behaving well could be
more closely scrutinized as to their productive efforts toward learning new skills.

The value of the observation system which calls for a cooperative effort for student teacher improvement between the university supervisor and the cooperating teacher in the high schools appears to have a high degree of merit. All except one cooperating teacher in the study were dependable and interested in this approach to observing and evaluating student teaching. The other cooperating teacher made little effort to understand the system and often was unavailable on the day of observation. The cooperating teachers all admitted to a lack of knowledge concerning competency-based teacher education. Some found positive approaches to controlling student behavior contrary to their philosophies, also. In-service training for cooperating teachers would enhance their conceptualization of the purposes of competency-based teacher education and the application of behavioral techniques in physical education. Continued efforts to arrive at desired competencies for teachers of physical education must be maintained, in order to provide proper direction for the development of valid competencies for teacher trainees during the student teaching experience.

The possibility of the observers influencing student behavior during observation sessions exists. The discriminative stimulus function of the observers is, however, minimized under the CBTE format of the student teachers
demonstrating and maintaining competencies throughout their tenure as student teachers. The purpose of the student teacher is to demonstrate competencies. They have fulfilled this obligation when they have shown the observers that they can demonstrate and maintain the desired competencies.

Baseline observations that are too extended become aversive to the subjects. Hughley (1973) found this condition to be true in his study. It was also pointed out by the subjects to the experimenter. They explained that during baseline they were afraid to speak and do a number of teacher-related functions, because they feared that what they would say and do would not be acceptable. In other than baseline observation data for research purposes, baseline could be kept to a minimum for use as an observation method. This would eliminate the aversive nature of observations being made without feedback being provided. Peer observations where student teachers are teamed in a school, utilization of videotape analysis, and one-way mirror observations may also aid in alleviating these conditions. Research efforts to solve associated problems are necessary.
APPENDIX A

SCHOOL POLICIES AND PROCEDURES MODULE
SCHOOL POLICIES AND PROCEDURES MODULE

Just as you expect your students to carry out procedures you have established in your classes, policies must be maintained for organizational functions within the entire school, including those governing the teachers. Part of the anxiety brought about by the student teaching experience is due to the student teacher's lack of awareness regarding the policies he is to follow in certain situations.

This module is designed to help you become acquainted with some of these procedures. It is assumed that this awareness will make you a more effective and better organized teacher. What if a student becomes injured in your class? What if you become ill or your car breaks down on the way to school? Answers governing your behavior relative to such incidences are important for normal functions within the school to continue. Your mastery of the TBO's will prepare you to pass the criterion level required for the written examination and, more importantly, to respond appropriately when certain situations arise.

GOAL: To enable the student teacher to become aware of and carry out those policies, rules and procedures which are necessary for the normal occurrence of organizational processes within the school setting.
TERMINAL BEHAVIORAL OBJECTIVES:

1. The student teacher will demonstrate a cognitive awareness of school policies and procedures by carrying out such procedures during his tenure as a student teacher and by passing a written exam over the following policies: (See Assessment criteria)
   a. Teacher attendance
   b. Teacher dress regulations
   c. Teacher tardiness
   d. Guidance Office - reviewing pupil records
   e. Discipline and corporal punishment
   f. Pupil excuses and pupil tardiness
   g. Hallway passes
   h. Fire drills
   i. Bomb threats
   j. Unusual weather conditions - School closings
   k. First aid and injury
   l. Grading
   m. Smoking; Pupil-Teachers

LEARNING ACTIVITIES AND RESOURCES:

1. Visit with other teachers and administrators to
ascertain these policies.

2. See if your school has a "Policies Book" for teacher use.

3. Talk to the guidance counselors regarding procedures in their office.

4. Talk to students to become aware of their concepts of school rules.

5. Discuss grading procedures with your cooperating teacher in order to be consistent with his philosophy and that of the school.

6. Talk with the school nurse regarding absence and injury procedures and legitimate student excuses for not participating in physical education.

**ASSESSMENT:**

A. Throughout student teaching there will be informal assessments by the cooperating teacher to determine if the student teacher is following rules and procedures.

B. At the end of the second week of student teaching, a short written examination covering specific areas relating to the school policies and procedures listed above will be taken. Criterion for passing is 90%. The test must be passed at the criterion level prior to the third week of student teaching.
1. Describe the procedure you are to follow when you are unable to report to school due to illness or emergency.

2. If your class is in the locker room dressing or on the gymnasium floor changing from shoes to sneakers, what procedure would you follow if a fire drill begins?

3. In order to review pupil records in the guidance office, what procedures should be followed?

4. What procedures would you follow if you were having trouble starting your car or, for some other reason, you were going to be tardy?

5. Does this school allow corporal punishment? What is the procedure? What are your limitations as a student teacher?

6. If a pupil reports to class ten minutes late, what procedure should you follow as the teacher of that class?

7. If an injury such as an apparent broken arm or serious laceration occurs in your class, what procedures should you follow?

8. What is the school policy relative to teacher dress and
appearance? Does the policy differ for the physical education teacher?

9. If a discipline problem erupts in class that you feel you cannot manage, what procedure should be followed?

10. List the starting time and ending time for each day you are scheduled to teach.

Passing Criterion - 9 out of 10 correct responses
APPENDIX B

PLANNING MODULE
PLANNING MODULE

GOAL: To enable the student teacher to plan for lessons which include explicit performance criteria for students and to cope with individual and total class behavioral problems.

TERMINAL BEHAVIORAL OBJECTIVES:

1. The student teacher will hand in copies of lesson plans one week in advance, i.e., on the day he is observed, which will meet the criterion level established by the supervisor and cooperating teacher.

2. The student teacher will include explicit behavioral objectives as part of the lesson plans which satisfy the criteria established by Mager or an additional approved authority.

3. The student teacher will devise and implement behavior games and strategies for use with total class and individual inappropriate behavior resulting in significant improvement in appropriate behavior, including:
   a. Individual and class contracting
   b. Extinction

DEFINITIONS:

Behavioral objective - a statement which communicates the in-
tention of the teacher as to what the learner will do to demonstrate his achievement. The objective states a terminal performance, the conditions under which the performance will occur, and the criterion for successful completion of the performance. Examples include:

1. By dropping the ball from his hands, the student will kick four out of five balls that land within boundaries at a minimum distance of forty feet.

2. Given a diagram of a tennis court, the student will correctly label all the court markings.

3. While standing in four feet of water, the student will submerge and correctly count the number of fingers his partner extends.

**Lesson plans** - a detailed guide to teacher and student behaviors which will occur during a single class meeting. It refers to teacher-student interaction, management methods, equipment needed to carry out instruction and objectives to be accomplished. Generally, the lesson plan details the means by which learning activities are established and carried out. (See suggested lesson plan)

**Behavior** - things that people do such as walking, talking, reading, etc.

**Appropriate behavior** - any pupil behavior that is considered
to be contributing to the educational environment in other than skill attempts. Examples include:
1. Carrying out directions quickly.
2. Maintaining eye contact with the teacher when the teacher is demonstrating.
3. Putting away or getting out equipment at the request of the teacher.

Inappropriate behavior - any pupil behavior that is considered to be detracting from the educational environment. Examples include:
1. Talking during a teacher demonstration.
2. Failure to carry out directions.
3. Pushing a classmate while standing in line.

Contingency contracting - refers to the most sophisticated form of contingency management (changing behavior by controlling and altering the relationship between a behavior and a consequence). The contingency or performance contract is an agreement between the teacher and the student that a specified reinforcement will be given the student following the completion of a specified task. Examples include:
1. If the student completes three volleyball behavioral objectives, he will be permitted to participate in a volleyball game.
2. If the student completes fourteen tasks included in handball lead-up activities and game
situations, he will receive an "A" grade.

**Extinction** - refers to a situation where reinforcement is discontinued. No reinforcement, positive or negative, is given contingent upon student response. Examples include:
1. Ignoring a student who is misbehaving.
2. Having the class ignore an individual who is talking constantly during teacher demonstrations.

**Behavior games** - any technique which has two or more class groups competing against each other for good behavior, with the ultimate goal of each group being the winner of the game. The reward for winning could range from free-time to simple teacher verbal reinforcement. Other rewards might include charts or posters listing the class that was best behaved or allowing a class to participate in an activity of their choice contingent upon winning the behavior game. Once the student behavior is brought under control, the reward is gradually diminished at a rate which does not lower the rate of appropriate behavior.

**Significant improvement** - a level of improvement that meets the criterion level as determined by the supervising and cooperating teacher. Baseline levels of behavior will determine what each individual student teacher's significant improvement will be.
LEARNING ACTIVITIES:

1. Read the Planning Module Reading Sheet, "Planning".

2. Refer to the format for the Suggested Lesson Plan.

   B. Read the book by Robert Mager, Preparing Instructional Objectives.


5. Listen to Audio Tapes: "Contingency Management in Physical Education", and "Behavior Games in Physical Education".

6. View Video Tape of the Behavior Game.

7. Read the article by Siedentop and Rife, "Developing a Learning Environment for Badminton".

LEARNING RESOURCES:

1. The Planning Module Reading Sheet.

2. The Suggested Lesson Plan Format.

3. The Development and Control of Behavior in Physical Education and Sport, by Siedentop and Rushall.

5. Audio Tapes number 1 and 1a - Applied Behavior Analysis Resource Center, Room 312, Pomerene Hall.

6. Video Tape number 1 - ABA Resource Center, Room 312 Pomerene Hall.


ASSESSMENT:

Weekly observation and feedback session with supervisor and cooperating teacher.
Preparation for effective teaching is an aspect of the educational process that goes unrewarded, yet is of paramount importance. We've all had teachers who seemed disorganized and ill-prepared for some lessons. A lesson presented without preliminary preparation and thorough planning is readily perceived by the students and is a pitfall one must avoid to be an effective teacher. Teaching guides, hereafter referred to as lesson plans, provide the means by which teachers can organize for the activities they will be teaching. A lesson plan is simply the guide or route the teacher will follow from the start of a class period until the end of the period.

Overreliance on the lesson plan to the point of constant referral can also point to organizational weaknesses on the part of the teacher. It becomes essential, therefore, to become familiar enough with the plan so as to need it only for quick glances leading to subsequent management. The stress is on planning prior to, and not during, the lesson to be taught. Often, you may find that you are unable to complete the lesson you planned for simply due to a need for emphasis on a particular skill. These are unforeseen circumstances which are important for student learning. The lesson plan is a general guide, not a hard and fast absolute to which you must adhere. The plan does ensure accountabil-
ity for the class period for which you are responsible, however, and is an aspect of your teaching that will require your careful attention.

Inherent motivational devices you will employ in your lesson plans are the use of the behavioral objectives. Students who know exactly what is expected of them will respond with sincere efforts to master the criteria you have established. Behavioral objectives have a wide range of possibilities for your use in the gymnasium. In order to know ability levels prior to the introduction of an activity, students can be assessed easily by having them attempt pre-established criteria levels. They can be used as terminal objectives for units of activity, the mastery of which ensures participation in a new skill at a high enough level for continued enjoyment. Grading becomes objective, meaningful and readily accomplished. Using the mastery of the criterion level you have established for a skill a requirement for playing a game is a specific motivational device for the skill development to occur. Behavioral objectives will be a valuable aspect of your lesson plans.

You will be confronted with individuals who will misbehave in your class. Strict disciplinarians eliminate misbehavior through punishment techniques. Your approach will be to plan positive means by which you can decrease inappropriate behavior levels emitted by an entire class or by individuals within the class. Verbal praise directed at
students who are behaving is one method of dealing with this situation. Earning points by behaving appropriately which enables the class to "buy" time in a favored activity is another approach. Ignoring attention-getting misbehavior, the process termed extinction, is still another. These contingencies may vary from class to class. Free-time is a contingency that has worked very well at the elementary level. What contingencies will strongly affect the behavior of high school students? The answer to this question will have to be planned for if, indeed, you will control your class at a satisfactory level of appropriate behavior.

TBO 1. You have been given a format for lesson plans. This is a suggested format. If you have another that is effective, feel free to use it—as long as the cooperating teacher and the supervisor agree. You are expected to plan lessons one week in advance. On the day you are observed, you will present a copy of your lesson plan to the supervisor and the cooperating teacher for the lesson you will be presenting one week hence.

TBO 2. As previously stated, your lesson plan will include explicit behavioral objectives. Methods for writing these objectives are included in the learning activities. You will be expected to teach to the criteria you have established during your lesson. Their practice time should be directed at meeting this criteria. Part of your lesson plan
evaluation should be directed at the ability or inability of your students to meet the criteria you have set down. Was the criterion level too high? Did they have enough time to work on the skill? Answers to these questions will improve subsequent presentations of the same lesson.

TBO 3. Class and individual rates of inappropriate behavior are being observed during the class meeting. Where a low rate of class appropriate behavior is observed which cannot be improved through verbal praise, contingency contracts will be planned for and implemented in an effort to improve the rate of appropriate behavior. The same procedure for target individuals within the class will be employed. Because some students misbehave in an effort to get attention from their peers or from the teacher, your efforts to ignore their misbehavior, extinction, may well prove to be the device which will eliminate his inappropriate behavior. It will be necessary for you to plan for using this technique, planning which might include other members of the class.

TECHNIQUES FOR OBJECTIVE ATTAINMENT:

1. Have a clear understanding of the definitions used in the terminal behavioral objectives. Consult the supervisor or the cooperating teacher if you don't fully understand them.

2. Spend time on the preparation of your lesson plan. Be sure you understand it beyond what is
written on paper. Don't use it to read to your students, but refer to it quickly enough to simply refresh your memory as to the next phase of your lesson.

3. Refer to the learning activities which will enable you to grasp the essence of behavioral objectives. Use them in your daily plan. They ensure class participation. Students who are busy will not misbehave.

4. Refer to the learning activities you need to use contingency contracting for classes and individual students with which you might be having difficulty. Get to know things they especially like to do. Be interested in them as individuals and communicate with them on that basis.

5. Behavior that is not reinforced will diminish. Practice extinction as an objective method you are using to eliminate a student's inappropriate behavior. Try to keep in mind that this is a technique you are using. Make it a game, if you will. This attitude might help you keep the student who is misbehaving from "getting to you".

TEACHER RESPONSIBILITIES:

This module is designed to help you plan for an
effective setting in which you will teach. Planned teaching can be much more effective where chaos is not the order of the day. Your ability to help students behave themselves will make your setting much more conducive to learning. Devise the objectives you deem necessary to reflect the accomplishments of your students. Work at ways you can use objectives to motivate your students. Once the setting is established, diligent planning of what will be taught, what is needed to facilitate your teaching, and the budgeting of time in which to carry out the various phases of your teaching plan will enhance your ability as a teacher.
SUGGESTED FORMAT FOR LESSON PLANS

Name ____________________________  Unit No. ________  Lesson No. ________

Date ____________________________  Teaching Stations Needed:

a.  
b.  
c.  

General Objective - Usually very broad in scope and related to your personal philosophy of physical education. Are you intending to develop fitness, character or an environment where students can have fun?

Specific Objective - Why are you teaching this lesson? What purpose are you trying to fulfill? An example might include your efforts to acquaint the student with some basic skill required for enjoyment of the activity you are teaching.

Behavior Objectives - This facet includes the need for you to include explicit performance criteria established for assessing your students.

Equipment Needed - Prior attention to this detail will prevent having to seek out an item of equipment during the lesson. This
Teaching Procedure - This aspect requires you to itemize from start to finish what you will be doing on this particular day and this particular period. How much time will be required for each item you will be teaching? How long for pre and post class locker room time?

Teaching Plan - You should think through the class period and in a detailed manner, develop your plan from the beginning of the class period to the end.

Lesson Evaluation - Having taught the lesson, there may be a number of items you would change for future lessons. What went well and what did the students have problems with? Was enough time for student practice or play provided? Evaluating each lesson for its strengths and weaknesses will enhance future teaching.
APPENDIX C

INTERPERSONAL RELATIONSHIPS MODULE
INTERPERSONAL RELATIONSHIPS MODULE

GOAL: To enable the student teacher to develop the skills of positive interaction to enhance his or her personal relations with students in order to establish an environment conducive to learning.

TERMINAL BEHAVIORAL OBJECTIVES

The specific rates for each of the following TBO's will be determined by baseline observations.

1. The student teacher will emit a specific rate per minute of positive interactions.
2. The student teacher shall emit a specific ratio of positive to negative verbal or nonverbal interactions relative to pupil behavior.
3. The student teacher will emit specific information in a specific percentage of all positive behavioral interactions.
4. The student teacher will initiate student contacts on a first name basis at a specified rate per minute.
5. The student teacher will be able to identify the last names and grade level of certified teachers and administrators in the school at a criterion level established by the supervisor.
DEFINITIONS:

**Interactions** - all verbal and non-verbal teacher-pupil communications. These communications could be positive or negative.

**Positive interactions** - all positive verbal and non-verbal teacher reactions to pupil behavior other than skill attempts. Examples would include:
- a. Thanks for paying attention to my demonstration.
- b. Squad three really has a straight line.
- c. Nice job of getting quiet after the whistle.

**Negative interactions** - all negative verbal and non-verbal teacher reactions to pupil behavior other than skill attempts. Examples would include:
- a. Squad three is really noisy.
- b. Be quiet, Jim.
- c. If this class does not stop fooling around, then you will be sent back to the classroom.

**Behavior** - refers to the things people do; e.g., talking, kicking, going to school, reading.

**Appropriate behavior** - any pupil behavior that is considered to be contributing to the educational environment other than skill attempts. Examples would include:
- a. Carry out directions quickly.
- b. Maintaining eye contact with the teacher when the teacher is demonstrating.
- c. Putting away or getting out materials at the
request of the teacher.

**Inappropriate behavior** - any pupil behavior that is considered to be detracting from the educational environment. Examples would include:

a. Talking during a teacher demonstration.
b. Failure to carry out directions.
c. Pushing a classmate while standing in line.

**General verbal interaction** - all vague or unprecise spoken teacher reactions to pupil behavior. These reactions could be positive or negative. Examples of positive:

b. Squad three is really doing a good job.
c. Row two, looks good.

Examples of negative:

a. That is terrible, Joe.
b. Not very good, Cindy.
c. The class is pretty bad today.

**Specific verbal interaction** - all precise or explicit spoken teacher reactions to pupil behavior. These reactions could be positive or negative. Examples of positive:

a. John is paying close attention to me.
b. Row two has a very straight line.
c. The class entered the gym very quietly.

Examples of negative:
a. Stop talking to your partner, John.
b. Row three was the last to get quiet.
c. Get in line right now, girls.

Nonverbal interaction - all nonspoken teacher reactions to pupil behavior. These reactions could be positive or negative. Examples of positive:

a. Making an okay sign with the thumb.
b. Patting a pupil on the head.
c. Putting an arm around the shoulder of a student for appropriate behavior.

Examples of negative:

a. Staring at a pupil and shaking your head sideways.
b. Pointing a student back to the end of a line.
c. Frowning at the entire class.

Student contacts - all verbal teacher-pupil communications.

Examples would include:

a. Calling on a pupil to answer a question.
b. Giving a pupil some skill attempt feedback.
c. Giving a pupil some behavioral feedback.

LEARNING ACTIVITIES:

1. Read module reading sheet Interpersonal Relationships.
3. Listen to audio tape on interpersonal relationships.
4. Observe video tapes of a teacher and look specifically for positive and negative interactions.
5. Tape one of your own classes and record your interactions with students.

LEARNING RESOURCES:

1. Reading sheet for Interpersonal Relationships Module.
3. Audio tape for Module #3 located in The Applied Behavior Analysis Resource Center, Pomerene, Room 312.
4. Video tape for Module #3 located in The Applied Behavior Analysis Resource Center, Pomerene, Room 312.
5. Tape recorder and recording sheet.

ASSESSMENT:

Weekly observation sessions by the cooperating teacher and supervising teacher. Also periodic observation sessions by the cooperating teacher.
INTRODUCTION

The interpersonal relationships between a teacher and a student are important to learning. These relationships play a prime role in creating the environmental atmosphere in which students spend most of their school time. An atmosphere that is conducive to learning will help to insure more student learning. Since students tend to repeat those experiences that are pleasing to them and avoid those that are not, you as a teacher should strive to make the atmosphere as pleasant as possible. Many times beginning teachers take this aspect of teaching for granted and assume that students will always be motivated and interested in bettering their personal physical education skills. This is evidenced many times in teachers who become annoyed with students who do not have a high interest level in some activity skill development. It does not just happen, we help to plan for it. Interpersonal relationships with other faculty and administrators is also important. Conversations and contacts with them are very helpful in providing you with more information about the children in your school. This information should be of some help in planning and teaching your classes.
This module will show you ways to help create an environment that should enable you to have personal contact with a large percentage of your class, focusing on positive interactions in order to develop high student interest and also appropriate student behavior. Interaction with other school faculty and administrators will also be stressed to help you strengthen your involvement as a teacher.

GOALS

Goal #1. As mentioned before, pupils tend to repeat experiences that are pleasing to them. One way to make learning enjoyable for students is to compliment them when they are performing well. In this goal you will raise your rate per minute of positive interactions in an effort to help create a good climate for learning and also to force you to interact more with your students. Many beginning student teachers do not interact enough with their students and learning is very difficult without interaction.

Goal #2. This second goal refers to the positiveness or negativeness of how you relate to students in regard to their behavior. Do you spend lots of time criticizing bad behavior or do you compliment students when they are behaving well? You will be required to have a specific ratio here in order to meet the goal.

Goal #3. The third goal will require you to be specific in your positive behavioral interactions. For ex-
ample, telling a class that they are decreasing the amount of time it takes them to get quiet after the whistle and that this will mean they have a chance to learn more skills. An unspecified example of the above situation would be telling the class they are behaving better.

Goal #4. Learning student's names can sometimes be troublesome but we feel that this is important in creating optimum conditions. You will be required to obtain the attentions of a student by calling him or her by their first name at a specific rate per minute.

Goal #5. In this goal the supervising teacher and cooperating teacher will assess your knowledge of other school faculty and administrator's last names. The degree of your interaction with other school personnel will closely approximate your ability to remember the names of these people. Therefore get involved right from the start and get to know as many people in the school as possible.

The attainment of these goals should have some important effects on your physical education class. First, there will be a shift in your verbal and nonverbal behavior from negative to positive, thus improving the atmosphere of the teacher-pupil relationship. Evidence suggests that positive reinforcement is considered a very effective means of increasing and maintaining appropriate class behavior. Positive reinforcement has demonstrated the ability to in-
crease the probability of occurrence of behavior. Second, since attention often serves as a positive reinforcer, the focus of attention on appropriate behavior should increase the rate of that behavior and reduce the rate of inappropriate behavior. Third, the use of pupil's first names should also improve the atmosphere of the class and should also improve your relationships with your students. Fourth, your interaction with other school faculty and administrators should provide you with added knowledges that should make your teaching more effective.

SPECIFIC TECHNIQUES USED TO REACH EACH GOAL

1. Have a clear understanding of the definitions used in the goals stated above. Read the references, view the available video tapes, view your own tapes, or ask your supervising teacher to clear up any definitional problems.

2. Plan your class adequately so that the students are all active. This should eliminate students standing around with an opportunity for inappropriate behaviors. Specific terminal behavioral objectives for each student should help. Let each student know what is expected of him or her.

3. Use name tags on adhesive tape, taking roll in a prescribed place on the gymnasium floor, or some
other method to learn your student's first names.
For the first few days don't be hesitant in asking students their name.

4. Go to faculty meetings, sit with other faculty during lunch, introduce yourself to faculty and administrators you do not know, ask your cooperating teacher the names and positions of unfamiliar school personnel.

TEACHER RESPONSIBILITIES

This module refers to teacher initiated actions that will help to provide a better learning environment. So remember that you as the teacher must initiate the changes. Think positive! Try to force yourself to look at the behaviors in class that are appropriate. When the class, a specific subset of the class, or an individual responds appropriately, be sure to add some positive verbal feedback. Do not overdo it. Do not be phony. Do not underestimate the effects of some simple and sincere words of appreciation. For example, complimenting a class on how well they behaved during class will help to provide an environment where the good behavior may occur more often. Students usually tend to behave appropriately if there is some reason to behave this way. Your positive verbal feedback may be all that is needed to help lower class inappropriate behavior.

Become familiar with the names of your students,
other faculty, and administrators, interaction with those you come in contact with provide worthwhile information to help you be more effective in your teaching.
APPENDIX D

MANAGEMENT MODULE
 MANAGEMENT MODULE

**GOALS:** To enable the student teacher to:

1. Maintain appropriate pupil behavior through positive interactions.
2. Increase the probability that pupils will respond quickly to teacher directions.
3. Reduce the total time that pupils spend getting organized, changing activities, and terminating activities.
4. Reduce the number of teacher managerial behaviors while maintaining adequate organizational control.
5. Involve a high percentage of pupils in active learning.

**TERMINAL BEHAVIORAL OBJECTIVES:** The specific rates for each of the following TBO's will be determined by baseline observations.

1. The student teacher shall attain or maintain a specific percentage of appropriate pupil behavior during class time.
2. The student teacher shall spend no more than a specific percentage of class time in managerial activities.
3. The student teacher shall organize each class so
that at least a specific percentage of the students are engaged in active learning during each activity episode.

4. The student teacher shall make all pupils aware of the rules and regulations that govern the physical education class (i.e., listen to the teacher during explanations or quiet when the whistle blows). The cooperating and supervising teacher will judge the performance of the student teacher relative to this TBO.

DEFINITIONS

**Appropriate Behavior** - Any pupil behavior that is considered to be contributing to the educational environment other than skill attempts. Examples would include:

a. Carrying out directions quickly.

b. Maintaining eye contact with the teacher when the teacher is demonstrating.

**Inappropriate Behavior** - Any pupil behavior that is considered to be detracting from the educational environment. Examples would include:

a. Talking during a teacher demonstration.

b. Failure to carry out directions.

**Managerial Activities** - This refers to all events needed to get organized for the first class activity, to
change from one activity to another, or to end a final activity and leave the gymnasium or playground.

**Managerial Episode** - The cumulative time from the beginning of a student teacher initiated managerial behavior to the beginning of the next pupil activity.

**Active Learning** - refers to actual physical involvement in the activity that is appropriate activity of the class. Examples would include:

a. shooting, dribbling, passing, catching (basketball)

b. passing, setting, spiking (Volleyball)

c. working on a balance beam, spotting (Gymnastics)

**Activity Episode** - The cumulative time from the beginning of an active learning period to the teacher initiated behavior that ends the period.

**LEARNING ACTIVITIES**

1. Read Management Module Reading Sheet.

2. Read the article by Siedentop, Rife, and Boehm, "Modifying the Managerial Efficiency of Student Teachers in Physical Education."

3. Practice in a live setting or with a video tape using the coding format for managerial efficiency.
LEARNING RESOURCES

1. Management Module Reading Sheet.
2. Siedentop, Rife, Boehm, "Modifying the Managerial Efficiency of Student Teacher in Physical Education."
3. Coding format and video tapes available in Applied Behavior Analysis Resource Center, Pomerene, Room 312.

ASSESSMENT

1. Weekly observation sessions by cooperating and supervising teachers.
2. Periodic observations by cooperating teacher.
INTRODUCTION

The techniques of class management utilized by a teacher will indirectly influence the amount of learning that takes place in the class. If students are allowed to spend large amounts of time for getting organized and changing activities, then obviously, they are spending less time participating and practicing physical education skills. Teachers must devise and utilize class management strategies that motivate students to organize and change activities as quickly as possible so that more time is available for participation and instruction. If the teacher can reduce the number of managerial behaviors to a minimum, then students will begin to manage themselves without teacher cues. The ideal situation would be for the class to change activities as quickly as possible with only one managerial behavior emitted by the teacher.

Since students tend to repeat those behaviors which provide them with some type of positive reinforcement, teachers must focus positive verbal and non-verbal interactions for appropriate managerial and classroom behaviors of the students. Teachers must force themselves to reward students who are following directions quickly, standing quietly in
line, rotating positions quickly, and paying attention to
demonstrations by the teacher. Evidence suggests that posi­
tive interactions are considered a very effective means of
increasing and maintaining appropriate class behavior.

GOALS--TERMINAL BEHAVIORAL OBJECTIVES

1. Appropriate pupil behavior should be attained
and maintained by using positive verbal and non­
verbal interactions at a specific rate per min­
ute. If normal verbal means does not bring the
class to the specified level, then the use of a
group behavior game or individual student con­
tracting (Planning Module) may be used.

2. Classes must be planned in such a manner that a
specific percentage or less of the class time is
spent on managerial activities. The reduction of
time per managerial episodes will encourage self­
management in the pupils. Teachers can then
spend more time for instruction and feedback
which seems to be more valuable to pupil learn­
ing.

3. Classes must be planned in a manner that enable
a high percentage of the pupils to be involved
in active learning. Pupils learn very little
while standing in line and watching from the
4. Explicit explanations of all rules that pupils are to follow will let the pupils know exactly what is expected of them. The student teacher must be consistent in enforcing these rules.

The accomplishment of these goals should have some important effects on your physical education class. First, there should be an increased rate of appropriate pupil behavior which should be pleasing to you as the teacher. Second, less time will be spent on managerial activities which should free you to instruct more and provide more feedback. Third, pupils should begin to manage themselves. And fourth, more pupils will become involved in active learning which should be pleasing to them.

SPECIFIC TECHNIQUES USED TO REACH GOALS: (Siedentop: OSU: HPER: 10/24/73)

1. The first activity for the day and the organization for that activity should be written and placed so that students can look at it when they enter the gym and proceed to carry out the instructions. The teacher should have predesignated a "starting time" for the class. This "starting time" should be such that students have sufficient time to get dressed and get organized, but should be soon enough after the
official beginning time that the efficient student doesn't have to sit around waiting. The "starting time" will remain constant for each class even though the first activity may vary daily. The rule for this aspect of the project should be: "By 9:28 the students will be at their assigned places, quiet, and attentive to the teacher for the first instruction of the day." If the entire class meets this criterion, they will earn two minutes of "free time" at the end of class.

2. A signal for class attention should be developed (a whistle is probably the easiest signal to use). When the class hears this signal, they should immediately stop what they are doing and be attentive to the teacher for instruction. If the entire class is quiet within five seconds of the signal (i.e., five seconds after the whistle is blown) they earn one minute of "free time" for each such response.

3. Changing activities during the class period should proceed quickly and smoothly. The teacher, having given the signal for attentions, should state clearly and fully the next organizational pattern. Students should not begin
to change activity until all instructions are given and the teacher gives a verbal signal (o.k., let's move!). Once the "go" signal has been given the students should move to the new organizational pattern and be quiet and attentive for further instruction. If they complete this "reorganization" within twenty seconds of the "go" signal and are quiet and attentive, they earn one minute of "free time" for each such reorganization.

TEACHER RESPONSIBILITIES

1. This is a group contingency. There is a group criterion for each part of the game. If one of the students is not meeting the criterion, the "minute" is not won. You must be stringent in your application of the criterion. Group pressure will quickly bring any consistent "offenders" under control. You are not helping the students by giving them a break on the rules. BE CONSISTENT!!!

2. Time each organizational episode and each group response to your attention signal. First report if the minute of free time was won or not won. Make sure to keep a record of the accumu-
lated free time won during each class. Do not use verbal prompts (hurry, let's go, you're going to be late, etc.) This is precisely the kind of control we want to eliminate. Do not react negatively beyond reporting that a point was not won. Don't hassle them! Let the "game" develop.

3. Whenever the class responds appropriately (whenever they have won some free time) be sure to add some verbal reinforcement. This can be done with individuals, small groups, or the class as a whole. Try to vary the object of the reinforcement and the words used.

   Way to go, Harry!
   Squad 3 was terrific!

Don't overdo it. Don't be phony. Don't underestimate the effects of some simple and sincere words of appreciation.

4. Watch the clock so the "free time" can begin on time.

5. Use the "free time" to interact with your students in a little different way. This is an opportunity to get out of the "instructor" role. This doesn't mean that you can't do some teaching if the opportunity arises, but let it be
student initiated. Play with them! Have fun with them!

FREE TIME PROCEDURES

1. State clearly the rules that exist during free time; i.e., no fighting or hassling, one at a time on apparatus, etc.

2. Free time activities should offer some choice, but be sufficiently limited that mayhem does not ensue.
   a. Play basketball.
   b. Further work on apparatus or mats.
   c. Sit in stands and talk.

SUMMARY

Some groups may earn a lot of free time. Don't worry. You have seen how much time was previously spent in managerial activities. You are getting as much or more instructional-activity time plus the benefit of the free time activity. Some time you might want to use the free time to teach a particularly intriguing skill to those who want to learn the skill. You can announce this and then let those who want to learn the skill gather around during the free time period. In this way you can begin to create a situation where learning is considered to be a reward activity.
APPENDIX E

INSTRUCTIONAL FEEDBACK MODULE
INSTRUCTIONAL FEEDBACK MODULE

GOAL: To enable the student teacher to emit a high rate of instructional feedback that contains specific information and is directed toward specific pupils in the class.

TERMINAL BEHAVIORAL OBJECTIVES

The specific rates for each of the following Terminal Behavioral Objectives will be determined by baseline observations.

1. The student teacher shall emit instructional feedback at a specific rate per minute.
2. The student teacher shall emit specific information in a specific percentage of all instructional feedback.
3. The student teacher shall direct instructional feedback toward specific individuals a specific percentage of the time.

DEFINITIONS

**Instructional Feedback** - This refers to all student teacher verbal or non-verbal reactions to an appropriate skill attempt by a pupil. These reactions could be positive or negative which would include corrective feedback. Examples of positive instruction feedback
Examples of negative or corrective feedback:
1. "Larry, stay in your tuck longer."
2. "That is poor defense by Team A."
3. "This class seems to be dribbling the ball too high."

Specific Information in Instructional Feedback - This refers to precise or explicit information within the instructional feedback. Examples would include:
1. "Way to grab your knees in that forward roll, Mike."
2. "Jim, that is perfect hand position on the hockey stick."
3. "Keep your left arm straight during the swing."

Examples of general information would include:
1. "Good shot, Mary."
2. "Larry, you can dribble better than that."
3. "Nice job, class."

Specific Individuals - This refers to any one pupil in the
LEARNING ACTIVITIES

1. Read Instructional Feedback Module Reading Sheet.
3. Tape record your instructional feedback for one class period and count the number of positive and negative (corrective) instructional feedbacks.
4. Count and record instructional feedback emitted by another teacher in a live teaching situation.

LEARNING RESOURCES

1. Instructional Feedback Module Reading Sheet.
3. Tape recorder and recording sheet.
4. Recording sheet.

ASSESSMENT

1. Weekly observation sessions by cooperating and supervising teachers.
2. Periodic observations by cooperating teacher.
INTRODUCTION

There is evidence to suggest that positive instructional or information feedback will often serve as positive reinforcement for pupils. (Siedentop and Rushall, 1972). It has already been mentioned that positive reinforcement had demonstrated the ability to increase the probability of occurrence of a behavior (Skinner, 1953). Since student teachers are interested in motivating pupils to repeat certain physical education skill attempts, then student teachers must provide pupils with some positive instructional or information feedback. Positive instructional feedback is therefore a very important teaching behavior that must be increased and maintained. When pupils are attempting physical education skills, student teachers must provide them with some simple positive verbal instructional feedback. Student teachers must force themselves to focus on pupils' skill attempts and to provide the needed positive instructional feedback.

Some type of negative instructional or information feedback, especially in the form of corrective feedback, is very important to the process of learning. As the skill level of the performer goes up, the value of corrective feed-
back also seems to rise. It is certainly important for student teachers to correct the common errors that pupils are making during their skill attempts. However, it is also important for a student teacher to have some sort of a balance between positive and negative instructional feedback. It is not good for a student teacher to focus only on the aspects of a skill attempt that needs to be corrected because it is also important to provide feedback relative to the aspects of a pupil's skill attempt that are already correct.

GOALS--TERMINAL BEHAVIORAL OBJECTIVES

1. This goal simply refers to the rate per minute that you emit instructional feedback. Obviously activities must be planned so that you are able to emit the specified rate per minute. You must be thoroughly prepared to emit both positive and corrective instructional feedback.

2. This goal requires you to include specific information in a certain percentage of your instructional feedback. General feedback is important in learning but evidence seems to suggest that specific feedback is more important than general information feedback.

3. This goal refers to the direction of your instructional feedback. Is your feedback directed
towards the entire class, a small subset of the class, or specific individuals in the class? You must make sure that you are providing feedback for all individuals in the class. Some student teachers seem to direct all of their feedback toward the highly skilled or the low skilled and they seem to neglect the large majority of average skilled pupils in the middle of the class. Some student teachers also seem to direct feedback toward the boys only and seem to neglect the girls. Be sure that you are directing your feedback to all individuals in the class.

The accomplishment of these goals should have some important effects on your physical education class. First, pupils should become more motivated to learn and improve physical education skills. Second, pupils should have more time for learning additional skills that are meaningful to them. And third, all pupils in the class should feel that the student teacher is interested in helping them to improve their physical education skills and is providing them with some successful experiences.

SPECIFIC TECHNIQUES USED TO REACH EACH GOAL

1. Have a clear understanding of the definitions and examples previously mentioned in the above
goals. Read the reference book, tape record your instructional feedback, and record the instructional feedback emitted by another teacher. Ask your supervising teacher to clear up any definitional problems.

2. Plan your class activities adequately so that you will be able to emit high rates of instructional feedback. You should be able to walk around the gymnasium or playfield and emit the specified rate per minute of feedback.

3. Write down the specific teaching points and common errors for each of the day's activities. Learn these points and errors so that you can observe them in your pupils' attempts. When a pupil makes a skill attempt, provide him with some instructional feedback. Point out the aspects of the skill that they are performing correctly and also the aspects that are being performed incorrectly.

4. Try to provide your feedback for specific pupils in the class. Do not always provide the feedback for a group or the entire class unless there is some feedback necessary for the entire class or some subset. Try to provide feedback for all levels of the class (i.e., high skilled, average
skilled, low skilled).

TEACHER RESPONSIBILITIES

The importance of instructional feedback in the learning process has already been mentioned. You must plan and organize the learning activities so that instructional feedback is provided for the pupils. You must know how, when and where to provide the feedback. Remember, this is your responsibility. If you have any problems in understanding what you are required to perform, be sure to ask your supervising or cooperating teacher.
APPENDIX F

STUDENT ASSESSMENT MODULE
STUDENT ASSESSMENT MODULE

In addition to the detailed and sophisticated observations of your efforts to attain the criterion level involved in the various modules, an informal assessment of your teaching will be made by the students.

Questionnaires will be completed by the students at the end of week three and, again, at the end of week eight. The purpose of the questionnaire is to determine the effects of your attitude toward teaching and the students you teach as seen through the eyes of your students. How do they evaluate your teaching worth? Do you interact with them favorably? Do you control the behavior in their class? It will prove interesting to examine the answers to these questions as given by your students.

TBO - Based on student evaluation, the student teacher will demonstrate levels of behavior which will ensure 70% of student responses in the "yes" category of a questionnaire in the following areas:

a. Attitude toward activities he teaches.

b. Attitude toward his students:
   1. Names of students.
   2. Like or dislike of students.
   3. Helping students increase skill levels.

c. Well-planned lessons.

d. Class control.
PUPIL QUESTIONNAIRE

CIRCLE YOUR ANSWER:

1. Does the student teacher know your first name?
   A) Yes
   B) No
   C) I do not know

2. Does the student teacher like you?
   A) Yes
   B) No
   C) I do not know

3. Does the student teacher enjoy teaching your class?
   A) Yes
   B) No
   C) I do not know

4. Does the student teacher plan well for your class?
   A) Yes
   B) No
   C) I do not know

5. Does the student teacher help you to learn new skills?
   A) Yes
   B) No
   C) I do not know

6. Does the student teacher keep good class discipline?
   A) Yes
   B) No
   C) I do not know
7. Are the rules of the class clear to you?
   A) Yes
   B) No
   C) I do not know

8. Does the student teacher punish you for misbehaving in
   class?
   A) Yes
   B) No
   C) I do not know

9. Does the student teacher allow enough time for you to
   practice your skills?
   A) Yes
   B) No
   C) I do not know

10. Is the student teacher good at skills that he teaches?
    A) Yes
    B) No
    C) I do not know
APPENDIX G

EVENT RECORDING SHEET
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<td>8) First Name Use</td>
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Managerial Episodes
7. 8. 9. 10. 11. 12.

Marking
1 = Individual
0 = Group, Entire Class, Squad, Row
APPENDIX H

PIACHECK AND TIME SAMPLING SHEET
TIME SAMPLING OBSERVATION SHEET
PLACHECK OBSERVATION SHEET

Student Teacher ___________________________ Date ___________________________
Time ___________________________ Observer ___________________________
Number in Class ________________ Activities ___________________________

Student A __________________________________________
(name)

Student B __________________________________________
(name)

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<td>Placheck - Appropriate/Inappropriate</td>
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<td>Placheck - Active/Inactive</td>
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<td>Time Sample - Appropriate/Inappropriate</td>
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<td>Student B</td>
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<td>Time Sample - Active/Inactive</td>
<td>Student A</td>
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APPENDIX I

STUDENT TEACHER GOAL SHEET
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<th>INTERPERSONAL RELATIONSHIPS</th>
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<tr>
<td>+ Feedback Rate/Minute</td>
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<tr>
<td>+ to - Interaction (Ratio)</td>
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<tr>
<td>Specific Information % of Interactions</td>
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<tr>
<td>First Name Use Rate/Minute</td>
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| INSTRUCTIONAL FEEDBACK                      |          |             |             |               |
| Rate/Minute of Feedback                     |          |             |             |               |
| Specific Information % of all Feedback      |          |             |             |               |
| Individually Directed Feedback % of Time   |          |             |             |               |

| MANAGEMENT                                   |          |             |             |               |
| % of Appropriate Behavior                    |          |             |             |               |
| % of Class Time in Managerial Activities    |          |             |             |               |
| % of Class in Active Learning               |          |             |             |               |


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