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RESIDENT SCHOOL CAMPING: A DESCRIPTIVE ANALYSIS

DISSERTATION

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

By

Gary Moore, B.S. Ed., M.A.

***

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CHAPTER I

INTRODUCTION

The lure of the outdoors remains an essential factor in the American experience. It is almost universally accepted that youth programs sponsored by agencies such as the Girl Scouts, Campfire Girls, Boy Scouts, Jewish Centers, Young Men's Christian Associations, Churches and settlement houses include some sort of camping experience to fulfill program objectives. It is the resident outdoor camp experience which permits time for fellowship, the establishment of values, an opportunity for ethical choices, a sense of intimacy, shared experience with authority figures and a measure of mystery and awe in the presence of the natural world. The biblical expression, "Man does not live by bread alone," is the cornerstone of camping philosophy initiated in the latter part of the Nineteenth Century, and continued in program practice today.

Organized camping is an American creation. It initially was a private effort, expanded to include social and church agencies, and more recently, has become a part of many school districts educational programs.

This chapter is designed to familiarize the reader with the history of how schools began to use the out-of-doors in their educational
programs, and the role of resident school camping in the area of Outdoor Education, Conservation Education, Outdoor Recreation, and Environmental Education. A discussion of the claims made for resident school camping and its relationship to the statement of the problem will conclude the chapter.

School Use of the Out-Of-Doors

One of the earliest camps, as part of the private school program, was in Washington, Connecticut in 1861. The first public school camp was in Dubuque, Iowa in 1912. In the 1930's, L. B. Sharp pioneered "camping education," while W. K. Kellogg Foundation formed resident camps for the disadvantaged. In the 1940's, the Kellogg Foundation set the stage for resident school camping with the establishment of the Clear Lake Camps in Battle Creek, Michigan, which involved three schools in a two-week resident camp experience for students in grades four through twelve. From this time on, the resident outdoor school extended into other parts of the country.

The decade of the fifties brought increased emphasis upon other forms of outdoor education, such as the use of school sites and other outdoor areas for out-of-classroom experiences. The Outdoor Education Project of the American Association for Health, Physical Education and Recreation [1954] broadened the concept of outdoor education. It was during this period that educators began to think of education as "education in and for the outdoors."

The sixties brought an increase in the use of outdoor settings by elementary schools and in-service, pre-service education for teachers.
The Elementary and Secondary Education Act was responsible for more than fifty outdoor education programs of varying types. This period saw outdoor education becoming widely accepted in the area of education.

During the late sixties, a concern for environmental quality brought about some name changing and a rash of new terminology. In the K-12 curriculum, outdoor education cut across curriculum lines to develop attitudes and behavior through direct learning experiences within the natural environment.

Resident School Camping in Today's Educational Programs

Today, outdoor education consists of:

1. outdoor related classroom activities,
2. the use of school sites and other areas as outdoor laboratories,
3. resident outdoor schools,
4. teaching of outdoor skills, and
5. work-learn experiences in the out-of-doors.

These five areas are not the exclusive property of the outdoor education movement. Conservation education, outdoor recreation and environmental education have also made claims for these learning environments.

The relationship of resident school camping to these similar yet separate entities is vital for a clearer understanding of its place within the educational process.
As mentioned earlier, the 1960's brought some name changing with the term environment management education. Roth [1969] defines environmental management education as the following:

It is the development of a citizen which is (1) knowledgeable about the interrelated biophysical and sociocultural environment of which man is a part, (2) aware of the environmental problems which affect man, (3) motivated to work toward an environment that is optimum for living.

Historically, environmental management education is an outgrowth of the outdoor education, outdoor recreation, and conservation education movements. Figure 1, on page 5, shows how resident school camping can be viewed within the framework of the environmental management education model.

Where does resident school camping belong? Further investigation shows that the resident camp experience is one of the methods by which the goals of outdoor education, outdoor recreation, and conservation education can be accomplished. The model is designed to show the relationship of resident school camping to the environmental education model, not the total picture of outdoor education, outdoor recreation, and conservation programs.

Sound resident school camp experiences do not rely completely upon the components found within outdoor education. Many times, recreational and conservation activities are included to provide meaningful experiences in the outdoors. Although the scope of resident school camping can be as wide as the whole outdoors, it should not be considered separate from the classroom. It is as much a part of the educational process as anything that goes on within the classroom.
1. Field Trips
2. School Land Laboratory
3. Resident School Camping
4. Family Camping
5. Outdoor Pursuits
6. Outdoor Related Classroom Activities
7. Work-Learn Experiences in the Out-Of-Doors

Figure 1. Environmental Management Education Model.
Claims Made for Resident School Camping

Slowly, outdoor education is becoming a part of the educational process of many school districts throughout the country. Today, thousands of youngsters in the upper elementary grades spend three to five days in an outdoor school. Hanna [1969] estimates that some two thousand districts across the country offer some sort of camping experience. School boards and administrators are proving to be more willing to budget and expend funds for outdoor education programs.

Educators are making many claims for these varied resident school camping programs. Mand [1976] states:

> Spontaneous sharing, conversations, and non-verbal contacts between students and teachers occur more frequently in camp than in school. Teachers spend more time with students in informal, free time contact during camp than in school. Youngsters in camp spend free time in activities closely related to instructional pursuits. Youngsters in camp take advantage of time for solitude, contemplation, and personal reflection in the natural environment. Youngsters in camp use free time by exploring and creating activities using the natural surroundings. Youngsters who have behavior problems in schools behave well in camp.

Roth's [1972] survey of research continues:

> Camping programs appear to promote a positive gain in self-concept by pupils and perhaps by teachers as well, and...appear to positively affect social relationships both among peer groups and between teachers and pupils [p. 31].

Masters [1951] adds:

> School camping offers different recreational experiences than the everyday spectator variety. School camping is based on the interests of children. School camping provides for individual differences of children. School camping includes the elements of risk and adventure in a new and different experience [p. 14].
In regard to the school camp community, Donaldson and Donaldson [1955] state:

The camp community is a place of work; campers evaluate their work experience as more fun than anything else they do [p. 13].

There are also claims made about the teaching practices which are used in the school camp. Mand [1976] concludes:

Students spend less time talking and listening and more time touching, smelling, tasting, and moving during instruction. Students learn about natural foods, trees, birds, insects, etc. Students increase their vocabulary. Students learn self-help skills such as picking up clothes, making their bed, etc.

Swan [1969] suggests that there comes a time in all educational endeavors when these previously stated claims must come under assessment, when conditions and outcomes are examined, and when justification to the public for budgeted tax funds is expected—and, so too, with resident outdoor camp programs [Swan, 1969, p. 13].

In any type of evaluation, the study must be focused on program objectives. Many of the objectives of resident camp programs set forth by school officials fall within three categories: (1) what children learn, (2) assumptions about the value of the program, and (3) facilities or services to be provided.

Roth [1972], in summarizing studies on school camps, states:

Of the studies dealing with school camping, most were concerned with collecting data for improving existing programs. Results generally indicate that the programs were useful and helpful but such contentions are based entirely on subjective data. A stronger focus on objective analysis is needed [Roth, 1972, p. 20].
Statement of the Problem

The problem is to examine many of the claims made for resident school camping programs through a descriptive analysis of student and teacher behavior in the resident camp experience. Areas of additional concern are:

1. Children deserve an outdoor experience that is the most conducive to learning.
2. There is a need for behavioral studies which provide for objective analysis of students in naturalistic settings.
3. There is a need for a descriptive analysis of what actually happens in a resident camp program.
4. There is a need to determine whether or not teachers make better use of instructional class time in the outdoor classroom.
5. There is a need to supply school systems which have resident camp programs with objective measures of program value.
6. There is a need to evaluate claims made by many teachers, parents and administrators about camping programs.
7. Current research is based upon subjective data; objective analysis of school camping is needed.

Purpose of the Study

The purpose of this study was to describe those student/teacher behaviors which occurred in the school classroom and compare them to those student/teacher behaviors which occurred in the resident camp setting.

This descriptive effort was used to accomplish the following:
1. To determine the daily schedule of students and teachers in the classroom versus that of the daily schedule of the students and teachers in the resident school camp.

2. To determine the teaching techniques employed in the classroom versus those teaching techniques in the resident school camp.

3. To determine the social behaviors exhibited by students and teachers in the classroom versus those social behaviors exhibited by students and teachers in the resident school camp.

4. To determine the amount of student involvement in the instructional process in the classroom versus the amount of student involvement in the instructional process in the resident school camp.

5. To offer objective measures of student/teacher behaviors in the resident camp setting which can be included into the Worthington City Schools' evaluation of their resident camp programs.

6. To determine the amount of student disruptive behavior in the classroom versus the amount of student disruptive behavior in the resident school camp.

7. To determine the amount of student/teacher interaction in the classroom versus the amount of student/teacher interaction in the resident school camp.

Assumptions and Limitations

The following assumptions were made:

1. All students received the same program of activities at camp.

2. The classroom observations were coded on a "normal" day at school.

The study was limited by the following factors:

1. The study was limited to sixth grade boys and girls and their classroom teacher.
2. The study was limited to two days of a three-day resident camp program.

3. The study was limited to the period of time during which the subjects are available for observation.

4. The study was limited to ten days of observation in the school classroom.

**Definitions**

For the purpose of this study, the following terms were defined:

**Behaviors** -- Refers to those actions by students and teachers which are observable.

**Behavioral Definitions** -- Those written cues which define observable human behaviors.

**Disruptive** -- Those student behaviors which detract from the educational goals and objectives of the specific situation in which it occurs.

**Interval Recording** -- A Measurement procedure used to indicate an estimate of both frequency and duration of behavior [Cooper, 1974, p. 53].

**Objective Measure** -- That which can be known by unprejudiced observation.

**Observation** -- A period of time in which trained observers are coding the behaviors of students and teachers.

**Reliability** -- Percent of agreement of observers on what they have observed in the same subject during the same session [Hall, 1971, p. 18].

**Resident School Camping** -- School sponsored instruction within a camp community over one or several twenty-four hour periods of time.

**Student Involvement** -- Individual student participation in learning, usually characterized by the amount of listening, discussion, etc.

**Teaching Techniques** -- Teacher methods or details of procedures used to impart knowledge to students.
Within this chapter we have reviewed the history of the public school's use of the out-of-door, analyzed the role of resident school camping in educational programs, surveyed documented claims which support camping programs, and outlined the study's problem and purposes. The stage is set for a review of research from which many of the claims of school camping were the central focus.
CHAPTER II

REVIEW OF RELATED LITERATURE

Of those investigators who have attempted to evaluate resident school camping programs, many have done so subjectively, but little objective analysis has been attempted. In order to effectively review the literature associated with resident camp programs, the research was divided into four major categories: (1) evaluation, (2) teacher education, (3) narrations, concepts, and teaching, and (4) attitudes and behavior.

Evaluation

As with any developing field, early evaluation efforts are usually in the form of surveys and questionnaires. Only after the field has gained acceptance by the educational community do more sophisticated designs appear.

Pepper [1952] evaluated the opinions of teachers, parents, and students in regard to the values of school camping. Through his questionnaire, he found contributions toward social living, recreational living, and nature appreciation. Craig [1953], using similar methods, felt that in a one week resident camping experience, children achieved greater intellectual development than those who did not participate in the resident camp experience.
Rhodes [1953] developed a survey of a school camping program in which he interviewed sixth grade pupils and parents in regard to their experiences before and after the camp experience. The results were evaluated to determine how best to improve the use of the camp.

Studies by Cragg [1953], Craddock [1955], Hollenbeck [1958], and Kleindeinst [1957] were concerned with the role of school camping in achieving educational goals. Their methods of gathering data were through questionnaires, pre- and post-tests, interest inventories, interviews, and surveys.

Cragg [1953], using questionnaires, determined that parents and teachers supported resident school camping as an integral part of the school curriculum.

Craddock [1955] concluded that the one-week school camp experience did make some definite contributions to educational development.

Surveys by Hollenbeck [1958] indicated that little provision had been made for outdoor learning experiences in Oregon schools.

Through a review of pertinent literature on educational objectives, Kleindeinst [1957] concluded that camping programs meet a significant number of school objectives.

Shaw [n.d.] used case studies, attitude and sociometric tests to determine the educational effectiveness of a traveling school camp. Shaw concluded that the traveling school camp had a valuable contribution to make.

A review of those studies which evaluate resident school camping programs show major emphasis upon questionnaires, opinionnaires, surveys, and sociometric tests as evaluative tools. The results of these
studies indicate that the students who participated in these resident camp programs showed greater intellectual development, greater contributions toward social living, and greater nature appreciation.

**Teacher Education**

As resident outdoor education programs have gained popularity over the years, so too have teacher education programs in outdoor education. This increased the concern with preparing teachers to extend their instructional programs beyond the confines of the classroom.

Hammerman [1973] divides teacher education into three areas of emphasis:

1. Utilizing the outdoors to facilitate learning,
2. Relating curriculum content to the outdoors, and
3. Additional work in child development and behavior in a resident setting [Hammerman, 1973, p. 351].

Some studies which have dealt with research in teacher education fall within categories one and two. Hug [1964] attempted to discover those factors which determine the use of outdoor instructional activities by teachers. These factors were rated on a continuum from strong encouragement to strong discouragement. Although many of the factors did not prove to be statistically significant, he found that teachers who were active in the out-of-doors were younger and had fewer years of teaching experience. Class makeup, grade level, and ability level had no significance as far as the use of the outdoor classroom is concerned.
Cypher's [1961] study dealt with the identification of those outdoor experiences which could be useful for teachers who want to extend their classroom into the out-of-doors. An attitude inventory was produced for elementary teachers, and a jury of experts was selected to obtain judgments about worthwhile outdoor experiences. Cypher concluded that a majority of the teachers had not received adequate training in the use of outdoor resources in their undergraduate or graduate studies.

Christie [1972], in an examination of teachers' methods of instruction, concluded that the sample of thirteen outdoor teachers displayed flexibility and modified their method of presentation to meet different situations. The data were collected through tape recordings, questionnaires, and a modified version of Flander's System of Interaction Analysis. He also found that teachers with outdoor education preparation and teaching experience were more student-centered than were those without preparation and experience. This study could possibly be the first in outdoor education which utilized behavioral observation instruments to code teacher verbal behavior.

Reed [1969] investigated those factors which encourage teachers to use community resources as a supplement to classroom instruction. Through questionnaires, it was found that teachers who use community resources do so because of the following: readily available transportation, funds specifically for this purpose, favorable reaction on the part of students, and evidence of academic gain by pupils.

Of approximately twenty-five studies involving teacher education in outdoor education reported in Research in Outdoor Education
[1973], only one study, Christie's [1972], attempted to provide a behavioral description of the teaching methods employed in the out-of-doors. It is unfortunate that information relative to the number and reliability of the teacher observations was not available. This type of information could have been valuable to further research on teacher behavior in the outdoors.

In general, the studies dealt with factors which influence teachers in extending their classroom into the out-of-doors and the value of specific outdoor teacher education programs.

Narrations, Concepts, and Teaching

Studies within this category deal with such topics as concepts and understandings, teaching methods, and descriptive efforts in resident camp programs. Although only two studies deal specifically with resident school camping, Wise and Graff have investigated some areas in which further research using the resident school camp could prove useful. Mason [1929] interviewed boys and girls following a resident summer camp experience to determine camper reactions to their camp leaders, routine, and camp activities. Schramm [1969] visited San Diego County Camps to record, through interviews and direct observation, what actually occurs in a resident camp setting. These published works describe how camping has become a part of elementary education.

Howenstine's [1959] descriptive record and time study was designed to determine the amount of time devoted to each school subject (conservation, for example), and the emphasis given to different methods
of instruction. His results showed that much attention was given to natural science and little was given to conservation education.

Essays by 2,000 students on conservation understanding were studied by Graff [1962] to determine what sources these understandings came from. The school was seen as the major source, books were second, and home and parents were third. Wise [1970] conducted a study on the comparison of science achievement levels of students who had been taught by three different approaches: direct experience, outdoor classroom, and indoor classroom. Though the results were not statistically significant, comparison of the mean scores revealed that the direct experience group performed as well as, if not better than, outdoor or indoor classroom groups. Wise gathered his data through the use of pre- and post-tests and a retention test.

The preceding studies in narrations, concepts, and teaching indicate a need for a descriptive, objective analysis of the resident camp experience. Mason, through anecdotal records, attempts to describe what actually occurs in the school camp. Although it makes for interesting reading, highly inferential judgments are made on the part of the investigator.

**Attitudes and Behaviors**

Within this category, the bulk of research related to resident camping is found. Pepper [1952], through visitations and interviews, concluded that resident school camping made contributions to social living, healthful living, recreational pursuits, and purposeful work experiences.
Johnson [1957] used self-appraisal check lists and sociometric questionnaires to determine the effectiveness of these evaluative techniques in a resident camp setting. She found that the results, using sociometric questionnaires and self-appraisal check lists, were statistically significant.

Kranzer [1958] devoted his study to a comparison between students who had and had not experienced a five-day resident camp session. Using behavior rating schedules and sociograms, the results suggested that more social and democratic changes took place during resident camping than in a regular classroom. Some improvement in critical thinking by students with a low mental ability also occurred.

Studies by Beher [1959], Stark [1960], Davidson [1965], were concerned with self and social attitudes. Using check lists and sentence completions, their results gave the indication that: (1) campers and teachers had a positive gain in self-concepts, and (2) social relationships between teachers and students were strengthened.

Grilley [1966] attempted to use survey forms as a means of evaluation for resident school camp programs. Directors of sixteen resident camp programs were asked to make judgments upon curricular experiences and principles.

Using sentence completion tests before and after a resident camp experience, Stark [1960] found that fifth and sixth grade students have more positive attitudes toward school, teachers, self, classmates, and friends following a period of school camping. A similar study by Alexander [1969] found improvement in social behavior with boys from low
income families. Gillette [1971] found no change in attitudes with his sample from an Outward Bound ski school.

Stack's study did not investigate the duration of the positive attitudes after the camping experience, while Alexander's results of camper self-concept, although not statistically significant, did decline when measured six weeks after the camper's return home.

Vogan [1970] developed strategies for more teacher-student relationships. Her study resulted in several conditions which would enhance relationships between students and teachers. The majority of these conditions were indications that teachers should involve students in the planning and operation of the outdoor education program.

A rather extensive study of attitude development through outdoor education was done by Millward [1973]. However, since he used such a variety of rating scales, the study raised more questions than it answered, e.g., Can a resident program be designed primarily to change attitudes? Does a resident camp program have a positive effect upon the students' social relationships?

Camps have been used as sites of research concerning children and behavior problems. Feldman [1975] used interval recording to record pro-social, anti-social, and non-social behavior of children in summer camp. The data obtained from this behavioral observation were studied to determine how best to deal with children with anti-social behavior. Regardless of the findings of this particular study, the important aspect was that the data was obtained by behavioral classification.
Summary of Related Literature

The preceding studies were important because they attempted to support or refute many of the claims made about resident school camping. Of these studies, only one, Feldman's [1975], was concerned with specific behaviors of students and teachers. In all four categories of research, the majority of studies reviewed (twenty-seven of the twenty-eight) used questionnaires, rating scales, running narrations, check lists, sociograms, and surveys as the most prevalent form of data collection instruments.

There are, however, investigators who doubt the usefulness of such data gathering instruments. Dunkin and Biddle [1974] list four difficulties of the use of rating scales in research on teaching:

1. The rating instrument calls for the observer to make high-inference judgments.

2. Sometimes, only a single rating is made for each teacher, and thus the observer is asked to integrate his observations over one or more lessons.

3. Most of the studies have not made use of trained observers.

4. The qualities chosen for inclusion in rating instruments have represented some expert's notion [Dunkin and Biddle, 1974, p. 55].

Bijou, et al. [1968] point out that data in the form of running narrations cannot be transformed into units describing behavioral events. These are statements "about" rather than descriptions "of" behavior or situations.

Further investigations show that Dunkin and Biddle [1974] doubt the use of sociograms.
Although teachers have, for some time, used them to determine who is popular and who are the isolates, classroom groups and interaction may be defined in other ways than choice of best friends [p. 180].

Siedentop [1976] states:

Check lists are notoriously unreliable. The statements or characteristics on the check list are not defined sufficiently to ensure reliable observations [p. 26].

Reviewing all previous studies in regard to data gathering instruments used, only Feldman [1975] used applied behavior analysis techniques in a resident camp setting. There are, however, several studies which have made use of these observational techniques in other naturalistic settings.

Pierce and Risley [1974] used applied behavioral analysis techniques to observe youth aides in a neighborhood recreation center. Behavioral definitions of job descriptions were used by two trained observers to calculate the level of job performance. The mean agreement between the two observers was 98 percent.

Descriptive data on nursing home residents' rates of verbal and motor behavior were studied by McClannahan and Risley [1975]. Using behavior observation instruments, trained observers recorded the behavior of residents. Mean inter-observer agreement in responses was 90 percent.

White [1975] conducted a study of teacher verbal reinforcement in the classroom. Using definitions of verbal reinforcement, her study observed 104 teachers in the classroom setting, with 90 percent mean inter-observer agreement.
Carnie [1976] compared the effects of two teacher presentation rates on off-task behavior of children. Interval recording was used as a recording procedure, with 90 percent reliability.

Thomas and Beher [1976] developed a general observational code for analysis of pupil's behavior in the elementary school classroom. It consisted of definitions and codes to cover the classroom interactions.

The literature reviewed in this chapter accomplished four major goals:

1. Summarized studies from which many of the claims of resident school camping have evolved.

2. Investigated the data gathering instruments used in the studies.

3. Questioned the use of sociogram, rating scales, narrations, and check lists as data gathering instruments.

4. Supported the use of behavioral observation instruments in gathering data.

A case has been supported for the use of applied behavioral analysis techniques in resident school camps. The following chapters will describe how they were used and the results obtained.
CHAPTER III

METHODS AND PROCEDURES

Chapter III will be divided into four categories: subjects and setting, observations and behaviors, reactivity, and reliability. A description of the class and camp environments, and an analysis of the subjects are contained in the first section. This is followed by the student and teacher behaviors and the technology involved in obtaining the data. Section three and four contain a brief discussion of subject reactivity and the reliability of observer agreement.

Subjects and Setting

The subjects for this study are sixth grade students and teachers who are involved in the resident school camping program with the Worthington City Schools. Six elementary schools take part in the program, three during the fall and three during the spring of each year. The school used for the sample is Worthington Hills Elementary School. The school is located in an upper class community which is situated around a private country club. This is an open-concept school which is relatively new (five years old) and has adequate educational supplies. The four classes from which the subjects are drawn are in a pod arrangement, that is, one huge room with a classroom in each corner. Since there are no walls, teachers must work very closely in
order to provide an atmosphere which is conducive to learning. All pods within the school are adjacent to a central instructional media center which offers small conference rooms and a well supplied library, which are used as supplemental teaching stations.

The outside facilities contain several basketball courts, five large pieces of playground equipment, one soccer field, two softball fields, and a large blacktop area with ten to fifteen games painted on its surface.

Each year, all sixth grade students at Worthington Hills spend three days in a twenty-four hour resident camp setting. This resident camp experience is held at Camp Ohio, a state 4-H camp located approximately twelve miles north of Newark, Ohio. The surrounding area, with rolling hills and fertile soil, is predominately agricultural. The more than two hundred acres are extensively developed and managed for educational purposes by conservation agencies of the federal and state governments. There are many large natural trees preserved for close study by the students. The large buildings of the central campus offer many opportunities for comfortable, well-organized group activities. Students sleep bunk style in dormitories. Meals are prepared and served in the heated and well-lighted dining hall, or cooked out over an open fire.

The adult staff at the camp was comprised of the students' classroom teachers (five), four additional teachers from the school, a registered nurse, the school principal, and a camp director.

Four out of the five classroom teachers in the sixth grade pod were used as subjects, as well as eight sixth grade students. Since
the researcher could not ethically observe without the teachers' permission or knowledge, all classroom teachers were given a brief description of the study and its operational procedures. Information, such as the types of behaviors to be observed, was withheld to avoid influencing their teaching style. The students were selected in the following manner. At the inception of the study, four fifth grade classroom teachers were asked to select several students who were in their class the previous year that would fall into the following categories:

1. High academic achievement/high appropriate behavior.
2. High academic achievement/low appropriate behavior.
3. Low academic achievement/high appropriate behavior.
4. Low academic achievement/low appropriate behavior.

Even though school had been in session two weeks, the sixth grade teachers were asked to select several students which would fall into the same categories.

Since the school uses written evaluation of student achievement, rather than letter grades, academic achievement was determined by the student's score (total battery) on the California Achievement Test (CAT), which was administered in April, 1976. A high rate was a score one year or more above grade level, while a low rate was a year or more below grade level.

Since the test was administered in April of 1976, a student working on grade level at this time would have a score of 5.8, which means the eighth month of fifth year of school. A year above this
would be 6.8, a year below would be 4.8.

Appropriate behavior was defined as,

All student behavior that is consistent with the educational goals of the specific situation [Siedentop, 1976, p. 328].

Teachers on both grade levels gave subjective judgments of the level of appropriate behavior.

In order to withhold the identity of the student subjects, the researcher selected eight students from the lists submitted by the fifth and sixth grade teachers. A brief description of each subject is included to provide the reader with some background information about the sample.

<table>
<thead>
<tr>
<th>Student Subject</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Subject 1</td>
<td>Female, low level of appropriate behavior, high level of academic achievement (9.6 total battery CAT).</td>
</tr>
<tr>
<td>Student Subject 2</td>
<td>Male, low level of appropriate behavior, low level of academic achievement (4.8 total battery CAT).</td>
</tr>
<tr>
<td>Student Subject 3</td>
<td>Male, low level of appropriate behavior, high level of academic achievement (6.8 total battery CAT).</td>
</tr>
<tr>
<td>Student Subject 4</td>
<td>Male, low level of appropriate behavior, low level of academic achievement (4.6 total battery CAT).</td>
</tr>
<tr>
<td>Student Subject 5</td>
<td>Female, high level of appropriate behavior, low level of academic achievement (4.4 total battery CAT).</td>
</tr>
<tr>
<td>Student Subject 6</td>
<td>Female, high level of appropriate behavior, low level of academic achievement (4.2 total battery CAT).</td>
</tr>
</tbody>
</table>
Student Subject 7  Male, high level of appropriate behavior, high level of academic achievement (9.8 to battery CAT).

Student Subject 8  Male, high level of appropriate behavior, high level of academic achievement (6.8 total battery CAT).

Teacher Subject A  Female, five years experience in resident camp program, no undergraduate or graduate credit in outdoor education course work.

Teacher Subject B  Female, eight years experience in resident camp program, has attended three outdoor education workshops, no undergraduate or graduate credit in outdoor education course work.

Teacher Subject C  Male, five years experience in resident camp program, has attended three outdoor education workshops, no undergraduate or graduate credit in outdoor education course work.

Teacher Subject D  Female, five years experience in resident camp program, has attended three outdoor education workshops, no undergraduate or graduate credit in outdoor education course work.

Observations and Behaviors

The observers who collected the data for this study were six graduate students and two professors from the School of Health, Physical Education and Recreation at The Ohio State University. One week before the actual collection of data, these graduate students and professors began an extensive training program. Of these, five were involved in the pilot study (Spring Quarter, 1976) at Camp Ohio with another Worthington Elementary School.
The purpose of the pilot study was to:

1. Test the definitions of the student and teacher behaviors in a resident camp experience, and discuss target behaviors which should be included in the study.

2. Evaluate the coding sheet and timing devices.

3. Analyze the observational routine.

The pilot study took place on the second day of a three-day resident camp experience with the students and teachers at Colonial Hills Elementary School. Three students and two teachers were observed in a cross section of the daily camp schedule. Each observer was assigned a subject to code while the remaining observer ran reliability checks on the others. After each of the five observational periods, a discussion period followed, at which time the observers made corrections to the behavioral definitions. An audio recording was made of each session to offer further feedback to the revision. The agreement between observers for this one day observation was 70 percent. No training session was incorporated into the pilot study.

The training program for this study, as suggested by Johnson and Bolstad [1973], consisted of the following, with some modification:

1. Reading and studying the observation manual.

2. Completion of programmed instructional materials involving pre-coded behaviors.

3. Participation in training sessions.

4. Field training with an experienced observer, followed by agreement checks.

5. Development of a decision log for special circumstances [Johnson and Bolstad, 1973, p. 25].
The training program began with an organizational meeting in which each graduate student and professor was given a training manual, and, at which time, the schedule and explanation of the study was given.

Throughout the training period, these graduate students and professors completed a series of programmed video taped instructional materials, compiled at Camp Ohio during the Spring Quarter of 1976, using two other Worthington elementary schools as the sample. The session concluded with a meeting to discuss the programmed instructional materials and to prepare for the first day of live classroom observations at Worthington Hills Elementary School, the same school that was used in the sample. The complete training manual used by the graduate students and professoors can be found in the appendix.

In order to obtain an objective measure of those student and teacher behaviors in the classroom versus those student and teacher behaviors in the resident school camp, all data were collected, using observational recording, the method employed by studies in applied behavioral analysis. Cooper [1974] defines observational recording as follows:

When teachers or other individuals look at behavior and produce records of that behavior as it occurs [Cooper, 1974, p. 171].

Before behavior can be observed, it must be defined. Listed below are those student/teacher behaviors which were observed in the school classroom and in the resident school camp.

**Teacher Behaviors**

**Lecturing** -- A period of time when the teacher is using one-way verbal communication to impart knowledge about instruction or school program. Do not confuse this with
managing, in which the teacher is organizing for instruction or feedback in which there is a response to a student behavior.

Sensory Instruction -- A period of time when the teacher uses natural or man-made instructional aids which may result in similar student behaviors, e.g., leaves, rocks, listening, touching, feeling, tasting, holding up an object and explaining its parts or function.

Passive Instruction -- A period of time when the teacher uses a textbook, paper-pencil, charts, etc. as the central focus of instruction. The student behavior which may result is simple reading and paper and pencil responses.

Leading Discussion -- A period of time when the teacher is involved in arriving at a truth through teacher-student-student communication, e.g., problem solving, involves responses from more than one student.

Giving Feedback -- Those middle-of-the-road behaviors which are between praising and reprimanding. The teacher uses information from a response to guide performance, e.g., teacher picks up paper and looks at it and then returns it to the desk, or the teacher tells a student how to use a butterfly net correctly. This behavior usually occurs as a result of student behavior; do not confuse this with lecturing, involves response from one student only.

Praising -- The teacher's verbal or non-verbal approval of something the student has done well.

Reprimand -- The teacher's attention to a student's disruptive or mischievous behavior.

Managing -- Any verbal or non-verbal behavior that is emitted for the purpose of organizing the class (or some subset of the class), changing activity, giving directions about equipment or formations, or actually getting out or putting away equipment. A managerial behavior is teacher initiated and should not be confused with teacher reactions to student behavior [Siedentop, 1976, p. 331].

Active Recreation -- A period of time when the teacher is involved with student recreation, either as a supervisor or as a participant.
Passive Recreation — A period of time when the teacher is involved in student passive recreation as a supervisor or as a participant.

Housekeeping -- Those individual responsibilities which are necessary for camp/classroom living, e.g., dorm clean-up, table clean-up, etc.

Personal Management -- A period of time when the teacher is engaged in individual preparation for camp/classroom living, e.g., eating, organizing belongings, putting on warm clothes, restroom.

Hanging Around -- A period of time in which the teacher has no specific goals or responsibilities (other than monitoring) and reacts to the situation with behaviors such as sitting, standing around talking in small groups. Non-instructional.

Monitoring -- A period of time when the teacher is watching a class, a group, other teachers, or anything during organized school program. Do not confuse this with waiting.

Waiting -- A period of time when the teacher is waiting for programmed camp/classroom activities, e.g., waiting for meals, waiting for students to join her, etc.

Modeling -- Using a student, students, or the teacher herself to point out to a large group a particular behavior, e.g., teacher demonstrating how to help partner on a trust walk.

Camp/Classroom Participation -- A period of time when the teacher is involved in programmed camp/classroom activities, e.g., listening, assisting, observing another teacher.

Interaction -- Verbal or non-verbal communication among students or teachers. This category is attachable to all codes.

Example:

S = Student Interaction
T = Teacher Interaction
H-T = Hanging around with teacher interaction
H-S = Hanging around with student interaction

These interaction codes refer to attention to students or teachers. Do not confuse these with praising.
Exploring Natural Environment -- The period of time in which the teacher may be searching for instructional teaching aids or simply taking a walk to observe nature.

Student Behaviors

Listening -- A period of time when the student is attentive to teacher lecture, class discussion, camp rules and instructions.

Instructional Participation -- A period of time in which the student is actively involved in instruction, e.g., answering a question, verbal contribution, student yelling downstream asking other students what they got, asking a question, participation in class discussion, etc. This category covers those middle-of-the-road behaviors between sensory learning, passive learning, listening, and management.

Sensory Learning -- A period of time in which students use moving, tasting, smelling, touching, and collecting to acquire knowledge. The student may use such objects as a compass, leaves, an animal, or a science experiment. A good way to designate this category would be, "The student is learning something about the object that he is using."

Sensory Learning with Watching -- Indirect contact with above, observing.

Passive Learning -- A period of time in which the student is learning through paper and pencil activities, textbook use, charts, maps, etc.

Management -- A period of time in which the student is preparing for instruction, e.g., getting materials out of desk, moving to a position according to teachers' instruction, opening books. It is a time devoid of opportunities for students to learn.

Hanging Around -- A period of time in which students have no specific goals or responsibilities. This usually occurs during free time (recess) or while sitting around or talking. Non-instructional.

Housekeeping -- Those individual responsibilities which are necessary for school/camp living, e.g., cleaning up, table hopping, etc.

Personal Management -- A period of time in which students are engaged in individual preparation for school/camp living, e.g., organizing belongings, restroom stops,
putting on warm or dry clothes, eating lunch, etc.

Active recreation -- A period of time in which the student is engaged in fun activities, e.g., chasing and fleeing games, capture the flag, sports, walking, hiking, rolling downhill, etc.

Passive Recreation -- A period of time in which the student is engaged in quiet games or games with little physical exertion, e.g., cards, story telling, group singing, reading for pleasure, etc.

Solitude -- A period of time in which the student is alone because of his personal choice (free time).

Waiting -- A period of time in which the student is waiting for a school/camp program to continue, e.g., waiting for meals, waiting for instruction to begin, waiting in line, waiting at the flag pole for activity sessions to begin, etc.

Disruptive -- Those student behaviors which detract from the educational goals of the camping experience. They may occur anytime, e.g., raiding cabins, talking out of turn, not paying attention to instructions which results in a reprimand, pushing, hitting other students, breaking school rules, etc.

Off-Task -- A period of time in which the student is not doing what he is supposed to do, is not disruptive to any other student.

Interaction -- Verbal or non-verbal communication among students or teachers. This category is attachable to all codes.

Example:

S = Student Interaction
T = Teacher Interaction
SL-S = Sensory learning with student interaction
SL-T = Sensory learning with teacher interaction

Climate of Behavior

These student and teacher behaviors are observed in a variety of school and camp environments. Listed below are those school and camp climates in which the student and teacher observations were made.
Instructional Time -- Activity sessions in which formalized learning takes place.

Free Time/Recreational Time -- All periods which are not specified as class/camp organized activities. This includes those periods of time such as recess, time after instruction has ended when the teacher gives students a short break before next scheduled activity, organized recreation activities.

Meal Time -- A period of time which begins when a student enters the lunch room or dining hall and ends when the student leaves that area. This includes cook-outs at camp.

Class/Camp Time -- A period of time in which organized class/camp activities are scheduled. This includes all periods of time not covered by previous categories, e.g., dorm clean-up, grounds clean-up, campfire, flag raising, taking roll in homeroom, taking lunch count, skits, lining up to go to lunch, homeroom activities not part of instructional schedule.

Coding Format

The approach chosen to record the behaviors of students and teachers in the normal classroom and in the resident school camp was interval recording. Cooper [1974] defines interval recording:

Used to measure the occurrence or nonoccurrence of a behavior within specific intervals. Time intervals will usually range from six to thirty seconds, depending on the behavior to be observed. Behavior is usually recorded only once per interval and reported as percentage of occurrence.

Cooper [1974] also states that this method of recording behavioral events, "provides an estimate of both frequency and duration of behavior" [p. 47]. The results of this method of observation provide an estimate of the frequency of occurrence of the defined student and teacher behaviors. The method also provides an indication of the period of time in which the behavior occurs, e.g., John's disruptive behavior during classroom instructional time usually occurs when
the teacher is lecturing.

Interval recording is used to measure the occurrence of student/teacher behavior within specified time intervals. Bijou, Peterson and Ault [1973] suggest that,

...in studies with a high frequency of behavioral episodes, small time intervals are employed to obtain high correspondence between the actual and recorded frequencies of occurrences [p. 180].

For example, since the total observation period is forty minutes, and the observers are using ten second interval measurement, the session is divided into 240 ten second recording units. To record the multiple categories of behavior, there were 120 ten second observation units, alternated with 120 ten second recording units. The ten second observe-ten second record format was held constant throughout the study.

The coding sheet for student and teacher behaviors (Table 1) consists of a sufficient number of observing and recording intervals for the collection of twelve minutes of behaviors for three subjects.

The timing device used in the study was a cassette tape recorder, programmed to generate a signal every ten seconds. This method permitted the observers to maintain constant eye contact with the subject during the observation interval. On the first signal (observe), the trained observer began observing subject one, e.g., a teacher. At the end of the ten second observation interval, the observer received another signal (record). At this time, the observer referred to the symbols for teacher codes on the bottom of the coding sheet and recorded the most dominant teacher behavior during that observation interval; in addition, he recorded the climate of that behavior listed at the top of the coding sheet. At the end of this recording interval,
TABLE 1
CODING SHEET

<table>
<thead>
<tr>
<th>Class/Camp Schedule</th>
<th>RELIABILITY CHECK</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-Instructional</td>
<td>PAGE _____</td>
</tr>
<tr>
<td>FS/R-Free Time-Recreational</td>
<td>BLOCK _____</td>
</tr>
<tr>
<td>M-Meal Time</td>
<td>PAGE _____</td>
</tr>
<tr>
<td>C-Class/Camp Time</td>
<td>ROW _____</td>
</tr>
</tbody>
</table>

* DID YOU DESIGNATE WHICH SUBJECT YOU WERE OBSERVING?

TEACHER CODING

| L-Lecturing | R-Reprimand |
| SL-Sensory Instruction | AR-Active Recreation |
| PL-Passive Instruction | PR-Passive Recreation |
| DS-Leading Discussion | HK-Housekeeping |
| FE-Giving Feedback | PM-Personal Management |
| P-Praising | W-Waiting |
| MA-Measuring | H-Hanging Around |
| MD-Monitoring | NL-Natural Environment |

STUDENT CODING

| L-Listening | IT-Instructional Participation |
| ST-Sensory Learning | SLW-Sensory Learning w/Watching |
| PL-Passive Learning | LM-Learning Management |
| S-Solitude | O-Disruptive |
| OT-Off Task | H-Hanging Around |
| HK-Housekeeping | PR-Personal Management |
| AR-Active Recreation | PR-Passive Recreation |

Interaction - Attachable to all previous codes

S - Student Interaction
T - Teacher Interaction
the observer received another signal (observe). At this time, he began observing subject two, e.g., student. At the end of this interval, he received another signal (record). The observer then recorded the most dominant student behavior from the symbols on the bottom of the coding sheet and the climate on the top. These alternating "observing" and "recording" intervals continued throughout the observation session. This type of observational recording provided the opportunity for us to observe up to three subjects across a time line of the school and camp schedule.

Observational Technology

As mentioned in the coding format, the timing device for this study is a cassette tape recorder, programmed to generate a signal every ten seconds. In order to provide the greatest amount of flexibility in coding the behaviors of multiple subjects, a brief discussion on the adaptability of the programmed cassette tape to meet the variations in the number of subjects observed will follow.

Table 2, on page 38, illustrates the format used in the classroom/camp observational sessions, where the behavior of multiple subjects could be coded by one observer, e.g., classroom instructional time.

Problems in the observational technology occurred when students and teachers separated and moved out of sight of the observer. The solution to this problem was to simply assign one subject to each observer. In this situation, the observer followed the format for single subject observation (See Table 3, page 38).

Observational Routine

The subjects, four sixth grade homeroom teachers and eight sixth grade students, were observed in three environments: the school
### TABLE 2
FORMAT FOR MULTIPLE SUBJECT OBSERVATION

<table>
<thead>
<tr>
<th>Teacher 1</th>
<th>Teacher 1</th>
<th>Student 1</th>
<th>Student 1</th>
<th>Student 2</th>
<th>Student 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Observe&quot;</td>
<td>&quot;Record&quot;</td>
<td>&quot;Observe&quot;</td>
<td>&quot;Record&quot;</td>
<td>&quot;Observe&quot;</td>
<td>&quot;Record&quot;</td>
</tr>
<tr>
<td>10 Sec</td>
<td>10 Sec</td>
<td>10 Sec</td>
<td>10 Sec</td>
<td>10 Sec</td>
<td>10 Sec</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>... Repeat</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### TABLE 3
FORMAT FOR SINGLE SUBJECT OBSERVATION

<table>
<thead>
<tr>
<th>Student</th>
<th>Student</th>
<th>Student</th>
<th>Student</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Observe&quot;</td>
<td>&quot;Record&quot;</td>
<td>&quot;Observe&quot;</td>
<td>&quot;Record&quot;</td>
<td>&quot;Observe&quot;</td>
</tr>
<tr>
<td>10 Sec</td>
<td>10 Sec</td>
<td>10 Sec</td>
<td>10 Sec</td>
<td>10 Sec</td>
</tr>
<tr>
<td></td>
<td></td>
<td>...</td>
<td>Repeat</td>
<td></td>
</tr>
</tbody>
</table>
classroom, the resident school camp, and again, in the school classroom.

One week before the resident school camp, the graduate students
and professors observed a cross section of the daily routine of students
and the instructional time of the teachers for a period of one week.
The observation at the resident school camp began on the first day of
a three-day resident camp experience and continued to the end of the
second day. The week following the camp experience, observations were
again taken in the school classroom, with a cross section of the daily
routine of students and the instructional time of the teachers for a
period of one week.

The pre-camp classroom observations began on a Monday. This
first day of observations were devoted to an assessment of observer
agreement, that is, observers recording in pairs and coding the same
subject. The next four days were devoted to obtaining 20 percent of
the weekly routine of the students and the instructional time of the
teachers. The daily classroom schedule is as shown in Table 4, on page
40.

The camp observations were taken over a two-day period of a
three-day, twenty-four hour resident camp program. The camp schedule
for these two days is shown in Table 5, on page 41.

The classroom observations (post-camp) took place the week
immediately following the resident camp experience. The class schedule
for this week was identical to the pre-camp classroom observations.

Each section of the class/camp schedule was classified as to one
of the four observational climates. Activity periods and instruction
were classified as "Instructional." Recess and planned recreation were
<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 - 9:20</td>
<td>Specials (Art, Music, Library, P.E.)*</td>
</tr>
<tr>
<td>9:20 - 9:50</td>
<td>Instruction</td>
</tr>
<tr>
<td>9:50 - 10:20</td>
<td>Instruction</td>
</tr>
<tr>
<td>10:20 - 10:30</td>
<td>Recess</td>
</tr>
<tr>
<td>10:30 - 11:00</td>
<td>Instruction</td>
</tr>
<tr>
<td>11:00 - 11:30</td>
<td>Instruction</td>
</tr>
<tr>
<td>11:30 - 12:00</td>
<td>Recess</td>
</tr>
<tr>
<td>12:00 - 12:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>12:30 - 1:05</td>
<td>Instruction</td>
</tr>
<tr>
<td>1:05 - 2:15</td>
<td>Home Room (Individualized Study Group Projects)</td>
</tr>
<tr>
<td>2:15 - 2:30</td>
<td>Group Reading</td>
</tr>
</tbody>
</table>

*The category "Specials" on the classroom schedule is Art, Music, and Physical Education. There was no observation during this period of time since the researcher taught the physical education classes and would bias the study.
<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00 - 2:15</td>
<td>Activity Period #1</td>
<td>6:15 - 8:00</td>
<td>Capture the Flag</td>
</tr>
<tr>
<td>2:15 - 3:30</td>
<td>Activity Period #2</td>
<td>8:00 - 9:00</td>
<td>Campfire</td>
</tr>
<tr>
<td>3:30 - 5:00</td>
<td>Planned Recreation</td>
<td>9:00 - 9:30</td>
<td>Snack</td>
</tr>
<tr>
<td>5:00 - 6:00</td>
<td>Bar-B-Que</td>
<td>9:30</td>
<td>Prepare for Bed</td>
</tr>
<tr>
<td>6:15</td>
<td>Flag Lowering</td>
<td>10:00</td>
<td>Taps and Lights Out</td>
</tr>
</tbody>
</table>

**Thursday, October 7**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30</td>
<td>Reveille</td>
<td>12:45 - 2:00</td>
<td>Activity Period #5</td>
</tr>
<tr>
<td>7:45</td>
<td>Bell for Dining</td>
<td>2:15 - 3:30</td>
<td>Activity Period #6</td>
</tr>
<tr>
<td></td>
<td>Hall Helpers</td>
<td>3:45 - 4:45</td>
<td>Planned Recreation</td>
</tr>
<tr>
<td>8:00 - 8:30</td>
<td>Breakfast</td>
<td>5:00 - 7:00</td>
<td>Cook-Out Dinner and Free Time</td>
</tr>
<tr>
<td>8:30 - 9:00</td>
<td>Clean Up</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00 - 10:15</td>
<td>Activity Period #3</td>
<td>7:15</td>
<td>Flag Lowering</td>
</tr>
<tr>
<td>10:15 - 11:30</td>
<td>Activity Period #4</td>
<td>7:15 - 9:00</td>
<td>Square Dance &amp; Skits</td>
</tr>
<tr>
<td>11:30 - 12:30</td>
<td>Cook-Out Lunch</td>
<td>9:00 - 9:30</td>
<td>Snacks</td>
</tr>
<tr>
<td>12:30 - 12:45</td>
<td>Rest or Free Time</td>
<td>9:30</td>
<td>Prepare for Bed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10:00</td>
<td>Taps and Lights Out</td>
</tr>
</tbody>
</table>
classified as "Free Time/Recreational" and lunch, cook-out lunch, and dinner as "Meal Time." Homeroom, group reading, campfire, and skits as "Class/Camp Time."

Twenty percent of routine of the class/camp schedule were used for observations. Although it was impossible to observe the students and teachers continuously throughout the school day, an effort was made to include a cross section of daily routine of students in all observations and those periods of time when the teachers were available for observations, which included only the instructional/class time in the classroom observations. In the resident school camp experience, the observations of teacher behavior was expanded to include meal time and free time/recreational.

There were periods of time within the study when the privacy of the students and teachers had to be respected. For this reason, observations ceased in the following circumstances.

1. The teacher enters the office, teacher's lounge, or teacher's dorms.
2. The teacher is talking to a parent.
3. The student enters the office, student dorms, or health center.
4. In obvious circumstances of privacy.

Reactivity

In the pilot study (Spring Quarter, 1976), the graduate students observed three students and two teachers. Each observer was assigned a subject to code for all observation sessions, with three graduate students to run reliability checks on the other five.
Since that time, a review of literature, namely, Johnson and Bolstad [1973], suggested that two problems might occur with this type of arrangement:

1. Subject Reactivity -- the subject may be sensitive to the presence of the observer or his subtle cues, e.g., the observer expressing amusement while the child is misbehaving.

Studies by Barker and Wright [1955] found that most subjects appear to forget about the fact that they are being observed, while Samph [1968] concluded that teachers who knew they were being observed were more responsive to pupils. From the comments of the student and teacher subjects in the pilot study, there was, indeed, subject reactivity.

2. Observer Reactivity -- Since the study consisted of a student sample with different levels of appropriate behavior, there was the possibility that the observer might bias the study if he knew the behavior category of his subject. For this reason, information about subjects was withheld. There was also the possibility that if the observer continually coded the same subject, he might stereotype the subject's behavior.

Concern for studying students and teachers without inducing changes in their behavior by the presence of observers prompted the researcher to utilize the following observational procedures:

1. Rotation of observers among subjects.

2. Training observers to be as unobtrusive as possible, that is, blend into the background.

3. Limit the number of observers in each classroom or camp activity group to one; two on reliability checks.

4. Develop an observational routine which would stagger the observational sessions throughout the daily class/camp schedule.
Reliability Checks

Throughout the classroom and camp observational routines, the reliability of the observers was determined by simultaneous recordings of the subject's behavior. This was accomplished by a double ear jack on the timing device, which permitted two independent observers to simultaneously record the behavior of the same subject. In order to diminish the effects of instrument decay, observers were rotated between data gathering and reliability checks. There was also the possibility that if observers were paired during reliability checks they might have a tendency to be influenced by each other's interpretation of the subject's behavior. For this reason, reliability pairs were rotated.

On the first day of classroom observations, the observers coded in pairs to determine the reliability of their observations. Any problems with the definitions was resolved and entered in their decision log notes. Throughout the class/camp data gathering, daily up-dates on these decisions were relayed to all observers. For a detailed description of these notes, refer to the training manual in the Appendix.

Hawkins and Dotson [1973] suggest that frequent reliability checks are imperative in studies using interval recording. Hall [1971] defined this inter-observer agreement as:

The degree to which independent observers agree on what they have observed in the same subject during the same observation session [p. 18].

Throughout the twelve-day classroom/camp observations, thirty-one reliability checks were taken.
Summary

Throughout this chapter on Methods and Procedures, we have discussed the subjects and how they were chosen, the target behaviors of students and teachers in the classroom/camp environment, the method by which the researcher operationalized the study, and concluded with the reliability of the observations of students and teachers.
CHAPTER IV

THE FINDINGS OF THE STUDY

Introduction

This chapter presents the data, the methods of analysis, and a summary of findings. It is divided into three sections. Section one describes the methods used to determine the reliability of the observers. Section two represents an analysis of the data as it relates to the claims made for resident school camping. The third section is devoted to instructional concerns, which may offer additional insight into the descriptive analysis of the total resident school camp program.

Reliability

Johnson and Bolstad [1973] state that the most widely recognized requirement of research involving behavioral observations is the establishment of the accuracy of the observers. Generally, the reliability requirement in this study involves a demand for consistency in the measurement instrument over time and over a variety of classroom/camp environment (e.g., frequent reliability checks over a variety of classroom/camp environments).
The method used to determine observer reliability is the simultaneous recording of a subject's behavior by two independent observers.

Observer Reliability

In order to demonstrate the reliability of the behavioral observations, observer reliability will be divided into two sections. Section one will be devoted to inter-observer agreement of the eighteen teacher behaviors and fifteen student behaviors. The second will involve the interaction sub code, which was attachable to any student or teacher behavior.

The first method makes use of a formula [Bijou, Peterson and Ault, 1968] for calculating the agreement between the data (thirty-three student-teacher behaviors) recorded by two independent observers.

\[
\frac{\text{agreements}}{\text{agreements and disagreements}} \times 100 = \text{percent agreement}
\]

An agreement is any interval in which two independent observers record the presence of the same student or teacher behavior. In the case of the interaction sub code: an agreement is any interval in which observers recorded that the behavior was occurring during the interval or in which both observers recorded that the behaviors did not occur during a specified interval. Bijou, et al., [1968] label this method as the: interval-by-interval method (I-I).

Hawkins and Dotson [1973] suggest that this method is used by approximately 70 percent of the studies using interval recording, as reported in the first five volumes of the Journal of Applied Behavioral Analysis [1968-1972].
The I-I method was used to determine inter-observer agreement on the thirty-one student and teacher behaviors. Table 6 lists the percent of agreement for each observer's reliability. The number of reliability checks is proportional to the number of classroom/camp observation sessions made by each observer. This discrepancy is a result of scheduling conflicts with the observers' university responsibilities.

The percentage of agreement for the reliability checks for all eight observers is 91 percent. This was calculated by dividing the total number of agreements (1,916) into the total number of agreements and disagreements (2,103), and then multiplied by 100 (Table 6).

Part Two is somewhat more detailed, since the interaction sub code is either present or absent in the interval.

Bijou, Peterson and Ault [1968] suggest that reliability of these types of sub codes may be influenced by the frequency of response.

When a behavior is displayed at a very low rate, the observer will record few instances of occurrences and many of non-occurrence. In this situation the observer could disagree on the occurrence of the behavior yet still show high reliability due to their agreement on the large number of intervals where no behavior occurred. A similar problem exists with regard to high frequency behaviors. Here, however, the observers may disagree on the non occurrence of the behavior and agree on the occurrence, because of the frequency of the latter. The problem may be resolved by computing not one but two reliability coefficients, one for occurrence and one for non occurrence [p. 184].

Following the suggestions of Bijou, et al. [1968], reliability on the interaction sub code was calculated on occurrence and for non-occurrence of that behavior.
# TABLE 6

RELIABILITY OF STUDENT-TEACHER BEHAVIOR OBSERVATIONS

<table>
<thead>
<tr>
<th>Observer</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S_1</td>
<td>84  (53/15)</td>
<td>86  (22/26)</td>
<td>91  (22/24)</td>
<td>100 (26/26)</td>
<td>79  (28/34)</td>
<td>84  (16/19)</td>
<td>100 (27/37)</td>
<td>88  (24/27)</td>
<td>91  (50/51)</td>
<td>94  (30/33)</td>
<td>100 (32/32)</td>
<td>91  (22/23)</td>
<td>82  (21/24)</td>
<td>92  (29/29)</td>
</tr>
<tr>
<td>S_2</td>
<td>86  (22/26)</td>
<td>91  (22/24)</td>
<td>100 (15/15)</td>
<td>84  (16/19)</td>
<td>88  (24/27)</td>
<td>88  (50/51)</td>
<td>100 (34/34)</td>
<td>91  (22/23)</td>
<td>82  (21/24)</td>
<td>82  (21/24)</td>
<td>82  (21/24)</td>
<td>82  (21/24)</td>
<td>82  (21/24)</td>
<td>92  (29/29)</td>
</tr>
<tr>
<td>S_3</td>
<td>84  (63/75)</td>
<td>87  (42/48)</td>
<td>77  (22/26)</td>
<td>100 (26/26)</td>
<td>94  (30/33)</td>
<td>94  (49/49)</td>
<td>100 (34/34)</td>
<td>100 (32/32)</td>
<td>90  (57/63)</td>
<td>100 (23/23)</td>
<td>100 (23/23)</td>
<td>100 (23/23)</td>
<td>93  (41/46)</td>
<td>94  (41/46)</td>
</tr>
<tr>
<td>S_4</td>
<td>75  (18/24)</td>
<td>87  (35/42)</td>
<td>97  (15/35)</td>
<td>81  (19/22)</td>
<td>90  (38/42)</td>
<td>81  (18/22)</td>
<td>91  (21/23)</td>
<td>93  (14/15)</td>
<td>89  (25/25)</td>
<td>91  (22/24)</td>
<td>91  (22/24)</td>
<td>91  (22/24)</td>
<td>91  (22/24)</td>
<td>91  (22/24)</td>
</tr>
<tr>
<td>S_5</td>
<td>75  (18/24)</td>
<td>81  (19/22)</td>
<td>91  (21/23)</td>
<td>85  (10/21)</td>
<td>100 (23/23)</td>
<td>93  (14/15)</td>
<td>91  (19/21)</td>
<td>89  (13/14)</td>
<td>89  (13/14)</td>
<td>89  (13/14)</td>
<td>89  (13/14)</td>
<td>89  (13/14)</td>
<td>89  (13/14)</td>
<td>89  (13/14)</td>
</tr>
<tr>
<td>S_6</td>
<td>87  (42/48)</td>
<td>100 (15/15)</td>
<td>79  (28/34)</td>
<td>90  (37/43)</td>
<td>85  (18/21)</td>
<td>91  (19/21)</td>
<td>89  (17/20)</td>
<td>89  (17/20)</td>
<td>89  (17/20)</td>
<td>89  (17/20)</td>
<td>89  (17/20)</td>
<td>89  (17/20)</td>
<td>89  (17/20)</td>
<td>90  (16/18)</td>
</tr>
<tr>
<td>S_7</td>
<td>93  (59/65)</td>
<td>87  (35/42)</td>
<td>97  (35/36)</td>
<td>81  (10/22)</td>
<td>91  (22/24)</td>
<td>89  (19/21)</td>
<td>89  (17/20)</td>
<td>89  (17/20)</td>
<td>89  (17/20)</td>
<td>89  (17/20)</td>
<td>89  (17/20)</td>
<td>89  (17/20)</td>
<td>89  (17/20)</td>
<td>90  (16/18)</td>
</tr>
<tr>
<td>S_8</td>
<td>77  (22/28)</td>
<td>90  (36/42)</td>
<td>93  (14/15)</td>
<td>89  (10/11)</td>
<td>91  (22/24)</td>
<td>91  (22/24)</td>
<td>91  (22/24)</td>
<td>91  (22/24)</td>
<td>91  (22/24)</td>
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<td>91  (22/24)</td>
<td>91  (22/24)</td>
<td>91  (22/24)</td>
<td>91  (22/24)</td>
</tr>
</tbody>
</table>

*The number of reliability checks is determined by the number of classroom/camp sessions observed.*

**Code: Percentage (Agreements) / (Agreements + Disagreements)**
Hawkins and Dotson [1973] refer to these methods as scored-interval (S-I) and unscored-interval (U-I). Their formulas for S-I and U-I are as follows:

**Scored Interval (S-I)** -- An agreement is when both observers record the presence of the behavior. Those intervals which are blank are ignored in the calculation.

**Unscored Interval (U-I)** -- An agreement is when both observers record the absence of behavior. Those intervals which both observers record the presence of the behavior are ignored in the calculation:

\[
\frac{\text{agreements}}{\text{agreements and disagreements}} \times 100 = \text{U-I}
\]

Table 7 illustrates the comparison of the data derived from different methods of calculation. The preferred method of calculation of overall reliability of the interaction sub code is to take the mean of the total scored and unscored intervals. That mean being .77 percent. Although 77 percent is below the acceptable level (80-85 percent) suggested by Johnson and Bolstad [1973], this method of calculation is much more stringent than those presently used in applied behavior analysis research.

Concerning binary behaviors (such as the interaction sub code) where there is either the presence or absence of a specific student or teacher behavior, Hawkins and Dotson [1973] state:

If behavior analysts wish to continue the use of interval recording, better methods of assessing the reliability of interval data are sorely needed. Because I-I scores are clearly inadequate for any of our scientific purposes, it is already likely that a significant body of applied behavior analysis has seriously misrepresented to us the relationships between certain environmental factors and certain human behaviors....While a change to S-I and U-I reliability scores may not truly solve the problem, it is an easy
# TABLE 7
ILLUSTRATIVE COMPARISONS FOR FOUR DIFFERENT RELIABILITY SCORES DERIVED FROM THE INTERACTION SUB CODE

<table>
<thead>
<tr>
<th>Reliability Checks</th>
<th>Inter-Observer Agreement Scores</th>
<th>( \bar{x} ) Of S-I And U-I</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I-I</td>
<td>S-I</td>
</tr>
<tr>
<td>1</td>
<td>86 (18/24)</td>
<td>60 (6/10)</td>
</tr>
<tr>
<td>2</td>
<td>85 (18/21)</td>
<td>67 (6/9)</td>
</tr>
<tr>
<td>3</td>
<td>100 (23/23)</td>
<td>100 (5/5)</td>
</tr>
<tr>
<td>4</td>
<td>77 (21/27)</td>
<td>77 (10/13)</td>
</tr>
<tr>
<td>5</td>
<td>65 (15/23)</td>
<td>56 (10/18)</td>
</tr>
<tr>
<td>6</td>
<td>67 (8/12)</td>
<td>64 (7/11)</td>
</tr>
<tr>
<td>7</td>
<td>79 (19/24)</td>
<td>75 (15/20)</td>
</tr>
<tr>
<td>8</td>
<td>88 (56/63)</td>
<td>68 (15/22)</td>
</tr>
<tr>
<td>9</td>
<td>100 (34/34)</td>
<td>100 (1/1)</td>
</tr>
<tr>
<td>10</td>
<td>77 (17/22)</td>
<td>71 (12/17)</td>
</tr>
<tr>
<td>11</td>
<td>94 (45/49)</td>
<td>90 (26/29)</td>
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<tr>
<td>12</td>
<td>91 (30/33)</td>
<td>91 (21/23)</td>
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<td>13</td>
<td>90 (38/42)</td>
<td>56 (5/9)</td>
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<td>77 (18/22)</td>
<td>50 (5/10)</td>
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<td>93 (25/27)</td>
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<td>16</td>
<td>95 (35/37)</td>
<td>91 (21/23)</td>
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<td>17</td>
<td>80 (29/36)</td>
<td>63 (12/19)</td>
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<td>18</td>
<td>48 (11/23)</td>
<td>33 (4/12)</td>
</tr>
<tr>
<td>19</td>
<td>98 (43/44)</td>
<td>92 (12/13)</td>
</tr>
<tr>
<td>20</td>
<td>79 (11/14)</td>
<td>25 (1/4)</td>
</tr>
<tr>
<td>21</td>
<td>88 (23/26)</td>
<td>81 (13/16)</td>
</tr>
<tr>
<td>22</td>
<td>89 (24/27)</td>
<td>79 (11/14)</td>
</tr>
<tr>
<td>23</td>
<td>83 (20/24)</td>
<td>50 (4/8)</td>
</tr>
<tr>
<td>24</td>
<td>81 (39/48)</td>
<td>82 (31/38)</td>
</tr>
<tr>
<td>25</td>
<td>92 (22/24)</td>
<td>83 (10/12)</td>
</tr>
<tr>
<td>26</td>
<td>84 (48/57)</td>
<td>55 (11/20)</td>
</tr>
<tr>
<td>27</td>
<td>95 (71/75)</td>
<td>91 (41/45)</td>
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<tr>
<td>28</td>
<td>95 (21/22)</td>
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</tr>
<tr>
<td>29</td>
<td>71 (36/51)</td>
<td>32 (7/22)</td>
</tr>
<tr>
<td>30</td>
<td>95 (38/40)</td>
<td>93 (26/28)</td>
</tr>
<tr>
<td>31</td>
<td>88 (23/26)</td>
<td>67 (6/9)</td>
</tr>
<tr>
<td>Mean</td>
<td>86 (878/1017)</td>
<td>75 (381/510)</td>
</tr>
</tbody>
</table>

*Percentage Agreement = Agreements \( \frac{\text{Agreements}}{\text{Agreements + Disagreements}} \)
change to make and one that appears to offer much more accurate representation of the objectivity and accuracy of interval data....These reliability measures should improve the methodologies of a significant portion of applied behavior analysis in education [p. 18].

This section provided the information relative to a discussion of observer reliability throughout the classroom/camp environments. The 91 percent reliability for the thirty-three student and teacher behaviors is significantly above what is generally accepted for studies using interval recording (80-85 percent) [Johnson and Bolstad, 1973], especially for a study involving such a large number of behavior categories.

**Analysis of Claims Made for Resident School Camping**

This section is devoted to analyzing those claims for resident school camping. Table 8 and Table 9 provide the raw data used in the analysis of the behavior of students and teachers in the classroom/camp environments. For ease of presentation, each claim will be stated and then followed by an analysis of the data which either supports or refutes its statements.

**Claim:** Youngsters who have behavior problems in school behave well in camp.

The data are analyzed as a percentage of either the total number intervals within a specific climate, e.g., instructional, meal, class/camp time, free time/recreational, or as the total number of intervals within the total class-camp-class environments.

Youngsters who were defined as behavior problems were those students who were classified by their teachers as possessing a low
# Table 8

**Teacher Behaviors in the Classroom/Camp Environment**

<table>
<thead>
<tr>
<th>Teacher Behaviors</th>
<th>Pre-Camp Instruction</th>
<th>Pre-Camp Free Time</th>
<th>Pre-Camp Class Time</th>
<th>Camp Instruction</th>
<th>Camp Free Time</th>
<th>Camp Class Time</th>
<th>Camp Meal Time</th>
<th>Post-Camp Instruction</th>
<th>Post-Camp Free Time</th>
<th>Post-Camp Class Time</th>
<th>Post-Camp Meal Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecturing</td>
<td>4.78 (36)</td>
<td>.54 (1)</td>
<td>6.78 (37)</td>
<td>.67 (1)</td>
<td>8.73 (36)</td>
<td>11.60 (40)</td>
<td>14.20 (52)</td>
<td>.90 (1)</td>
<td>12.81 (49)</td>
<td>62.40 (78)</td>
<td></td>
</tr>
<tr>
<td>Sensory Instruction</td>
<td>3.45 (26)</td>
<td>20.57 (52)</td>
<td>4.40 (26)</td>
<td>7.14 (1)</td>
<td>11.60 (40)</td>
<td>13.20 (52)</td>
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<td>11.60 (40)</td>
<td>62.40 (78)</td>
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<tr>
<td>Passive Instruction</td>
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<td>1.09 (2)</td>
<td>10.09 (55)</td>
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<td>11.40 (13)</td>
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<td>1.21 (5)</td>
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<td>35.71 (5)</td>
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<td>12.80 (20)</td>
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<td>28.57 (4)</td>
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<td>1.21 (5)</td>
<td>.80 (1)</td>
<td>1.21 (5)</td>
<td>1.21 (5)</td>
<td>1.21 (5)</td>
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<tr>
<td>Active Recreation</td>
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<td>2.19 (4)</td>
<td>4.13 (10)</td>
<td>28.57 (4)</td>
<td>1.21 (5)</td>
<td>1.21 (5)</td>
<td>.80 (1)</td>
<td>1.21 (5)</td>
<td>1.21 (5)</td>
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<tr>
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<td>2.19 (4)</td>
<td>4.13 (10)</td>
<td>28.57 (4)</td>
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<td>28.57 (4)</td>
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<td>1.21 (5)</td>
<td>.80 (1)</td>
<td>1.21 (5)</td>
<td>1.21 (5)</td>
<td>1.21 (5)</td>
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<td>28.57 (4)</td>
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<td>.80 (1)</td>
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<td>1.21 (5)</td>
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<td>1.21 (5)</td>
<td>1.21 (5)</td>
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</table>

Total N: 752 132 545 14 148 114 412 7 125

( ) = Interval Frequency.
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<tr>
<th>Student Behaviors</th>
<th>Pre-Camp Instructional</th>
<th>Pre-Camp Free Time</th>
<th>Pre-Camp Class Time</th>
<th>Camp Instructional</th>
<th>Camp Free Time</th>
<th>Camp Class Time</th>
<th>Camp Meal Time</th>
<th>Post-Camp Instructional</th>
<th>Post-Camp Free Time</th>
<th>Post-Camp Class Time</th>
<th>Post-Camp Meal Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening</td>
<td>9.29 (103)</td>
<td>46.56 (207)</td>
<td>.21 (1)</td>
<td>13.70 (221)</td>
<td>1.64 (18)</td>
<td>45.73 (161)</td>
<td>29.60 (90)</td>
<td>21.20 (173)</td>
<td>.23 (1)</td>
<td>20.72 (57)</td>
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<td>Instr. Participation</td>
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<td>2.19 (13)</td>
<td>7.89 (133)</td>
<td>1.42 (5)</td>
<td>.30 (1)</td>
<td>8.62 (72)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensory Learning</td>
<td>.63 (7)</td>
<td>23.02 (306)</td>
<td>9.79 (105)</td>
<td>1.35 (15)</td>
<td>41.66 (310)</td>
<td>47.17 (192)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensory Lea. w/Katching</td>
<td>57.40 (630)</td>
<td>25.38 (150)</td>
<td>6.16 (97)</td>
<td>11.48 (38)</td>
<td>8.57 (70)</td>
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<tr>
<td>Passive Learning</td>
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<td>6.95 (76)</td>
<td>8.57 (70)</td>
<td>4.53 (19)</td>
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</tr>
<tr>
<td>Solitude</td>
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<td>2.03 (12)</td>
<td>.21 (1)</td>
<td>.59 (10)</td>
<td>1.00 (11)</td>
<td>2.41 (8)</td>
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<tr>
<td>FRing Around</td>
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<td>1.29 (6)</td>
<td>.11 (1)</td>
<td>37.31 (416)</td>
<td>7.63 (1)</td>
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</tr>
<tr>
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<td>1.44 (16)</td>
<td>3.09 (23)</td>
<td>2.36 (11)</td>
<td>10.81 (317)</td>
<td>15.56 (170)</td>
<td>7.10 (24)</td>
<td>7.72 (63)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active Recreation</td>
<td>1.73 (19)</td>
<td>3.45 (173)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passive Recreation</td>
<td>15.52 (172)</td>
<td>6.76 (47)</td>
<td>3.79 (64)</td>
<td>23.01 (81)</td>
<td></td>
<td>11.64 (41)</td>
<td>18.29 (64)</td>
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<tr>
<td>Total N</td>
<td>1108</td>
<td>473</td>
<td>591</td>
<td>1695</td>
<td>1092</td>
<td>352</td>
<td>816</td>
<td>419</td>
<td>407</td>
<td>275</td>
<td></td>
</tr>
</tbody>
</table>

( ) = Interval Frequency.
rate of appropriate behavior, in this case, Subjects 1, 2, 3 and 4. Appropriate behavior is defined by Siedentop [1976] as, "...all student behavior that is consistent with the educational goals of the specific situation" [p. 328].

The investigator uses the student codes "off-task" and "disruptive" as synonymous with "behavior problems." Table 10 illustrates the percentage of disruptive behavior throughout the class/camp environment for those subjects classified as behavior problems. The percentage of change between classroom disruptive behavior and camp disruptive behavior is almost non-existent (+2.3 percent). For Subjects 2 and 4 (Table 10) there was a decrease in disruptive behavior at camp (-.4 and -1.0 percent), of which the opposite is true for Subjects 1 and 3, with an increase in disruptive behavior at camp.

Further examination within the various climates of classroom-camp environments reveals that the overall disruptive behavior of those students classified as behavior problems actually increased (+.2 percent) in the camp instructional climate (Table 11). However, three subjects did show a decrease in disruptive behavior while at camp.

Continuing with the three additional climates within the classroom/camp environments, we find an increase of student disruptive behavior. Table 12 illustrates an increase (+16.4 percent) for all subjects during class time at camp, with Subjects 1, 2 and 3 with an increase. Only Subject 4 recorded a decrease (-3.2 percent) during this climate. The school classroom disruptive behavior of Subject 1 occurred when she was doing individual seat work.
<table>
<thead>
<tr>
<th>Subject</th>
<th>Percent of Total Intervals</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class</td>
<td>Camp</td>
<td>Change</td>
</tr>
<tr>
<td>1. HA/LB</td>
<td>1.7 (10/564)</td>
<td>4.1 (18/438)</td>
<td>+2.4</td>
</tr>
<tr>
<td>2. LA/LB</td>
<td>1.8 (10/553)</td>
<td>1.4 (5/355)</td>
<td>- .4</td>
</tr>
<tr>
<td>3. HA/LB</td>
<td>2.4 (13/527)</td>
<td>10.5 (39/369)</td>
<td>+8.1</td>
</tr>
<tr>
<td>4. LA/LB</td>
<td>2.1 (12/551)</td>
<td>1.1 (4/343)</td>
<td>-1.0</td>
</tr>
<tr>
<td>Total</td>
<td>2.0 (45/2195)</td>
<td>4.3 (66/1505)</td>
<td>+2.3</td>
</tr>
</tbody>
</table>

*Number of Disruptive Intervals Recorded/Total Number of Intervals.
<table>
<thead>
<tr>
<th>Subject</th>
<th>Percent of Total Intervals</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class</td>
<td>Camp</td>
<td>Change</td>
</tr>
<tr>
<td>1. HA/LB</td>
<td>0.0 (0/224)</td>
<td>0.0 (0/184)</td>
<td>0.0</td>
</tr>
<tr>
<td>2. LA/LB</td>
<td>1.1 (3/258)</td>
<td>0.0 (0/159)</td>
<td>-1.1</td>
</tr>
<tr>
<td>3. HA/LB</td>
<td>0.5 (1/180)</td>
<td>5.4 (7/128)</td>
<td>+4.9</td>
</tr>
<tr>
<td>4. LA/LB</td>
<td>2.4 (6/242)</td>
<td>.9 (2/204)</td>
<td>-1.5</td>
</tr>
<tr>
<td>Total</td>
<td>1.1 (10/904)</td>
<td>1.3 (9/675)</td>
<td>+.2</td>
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</table>

*Number of Disruptive Intervals Recorded/Total Number of Intervals.
### TABLE 12

**DISRUPTIVE BEHAVIOR DURING CLASS TIME**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Percent of Total Intervals</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class</td>
<td>Camp</td>
<td>Change</td>
</tr>
<tr>
<td>1. HA/LB</td>
<td>8.5 (10/117)</td>
<td>46.1 (18/39)</td>
<td>+37.6</td>
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<tr>
<td>2. LA/LB</td>
<td>4.3 (6/138)</td>
<td>9.0 (5/55)</td>
<td>+4.7</td>
</tr>
<tr>
<td>3. HA/LB</td>
<td>3.1 (6/189)</td>
<td>32.1 (18/56)</td>
<td>+29.0</td>
</tr>
<tr>
<td>4. LA/LB</td>
<td>5.3 (6/113)</td>
<td>2.1 (1/46)</td>
<td>-3.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5.0 (28/557)</strong></td>
<td><strong>21.4 (42/196)</strong></td>
<td><strong>+16.4</strong></td>
</tr>
</tbody>
</table>

*Number of Disruptive Intervals Recorded/Total Number of Intervals.*
Figure 2 provides information relative to the disruptive behavior of camp class time over the total classroom/camp environment. This period of "camp" class time was characterized by a large group participation in group singing, campfire and a lecture and movie by the forest service, as opposed to a large percentage of small group-individual work within the school classroom.

Table 13 provides graphic data of Subjects 1, 2, 3 and 4 disruptive behavior during Free Time/Recreational Time. For Subjects 2 and 3, there was a greater percentage of disruptive behavior during camp free time than classroom time, while for Subjects 1 and 4, there were no recorded intervals of disruptive behavior in either the classroom or camp environments.

The last climate of the disruptive behavior analysis is meal time. An examination of the data illustrated on Table 14 reveals a noticeable increase in disruptive behavior during camp meal time, with Subjects 3 and 4 having a +8.1 and +2.7 percent change, respectively, while Subjects 1 and 2 reveal no change.

It may be of interest to the reader to compare the percent of student listening and waiting intervals to the student disruptive intervals during meal time for Subjects 3 and 4. Although no cause-effect relationship can be substantiated, there is an indication that disruptive behavior during meal time may be a result of the percent of student listening and waiting.

Figure 3 represents the percentage of waiting, listening and disruptive intervals during class/camp meal time. The increase of disruptive behavior during meal time seems to be a function of the percentage of time the student spent waiting and listening. Camp meal
Figure 2. Disruptive Behavior Profile for Subjects 1, 2, 3, 4.
TABLE 13

DISRUPTIVE BEHAVIOR IN FREE TIME/RECREATIONAL TIME

<table>
<thead>
<tr>
<th>Subject</th>
<th>Percent of Total Intervals</th>
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</thead>
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<tr>
<td></td>
<td>Class</td>
</tr>
<tr>
<td>1. HA/LB</td>
<td>.0 (0/149)</td>
</tr>
<tr>
<td>2. LA/LB</td>
<td>.0 (0/42)</td>
</tr>
<tr>
<td>3. HA/LB</td>
<td>4.7 (4/85)</td>
</tr>
<tr>
<td>4. LA/LB</td>
<td>.0 (0/130)</td>
</tr>
<tr>
<td>Total</td>
<td>.9 (4/406)</td>
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</table>

*Number of Disruptive Intervals Recorded/Total Number of Intervals.
TABLE 14
DISRUPTIVE BEHAVIOR IN MEAL TIME

<table>
<thead>
<tr>
<th>Subject</th>
<th>Percent of Total Intervals</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Class</td>
<td>Camp</td>
<td>Change</td>
</tr>
<tr>
<td></td>
<td>.0 (0/74)</td>
<td>.0 (0/41)</td>
<td>0.0</td>
</tr>
<tr>
<td>1. HA/LB</td>
<td>.0 (0/115)</td>
<td>.0 (0/50)</td>
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<tr>
<td>2. LA/LB</td>
<td>2.7 (2/73)</td>
<td>10.8 (4/37)</td>
<td>+8.1</td>
</tr>
<tr>
<td>3. HA/LB</td>
<td>.0 (0/66)</td>
<td>2.7 (1/36)</td>
<td>+2.7</td>
</tr>
<tr>
<td>4. LA/LB</td>
<td>.0 (0/66)</td>
<td>2.7 (1/36)</td>
<td>+2.7</td>
</tr>
<tr>
<td>Total</td>
<td>.6 (2/328)</td>
<td>3.0 (5/164)</td>
<td>+2.4</td>
</tr>
</tbody>
</table>

*Number of Disruptive Intervals Recorded/Total Number of Intervals.
Figure 3. Student disruptive, listening, and waiting behavior during camp meal time for Subjects 3 and 4.
time was characterized by the camp director giving directions about the meal procedure, or explaining activities for the day.

As mentioned on page 34, one of the advantages of using interval recording is that it provides an estimate of the period of time in which the behavior occurred. The data revealed that with Subjects 3 and 4, disruptive behavior occurred during the period of time that they were listening and waiting.

To further analyze the behavior of problem children, one must incorporate a discussion of their off-task behavior. Figure 4 provides information relative to the percentage of off-task behavior during the classroom/camp "instructional" and "class" climates. The percentage of change noted between the classroom and camp instructional climate reveals a noticeable reduction in student off-task behavior. The percentage of off-task behavior in the classroom instructional climate is 15.7 percent, while in the camp instructional climate, the percentage of off-task behavior is 3.4 percent, a decrease of 12.3 percent. A similar conclusion holds true for those subjects which were classified as having high rates of appropriate behavior (Subjects 5, 6, 7 and 8). In the classroom instructional environment, the percentage of off-task behavior is 11.7 percent, while in the camp instructional environment the percentage of off-task behavior is 3.9 percent, a drop of 7.8 percent.

Figure 4 provides the pertinent information regarding off-task behavior for problem children in the "class" climate during the classroom/camp environments. Subjects 1, 3 and 4 were off-task 13.3 percent in the classroom "class" climate, 4.2 percent in the camp "class" climate, with a percentage change of -9.1 percent. Subject 2
Figure 4. Off-Task Behavior of Subjects 1, 2, 3, and 4.
increased his off-task behavior in the camp "class" climate to 20.3 percent, a 16.7 percent increase from the 3.6 percent off-task behavior in the classroom "class" climate.

A comparison of Subjects 5, 6, 7 and 8 revealed the opposite occurred--3.6 percent of off-task behavior in the classroom "class" climate versus 13.2 percent in the camp environment, a percentage change of +9.7 percent.

An examination of the data graphed in Figure 5 for all eight student subjects reveal a noticeable reduction in off-task disruptive behavior in the camp environment. In all three environments there was less off-task disruptive behavior for students with a low rate of appropriate behavior and for those with a high rate of appropriate behavior.

The investigator, from the data collected, can state that students appear to behave better in camp than in the school environment.

Claim: Students spend less time talking and listening and more time in sensory learning while in camp.

The analysis of this claim was divided into two parts. Part one contains an analysis of active learning behaviors of listening, instructional participation (asking questions, talking) sensory learning in which students participated, while part two involves an analysis of the active teaching behaviors of lecturing, sensory instruction, passive instruction, discussion and feedback.

Figure 6 illustrates the pattern of listening and talking versus sensory instruction throughout the student's classroom/camp
Figure 5. Off-Task Disruptive Behavior of Student Subjects 1-8.
Figure 6. Listening, Talking, and Sensory Learning Behaviors of Student Subjects 1-8.
environments. The percentage of change from the classroom to camp for the student behaviors of listening and talking is +6.7 percent, while sensory learning increased by even greater margins, +54.4 percent.

An examination of Figure 7 reveals a somewhat similar conclusion. There is more sensory instruction by teachers in the camp environment. All four teacher subjects had more sensory instruction in the camp instructional climate than in the school classroom instructional climate.

Claim: Teachers spend more time with students in informal, free time contact during camp than in school.

This claim was somewhat difficult to analyze in this study for two reasons:

1. The organizational pattern of the school was such that there was little or no free time/recreational time contact between students and teachers, e.g., during recess in the school environment, students go to the playground, teachers work at their desk or go to the teachers' lounge, office, etc. During lunch, students eat in the cafeteria, teachers eat in the teachers' lounge.

2. In the resident camp setting, teachers were not required to supervise students on free time/recreational time. This assignment was the responsibility of the high school camp counselor.

There are, however, data which might illustrate how teachers spend their free time/recreational time/meal time in the resident school camp experience. The investigator divides this category into two parts:

1. Teachers free time/recreational time in the school camp, and

2. Teachers meal time in the school camp.

In order to evaluate the teachers free time during the camp experience, the investigator made antidotal records of the amount of
Figure 7. Sensory Instruction in the Classroom/Camp Instructional Climate by Teacher Subjects A, B, C, D.
time teachers engaged in the various free time activities. Although this is a rough estimate of teacher free time, it does describe the events which took place. An examination of the twelve hours of data graphed for teacher Subjects A, B, C and D (Figure 8) reveal that 64.25 percent of a teachers camp free time/recreational time was spent in the lounge of the teachers dorm, 17.5 percent on management, 12.5 percent on exploring natural environment with teacher interaction and 8.25 percent on active recreation with students.

The meal time observations were recorded by interval recording; the same method used throughout the study. That information revealed that out of the approximately forty intervals recorded for each teacher subject, there were, on the average, five student interactions and two teacher interactions.

Although the data cannot either refute or support the claim made for student-teacher informal, free time contact, the opportunity for such interaction is possible in the resident camp experience.

Claim: Camp promotes positive gains in social relationships among students in that students make friends, share, show respect to others, accept responsibility and help one another willingly.

The investigator attempts to evaluate the claim that camp promotes positive gains in social relationships through the premise that peer interaction is the initiator of social relationships. For this reason, the analysis will focus on student peer interaction throughout the classroom/camp environment. Since the interaction sub code was attachable to any student or teacher behavior code, the data represents the peer interaction occurring during the observations
Percent of Free Time/Recreational Time

Figure 8. Free Tim/Recreational Time for Teacher Subjects A, B, C, D.

- Hanging Around--Teachers Dorm (65%)
- Exploring Nat. Env. (25%)
- Management (5%)
- Hanging Around--Teachers Dorm (75%)
- Management (25%)
- Active Rec. W/Students (33%)
- Management (27%)
- Hanging Around--Teachers Dorm (66%)
- Exploring Nat. Env. (25%)
- Management (5%)
within the classroom/camp environments.

Figure 9 provides the graphic data of student subjects 1-8 peer interaction. An analysis of this graph reveals that in three out of the four climates, there was less student interaction in the camp environment than in the school classroom. School meal time heads the list with 52 percent of those intervals scored contained the sub code of student interaction. School free time/recreational time was second, followed by school instructional time. There is no change in the camp "class" time versus classroom "class" time in terms of student peer interaction.

Even with the data presented above, the investigator cannot refute the claim that camp promotes positive gains in social relationships. Of the one thousand plus intervals scored during free time/recreational time, approximately 33 percent were recorded as "student in dorm." In order to respect student privacy, no observations were taken in the dorms.

Undoubtedly, in a twenty-four hour resident camp experience, we may subjectively state that a great deal of peer interaction takes place in the student dorms. Until such time as instruments are developed which will help operationalize observation procedures in "sticky" situations, e.g., student dorms, teacher lounges, the fact remains that in organized classroom/camp activities, more peer interaction takes place within the school classroom environment.
Figure 9. Incidence of Student Peer Interaction.
Claim: Youngsters in camp spend free time in activities closely related to instructional pursuits.

Figure 10 provides the pertinent information regarding analysis of student free time/recreational time within the class/camp environments. In the school classroom environment the students spend most of their time in active recreation (58 percent), which can be defined as:

A period of time when student is engaged in fun activities: chasing and fleeing games, sports, capture the flag, etc.

While in the camp environment, 38.4 percent of student free time involved hanging around, which can be defined as:

A period of time in which the student has no specific goals or responsibilities. This usually occurs during free time, e.g., sitting around talking, dorm time.

Student waiting was somewhat prevalent in all three free time environments (classroom-camp-classroom), with a decrease in the amount of time a student was involved in waiting in the camp free time environment.

The behavior which related to the claim (instructional pursuits) mentioned above is sensory learning. Although only .08 percent of student free time was involved in sensory learning, the opportunity was there. The investigator suggests that this percentage may be increased by allowing students more freedom during free time. Presently, in this particular camp environment, students must be accompanied by a counselor if he desires to explore the creek, woods, pond or other natural area outside the central camp area. Although the investigator understands the liability concerns expressed by the camp staff, a method by which students may safely explore the natural
Figure 10: Student Free Time/Recreational Time Analysis for Subjects 1-6.
surroundings must be developed.

**Instructional Concerns**

This section is devoted to analyzing certain educational concerns which were revealed from the observations taken in the school classroom and resident school camping experience.

**Praising Versus Reprimand**

The best way to motivate your students to behave appropriately is to interact with them in a positive manner when they are showing appropriate behavior [Siedentop, 1976, p. 81].

This short quote from the book, *Developing Teaching Skills in Physical Education*, sets the stage for an analysis of the incidence of teacher praising and reprimand during the school/camp environments. Figure 11 illustrates the percentage of praising and reprimand over the total classroom-camp-classroom experiences. There is clearly more reprimand than praising in the total school/camp environment.

Siedentop [1976] continued with:

Many teachers are accustomed to interacting (reprimand) only after misbehavior, and that is their standard way of teaching, but not the best way [p. 81].

There is an obvious need for more positive behavior interactions in all learning environments, not just within the confines of this study. In the school/camp instructional climate individual students may derive satisfaction from the positive behavior interaction (praising) and at the same time strengthening group standards of behavior.
Figure 11. Teacher Praising and Reprimand for Subjects A, B, C, D.
Student Management and Teacher Managing

When teachers and students are examined as a total group, there is a significant amount of instructional time spent in student management and teacher managing. Student management may be defined as:

A period of time in which the student is preparing for instruction.

Teacher managing is defined as:

Any verbal or non-verbal behavior that is emitted for the purpose of organizing the class for instruction. This also may include getting materials ready for instruction.

Figure 12 and Figure 13 substantiate the fact that a significant amount of instructional time is spent in student management and teacher managing. Both student management and teacher managing increased in the school camp environment.

One of the advantages of using interval recording is that it is possible to calculate time into the discussion. In the 91 recorded minutes of teacher camp instructional time, twenty-five minutes was spent in class managing. In the 280 minutes of student camp instructional time 46 minutes was composed of student management.

Student Waiting During Instructional Time

An examination of the data graphed for student subjects 1-8 in Figure 14 reveal a noticeable increase in student waiting in the camp instructional climate, a percentage change of +14 percent.

Reviewing the point of time in which the behavior occurred, revealed that a majority of student waiting occurred at the beginning of the instructional session. Comments from the observers revealed
Figure 12. Student Management in Instructional Time for Subjects 1-8.
Figure 13. Teacher Managing in Instructional Time for Subjects A, B, C, D.
Figure 14. Student Waiting in Instructional Time for Subjects 1-8.
that this was the result of the teacher's tardiness. Of the 280 minutes recorded in camp instructional time, the students spent 52 minutes waiting.

**Instructional Profiles**

Instructional profiles will be discussed in two sections. Section one reviews teacher subjects A, B, C and D's instructional profiles in regard to their teaching behaviors employed in the classroom and in the school camp. Section two reviews student subjects 1-8's involvement in the instructional process in the classroom and in the school camp.

**Teacher Profiles.** Figure 15 provides graphic data of Subject A, B, C and D's instructional time. An analysis of this graph reveals that their teaching style is made up largely of individual student feedback in the school classroom, whereas, in the camp setting, sensory instruction was by far the most dominant behavior.

An analysis of Subject A's teaching style (Figure 15) reveals a combination of feedback, discussion, lecturing, sensory instruction and passive instruction in the school camp, while individual feedback is the technique most often used in the school classroom. Of interest to the reader is the fact there was not one recorded interval of "praise" during the total classroom/camp observation session.

Further investigation of Figure 15 provides information of Subject B's teaching behaviors. Subject B used more discussion, sensory instruction, monitoring and less lecturing, passive instruction in the school camp instructional environment.


<table>
<thead>
<tr>
<th>Subject</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<tbody>
<tr>
<td>Pre-Camp Classroom</td>
<td>10%</td>
<td>.5%</td>
<td>1.5%</td>
<td>.3%</td>
</tr>
<tr>
<td>Camp</td>
<td>.0%</td>
<td>1.5%</td>
<td>4.4%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Post-Camp Classroom</td>
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<td>2%</td>
<td>1%</td>
<td>.8%</td>
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</table>

<table>
<thead>
<tr>
<th>Subject</th>
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<th>B</th>
<th>C</th>
<th>D</th>
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</thead>
<tbody>
<tr>
<td>Praising</td>
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<td>7%</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Reprimand</td>
<td>11%</td>
<td>14%</td>
<td>7.2%</td>
<td>14%</td>
</tr>
<tr>
<td>Monitoring</td>
<td>2%</td>
<td>13%</td>
<td>7.2%</td>
<td>14%</td>
</tr>
<tr>
<td>Managing</td>
<td>34%</td>
<td>13%</td>
<td>23.8%</td>
<td>23.8%</td>
</tr>
<tr>
<td>Feedback</td>
<td>46%</td>
<td>36%</td>
<td>59.3%</td>
<td>43%</td>
</tr>
</tbody>
</table>

Subject A B C D

Figure 15. Instructional Behavior Profile for Teacher Subjects A, B, C, D. (Continuation on next page)
Figure 15—Continued. Instructional Behavior Profile for Teacher Subjects A, B, C, D.
Subject C used more sensory instruction (32 percent) than Subject A, B and D combined. Subject C's classroom teaching techniques were largely composed of feedback and discussion. There also was more managing and reprimand in the camp environment for Subject C.

Subject D (Figure 15) uses more sensory instruction, reprimand and praising in the school camp and less managing, feedback, discussion, lecturing and passive instruction.

Although the data (Figure 15) do not reveal the exact teaching method used by Subjects A, B, C and D, there is an indication that there is more individualized instruction (feedback) in the school classroom, as well as a significant amount of sensory instruction in the school camp. There is a decrease in the use of paper-pencil, book type activities, and group discussion and individual feedback.

Student Profiles. Throughout Chapter IV the investigator has discussed, with the exception of instructional participation, all the components of the students instructional profile. These profiles are provided so as to facilitate supplemental support to previously mentioned claims.

Figures 16 through 23 provide the raw data used in the following analysis. The student behavior of instructional participation is defined as:

A period of time in which the student is actively engaged in instruction, those middle-of-the-road behaviors between sensory learning, passive learning, listening and management, e.g., answering a question, verbal contribution, student yelling downstream asking other students what they caught,
Figure 16. Instructional Behavior Profile for Student 1. (High Academic Achievement/ 
Low Appropriate Behavior)
Figure 17. Instructional Behavior Profile for Student Subject 2. (Low Academic Achievement/Low Appropriate Behavior)
Figure 18. Instructional Behavior Profile for Student Subject 3. (High Academic Achievement/Low Appropriate Behavior)
Figure 19. Instructional Behavior Profile for Student Subject 4. (Low Academic Achievement/Low Appropriate Behavior)
Figure 20. Instructional Behavior Profile for Student Subject S. (Low Academic Achievement/High Appropriate Behavior)
Figure 21. Instructional Behavior Profile for Student Subject 6. (Low Academic Achievement/ High Appropriate Behavior)
Total N = Pre-Camp Classroom = 140; Camp = 225; Post-Camp Classroom = 99

Figure 22. Instructional Behavior Profile for Student Subject 7. (High Academic Achievement/High Appropriate Behavior)
Figure 23. Instructional Behavior Profile for Student Subject 8. (High Academic Achievement/High Appropriate Behavior)
asking a question, participating in class discussion.

A tabulation of the data from Figures 16 through 23 reveal an increase in instructional participation in the school camp for Subjects 1, 5, 7 and 8, as compared to a decrease for Subjects 2, 3, 4 and 6. An interesting point which should be included is that of the four subjects who increased the percentage of instructional participation in the school camp, three were classified as having a high rate of academic achievement.

Throughout the instructional profiles for all eight student subjects there appears to be a high rate of off-task behavior, even for subjects classified as having a high level of appropriate behavior. This may prove to be a fault of the open-concept school.

The reader should take note of the percentage of feedback (individual) of teacher subjects A-D (Figure 15). While the teachers are working with individual students, the remainder of the class may have a tendency to "do their own thing," thereby, resulting in a large percentage of off-task behavior (not doing what they are supposed to). This raises serious questions for those who believe in the open-concept form of class organization.

Summary

The data discussed throughout Chapter IV offer valuable information relative to the claims made for resident school camping and concerns for the instructional climate of the school/camp environments.
How this data will be received, as a measure of program accountability for this specific school/camp experience, is questionable. A review and/or development of program objectives could possibly improve the camp/class instructional environment. Further discussion of program and research recommendations will be included in the summation of the study.
CHAPTER V

SUMMARY

Resident school camping was first conceived as a means of acquainting children with the natural environment and supplementing outdoor-related subjects with first-hand experience. Only recently have educators stressed the importance of interrelationships of living things to each other and to man's environment. Today, many educators are making claims for the values of such programs to the education of our youth. The current study was an attempt to examine many of the claims made for resident school camping programs through a descriptive analysis of student and teacher behavior in the resident camp experience.

The Study in Retrospect

The purpose of this study was: to describe those student/teacher behaviors which occur in the school classroom and compare them to those student/teacher behaviors which occur in the resident camp setting.

The subjects for this study are sixth grade students and teachers who are involved in the three-day resident school camping program with the Worthington City Schools. The observers who collected the data for this study were six graduate students and two
professors from the School of Health, Physical Education and Recreation at The Ohio State University. These observers participated in an extensive training program to sharpen their skills as competent observers.

Observations were taken of the eight student subjects and four teacher subjects in the school classroom one week before the camp experience, in the three-day resident camp program and again in the school classroom the week following camp. Throughout the classroom/camp/classroom, the observers coded approximately ten thousand ten second intervals of student and teacher behaviors.

Conclusions

The results of this study suggest that the use of applied behavioral analysis techniques were successful in the observation of student and teacher behaviors in naturalistic settings. The reliability (91 percent) of these observations is well above that generally accepted for studies in applied behavior analysis.

The conclusions from this study came from three sources. The literature reviewed in Chapter II provided a source for the conclusions regarding the claims made by educators for resident school camping. The analysis of the data collected, which either refute or support these claims, was the second source. The third source was additional information generated by the 10,181 intervals of student and teacher behavior. It is these conclusions which are intended to provide some answers for the questions which guided the development of this study.
1. Students appear to decrease their "disruptive/off-task" behavior while in the resident school camp.

Of the data graphed for all eight student subjects, there was less "disruptive/off-task" behavior at camp. Although there were some climates where individual student's did increase their problems at camp, the percentage of the total number of disruptive/off-task intervals showed a decrease.

2. Teachers use more sensory instruction in the school camp than in the school classroom. Likewise, the students spend more time in sensory learning in the school camp than in the school classroom.

Donaldson and Donaldson [1973] state that the purpose of the resident camp experience is to:

...enrich, vitalize, and complement content areas of the school curriculum by means of first-hand observation and direct experience outside the classroom. Extending the classroom into the out-of-doors provides the setting for deeper insight, greater understanding, and clear meaning of those areas of knowledge which, ordinarily, are merely read and discussed--seldom experience.

The data presented reveals that the students are afforded the opportunity to experience those areas of knowledge which, in the classroom, are normally read and discussed.

3. Teachers in either camp or in the school classroom do not engage in a high rate of positive behavior interactions.

Research in teacher education has proven that positive behavior interactions do, indeed, help manage behavior problems in the instructional environment. Throughout this study were instances where positive behavior interaction could have strengthened group standards of behavior and, thereby, reducing the instances of student
off-task/disruptive behavior.

4. Youngsters in camp do not spend their free time/recreation time in activities closely related to instructional pursuits.

In the camp environment, 38 percent of free time was spent "hanging around" in the dorm. Possible reasons for this student behavior are:


b. The activities offered were no different than what they received back at school, thereby, reducing student interest in these particular activities.

c. The organization of the camp program was such that for students to be able to explore the natural environment outside the central camp area, they must be accompanied by a counselor.

5. In the resident camp experience there is an increased amount of student "management" and teacher "managing."

Undoubtedly, in a new environment where students and teachers do not ordinarily operate, it will take students and teachers longer to organize for instruction. Many times the instructional materials are not as close as the table or shelf of a confined classroom and, consequently, take longer to prepare for instruction.

6. There is a noticeable increase in student "waiting" in the camp instructional climate.

In reviewing the point of time in which this behavior occurred, it is found that a majority of these behaviors occurred at the beginning of the instructional period. Improved camp program organization could alleviate the problem.
7. The teaching methods used in the classroom consist largely of individual feedback and group discussion, while the camp method of imparting knowledge is through sensory instruction.

In review, sensory instruction is the teacher use of natural or man-made instructional aids, which result in similar student behaviors. In essence, learning by direct experience.

8. It is possible to develop definitions of student and teacher behaviors and to record these definitions reliably in a variety of school and camp environments.

The methods and procedures presented here are of particular interest, since they provide methodology for the collection of behavioral data in natural settings.

**Recommendations for Further Study**

Based upon the results of this study and the problems encountered during the study, the investigator proposes the following major recommendations for directions of future research in resident school camping.

1. Extension to other school camp programs with different organizational patterns and longer resident camp programs.

2. Extension to "traditional schools" and with students with a lower rate of appropriate behavior.

3. Use of a behavioral analysis approach to administer a school camp experience.

4. Use of duration recording to provide a thorough analysis of the camp time.

5. Use of event recording to provide a more valid estimate of teacher behavior.
6. Evidence warrents further analysis of how teachers and students perceive the camp experience.

7. Research in the methodology of training observers.

**Recommendations for the Worthington City Schools Resident School Camp Programs**

Throughout the observations of student and teacher behavior in the resident school camp, the investigator had the opportunity to offer suggestions for the improvement of the resident camp experience. Although these suggestions are, of course, incomplete, they do offer infinite possibilities which may influence behavior and facilitate certain kinds of learning in the school camp experience. The investigator proposes the following recommendations:

1. Develop a training program for high school camp counselors.

In the resident camp experience, the camp counselor is both a friend and a surrogate parent for a small group of children. Because of this small group, the counselor has the opportunity to make an impact on children. The counselors used in the Worthington City Schools Resident School Camp Programs, although dedicated and competent young adults, were not prepared to live and work with small groups of children in the out-of-doors.

The present resident camp program requires the high school counselor to possess the best of personal qualities, plus a knowledge of program skills and an understanding of the needs and interests of children. There are some sincere adults who cannot make such adjustments. For this reason, counselor training is a necessity. It may
be possible to incorporate such a training program into the elective high school physical education program. This will permit a concentrated course of study with the students receiving credit toward their physical education requirement.

2. Mandatory outdoor education workshop for all camp instructors.

Resident school camps are sometimes criticized as isolated experiences with no direct relationship to what takes place in the school classroom. It is the investigator's contention that the learning experiences in the resident school camp should be an extension of the school classroom. In the post-camp classroom observations, one observer [Mand] stated that there were no discussions of the previous week's three-day resident camp program. In essence, it is as though it did not even occur.

Through mandatory workshops, teachers may incorporate "education in and through the out-of-doors" into the elementary educational curriculum. These also would provide the opportunity to educate the camp staff, to set goals and achieve progress toward these goals, so that desirable values may be developed in the camp experience.

These workshops may eventually lead to less teacher managing and student waiting in the camp instructional climate by helping prepare teachers with methods by which they make more effective use of camp instructional time.
RESIDENT SCHOOL CAMPING: A DESCRIPTIVE ANALYSIS

TRAINING MANUAL
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INTRODUCTION

There have been many claims made for the resident camping programs throughout its brief history. Because it offers many opportunities to teach about the outdoors, in addition to teachable moments in other fields such as social living, health, and work, it has caught the imagination of educators throughout the country. Today, thousands of youngsters in the upper elementary grades spend three to five days in an outdoor school. It is estimated that school districts offer some sort of camping experience.

Some of the claims made for resident camp programs are the following.

1. Youngsters in camp spend free time in activities closely related to instructional pursuits.

2. Youngsters in camp take advantage of time for solitude, contemplation, and personal reflection in the natural environment.

3. Youngsters in a primitive camp use free time by exploring and creating activities using the natural surroundings.

4. Youngsters who have behavior problems in schools behave well in camp.

5. Spontaneous sharing, conversations, and non-verbal contacts between students and teachers occur more frequently in camp than in school.

6. Teachers spend more time with students in informal, free time contact during camp than in school.
7. Camp promotes positive gains in social relationships among students in that students make friends, share, show respect to others, accept responsibility, and help one another willingly.

8. The teaching practices in resident camps cause youngsters to do the following:

   (a) spend less time talking and listening and more time touching, smelling, tasting, and moving during instruction

   (b) work in group projects

   (c) learn skills of conversation

   (d) learn about natural foods, trees, birds, insects, etc.

   (e) gain in vocabulary

   (f) learn self-help skills, picking up clothes, making beds [Mand, 1976].

This study is a descriptive effort aimed at gathering data relative to the following:

1. What actually occurs in a resident camp setting.

2. Teacher behavior and role change while in a resident camp setting.

3. Evaluative information which would become an indicator of program accountability.

4. Teacher behavior and role change in a classroom setting.

5. Student behavior in both a resident camp setting and a regular classroom setting.

SUBJECTS AND SETTING

This study is to be conducted in cooperation with the Worthington City Schools, an upper-middle class suburban community
which is located seven miles north of The Ohio State University campus. The subjects involved in this study are from Worthington Hills Elementary School, an open concept educational program.

Every fall, the sixth grade students spend three days in a resident camp experience at Camp Ohio, a 4-H camp in Martinsburg, Ohio.

The study will focus on observations of both students and teachers in two completely different environments. The first, observations of eight students and four teachers, will occur at the school on several days before and after the camp experience. The second will occur at a three-day resident school camp experience. There will be a variety of settings in which we will attempt to observe student and teacher behavior. Some of these settings are recess, meal time, instructional time, recreational time, free time, etc.

Listed below are those camp/student behaviors which we will observe in the school classroom and in the resident school camp.

STUDENT BEHAVIORS

Listening -- A period of time in which the student is attentive to teacher lecture, class discussion, camp rules and instructions.

Instructional Participation -- A period of time in which the student is actively involved in instruction, those middle-of-the-road behaviors between sensory learning, passive learning, listening, and management, e.g., answering a question, verbal contribution, student yelling downstream asking other students what they got, asking a question, participation in class discussion, etc.
Sensory Learning -- A period of time in which students use moving, tasting, smelling, touching, collecting to acquire knowledge. Students may use such objects as a compass, leaves, animals, science experiments. A good way to designate this category is, "The student is learning something about the object he is using."

Sensory Learning With Watching -- Indirect contact with above.

Passive Learning -- A period of time in which the student is learning through paper and pencil, textbook, chart, and map type activities.

Management -- A period of time in which the student is preparing for instructions, e.g., getting materials out of desk, moving to a position according to teachers' instructions, opening books.

Hanging Around -- A period of time in which students have no specific goals or responsibilities. This usually occurs during free time (recess), e.g., sitting around talking, non-instructional, etc.

Housekeeping -- Those individual responsibilities which are necessary for school/camp living, e.g., cleaning up, table hopping, etc.

Personal Management -- A period of time in which the student is engaged in individual preparation for school/camp living, e.g., organizing belongings, restroom stops, putting on warm or dry clothes, eating lunch, etc.

Active Recreation -- A period of time in which the student is engaged in fun activities, e.g., chasing and fleeing games, capture the flag, sports, walking, hiking, rolling downhill.

Passive Recreation -- A period of time in which the student is engaged in quiet games or games with little physical exertion, e.g., cards, story telling, group singing, reading for pleasure.

Solitude -- A period of time in which the student is alone because of his personal choice (free time).

Waiting -- A period of time in which the student is waiting for school/camp programs to continue, e.g., waiting for meals, waiting for instruction to begin,
waiting in line, waiting at the flag pole for activity sessions to begin, etc.

**Disruptive** -- Those student behaviors which detract from the educational goals of the camping experience. This may occur anytime, e.g., raiding cabins, talking out of turn, not paying attention to instructions which results in a reprimand, pushing, hitting other students, breaking school rules, etc.

**Off-Task** -- Student not doing what he is supposed to be doing.

**Interaction** -- Verbal or non-verbal communication among students or teachers. This category is attachable to all codes. This does not have to be a dominate behavior, can occur in only one second out of ten. Non-verbal is something that the student is doing and is a function of what another student is doing.

\[ S = \text{Student Interaction} \]

\[ T = \text{Teacher Interaction} \]

Sample codes for student:

SL-S = Sensory Learning with Student Interaction

SL-T = Sensory Learning with Teacher Interaction

---

**TEACHER BEHAVIORS**

**Lecturing** -- A period of time in which the teacher is using one-way verbal communication to impart knowledge about instruction or school program. Do not confuse this with managing in which the teacher is organizing for instruction, or feedback in which there is a response to a student behavior.

**Sensory Instruction** -- A period of time in which the teacher uses natural or man-made instructional aids which may result in similar student behaviors, e.g., leaves, rocks, listening, touching, feeling, tasting, holding up an object and explaining its parts or function.

**Passive Instruction** -- A period of time in which a teacher uses a textbook, paper and pencil, or charts as the central focus of instruction. The student
behavior which may result is simple reading and paper and pencil responses.

Leading Discussion -- A period of time in which the teacher is involved in arriving at a truth through teacher-student communication. Possible responses from more than one source.

Giving Feedback -- Those middle-of-the-road behaviors which are between praising and reprimanding. Teacher uses information from a response to guide performance, e.g., teacher picks up paper and looks at it and then returns it to the desk, or teacher tells a student how to correctly use a butterfly net. This usually occurs as a result of student behavior. Do not confuse this with lecturing. Response from a one-on-one situation.

Praising -- The teacher's verbal or non-verbal approval of something that the student has done well.

Reprimand -- The teacher's attention to student disruptive or mischievous behavior.

Managing -- Any verbal or non-verbal behavior that is emitted for the purpose of organizing the class (or some subset of the class), e.g., changing an activity, giving directions about equipment or formations, actually getting out or putting away equipment. A managerial behavior is teacher initiated.

Active Recreation -- A period of time in which the teacher is involved with student recreation, either as a supervisor or as a participant.

Passive Recreation -- A period of time in which the teacher is involved in student passive recreation as a supervisor or as a participant.

Housekeeping -- Those individual responsibilities which are necessary for camp/classroom living, e.g., dorm clean-up, table clean-up, etc.

Personal Management -- A period of time in which the teacher is engaged in individual preparation for camp/classroom living, e.g., eating, organizing belongings, putting on warm clothing, restrooms, etc.
Hanging Around -- A period of time within free time when the teacher has no specific goals or responsibilities.

Monitoring -- A period of time in which the teacher is watching a class, group, other teachers, or any activity during the organized school program. Do not confuse this with waiting.

Waiting -- A period of time in which the teacher is waiting for programmed camp/classroom activities to begin, e.g., waiting for meals, waiting for students to join her, etc.

Modeling -- Using a student, students, or the teacher herself to point out to a larger group a particular behavior, e.g., teacher demonstrating how to help a partner on a trust walk.

Camp/Classroom Participation -- A period of time in which the teacher is involved in programmed camp/classroom activities, e.g., listening, assisting, observing another teacher, cookouts, etc.

Interaction -- Verbal or non-verbal communication among students or teachers. This category is attachable to all codes.

S = Student Interaction

T = Teacher Interaction

Sample codes for teachers:

H-T = Hanging Around with Teacher Interaction

H-S = Hanging Around with Student Interaction

These interaction codes refer to attention to students or teachers. Do not confuse these with praising, reprimand, lecturing, giving feedback, and other activities during the instructional process.

Exploring Natural Environment -- The period of time in which the teacher may be searching for instructional teaching aids or simply taking a walk to observe nature.
SCHOOL/CAMP CLIMATES

Listed below are those school/camp climates in which we will observe student and teacher behaviors. As an observer, you must have a strong sense of ecology to effectively code. By this we mean that you must become familiar with the school/camp time schedule. This will give you secondary information about those student and teacher behaviors which you will be asked to code.

**Instructional Time** -- Activity sessions in which formalized learning takes place.

**Free Time/Recreational** -- All periods which are not specified as organized activities. This includes those periods of time such as recess, time after instruction has ended, time in which teacher gives students a short break before the next scheduled activity, planned recreation activities.

**Meal Time** -- The time spots that are specified for "meals" on the camp/class schedule. This begins when the student enters the dining hall or lunch room.

**Camp/Class Time** -- A period of time in which organized camp/class activities are scheduled. This includes all periods of time not covered by other categories, e.g., dorm clean-up, grounds clean-up, campfire, flag raising, taking roll in homeroom, taking lunch count, going out to recess, lining up to go to lunch, walking down the hall to recess or lunch, etc.

DECISION LOG

GUIDELINES FOR BEHAVIORS WHICH ARE SIMILAR

Within the pilot study conducted in the spring quarter of 1976, some confusion about three camp/student behaviors came to the surface. These behaviors were sensory learning, passive learning, and instructional participation. Some guidelines for distinguishing
between these behaviors are listed below:

1. **Sensory Learning** -- Student learning about objects or concepts with which he is working, e.g., catching a crayfish in a stream and examining it, as compared to looking at one in a book (passive learning).

2. **Passive Learning** -- Student learning about objects or concepts which he cannot see, touch, smell, or hear, e.g., looking at a tree in a book, as opposed to actually touching a live one.

3. **Instructional Participation** -- Those middle-of-the-road behaviors which are not part of sensory learning, passive learning, lecturing, management, etc. This is appropriate behavior in the instructional setting, e.g., involvement in class discussion, answering a question, asking a question, etc.

Another behavior which may cause some confusion is student/teacher waiting versus student/teacher hanging around. This is a case in which it is important for the observer to become familiar with the classroom/camp time schedule. Waiting is usually associated with preparation for the next activity, whereas hanging around is usually found in free time or recreational time.

**Decision Log Notes -- Update**

- Students waiting in line to play a game or take a turn on a piece of equipment. **WAITING - W**

- Students using head phones to listen to a record or tape. They may be watching a filmstrip at the same time. **PASSIVE LEARNING - PL**

- Student or teacher rolling up filmstrip. **MANAGEMENT - M**

- Teacher asking a question to a small or large group with possible responses from more than one student. **DISCUSSION - DS**
Student asking a question.  **INSTRUCTIONAL PARTICIPATION - IP**

Teacher watching TV with class.  **CLASS PARTICIPATION - CP**

Teachers talking among themselves while the class is watching TV.  **HANGING AROUND W/TEACHER INTERACTION - HA-T**

**OFF-TASK VS. DISRUPTIVE** -- The key is does it bother other students (e.g., DO THEY REACT TO IT? If so, DISRUPTIVE). There may be the possibility that two students can be talking and will be OFF-TASK and not be DISRUPTIVE.

**INTERACTION CODES** should be used for all student and teacher behaviors with the following exceptions.

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecturing</td>
<td>Feedback</td>
</tr>
<tr>
<td>Sensory Inst.</td>
<td>Modeling</td>
</tr>
<tr>
<td>Passive Inst.</td>
<td>Reprimand</td>
</tr>
</tbody>
</table>

**WHY?** Because this interaction is already built in.

**RELIABILITY CHECKS** revealed the following areas of disagreement. Teacher behaviors caused the most problems.

**FEEDBACK - FB** -- Response to a student question, teacher walking around checking on students in response to student demand or systematic checking. The teacher may ask a question to an individual in a **one-on-one** situation.

**DISCUSSION - DS** -- Asking a question to a small or large group where there is the possibility that responses can come from more than one student.

**PASSIVE INSTRUCTION - PI** -- Teacher giving a lecture using instructional aids such as: films, books, charts, maps, pictures, filmstrips, writing on blackboard (inanimate).

**SENSORY INSTRUCTION - SI** -- Teacher lecturing with animate objects--instructional aids such as: leaves, rocks, compass, live specimen, or using listening, touching, feeling, tasting, holding up an object and explaining its parts or function.
MONITORING - MO -- Watching the class or, subset of the class, can occur at any time such as: recess, instruction, etc. Idle conversation may occur with it, BE CAREFUL, THERE IS FINE LINE BETWEEN MONITORING AND THE OTHER TEACHING BEHAVIORS SUCH AS: MANAGING, PRAISING, ETC. LISTEN TO WHAT IS BEING SAID.

Teachers giving spelling test. LECTURING - L
Students taking spelling test. PASSIVE LEARNING - PL

Concerning OFF-TASK and DISRUPTIVE BEHAVIOR:

If the OFF-TASK involves others and keeps them from working (e.g., telling another boy to get a pencil for him or else, etc.), it should be coded DISRUPTIVE if initiated by the subject you are observing. If it is not clear who started it, code it as OFF-TASK.

***REMINDER***

PLEASE BE SURE TO INDICATE THE SUB * CLIMATE OF THE INSTRUCTIONAL AND CLASS TIME SESSIONS (e.g., Seatwork, film, group discussion, TV, group reading, small group).

CODING FORMAT

The data for this study will be collected, using interval recording. The results of this method would provide an estimate of teacher/camp behavior across time intervals.

Interval recording is used to measure the occurrence of behavior within specified time intervals. The observation session will be divided into smaller time intervals of equal size. For example, if the total observation period were forty (40) minutes and the observers were using ten (10) second interval measurement, the session would be divided into 240 ten second recording units. Since
we are observing multiple categories of behavior, we will have 120 ten second recording units, which will give us an interval to record the behavior.

The coding sheet (Table 1) consists of a sufficient number of blocks for the observation of one teacher and two students for twelve minutes.

Each observation session will consist of observing one teacher and two students. To record multiple behaviors of all three subjects, we must observe during the first interval, then record what was the dominant behavior of that interval during the second, observe in the third, record in the fourth, etc.

The timing device is a cassette tape recorder programmed to generate a signal every ten seconds. This method permits constant eye contact with the subject during the observation interval. On the first signal (observe), begin observing the teacher. At the end of ten seconds, you will receive another signal (record). At this time, refer to the list of teacher codes on the bottom of the coding sheet. List the most dominant behavior of the interval in the lower portion of the box. In the upper half, record the climate of the behavior. The climate can be determined by familiarizing yourself with the class/camp schedule. The various climates will be listed at the top of the coding sheet. At the end of this interval, you will receive another signal (observe). Begin observing the number one student (this student will be assigned to you). At the end of this interval, you will receive another signal (record). At this time, refer to the list of student codes on the bottom, right of
the coding sheet. List the most dominant behavior of the interval, using the same procedure that you used for the teacher observation. On the next signal (observe), begin observing student number two. Continue the observations in this manner, rotating from teacher to student number one, to student number two, and then back to teacher, etc.

An exception to the above coding format will be when the members of a sample (two students and one teacher) are not close enough to code accurately. In this case, it may occur during those activities which take place outside of instructional time, e.g., recess, free time, meal time. It will then be necessary to assign observers to a specific area and code those subjects who are in your assigned area.

CODING SHEET

The coding sheet was designed to include multiple categories of student and teacher behaviors. Investigation of the coding sheet shows symbols for the behavior categories of students and teachers, symbols for those climates (camp/class schedule) in which the behavior occurs, and blocks in which the observer may record the behavior of students and teachers. It is important to designate which subject you are observing; this should be done by name, at the beginning of each row (See Table 2 on following page).
**TABLE 2**

**CODING BLOCK DESIGNATES**

<table>
<thead>
<tr>
<th>Mrs. Smith</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billy</td>
</tr>
<tr>
<td>Susan</td>
</tr>
</tbody>
</table>
OBSERVATIONAL TECHNOLOGY

As mentioned in the coding format, the timing device for this study is a cassette tape recorder programmed to generate a signal every ten seconds. In order to provide the greatest amount of flexibility in coding the behaviors of multiple subjects, a brief discussion on how to adapt the programmed tape to meet the variation in the number of subjects observed will follow.

TABLE 3

FORMAT OF MULTIPLE SUBJECT OBSERVATION

<table>
<thead>
<tr>
<th>Signals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher &quot;Observe&quot;</td>
</tr>
<tr>
<td>10 Sec</td>
</tr>
<tr>
<td>Repeat . . .</td>
</tr>
</tbody>
</table>

This format is used in the class/camp sessions where both teachers and students are in a position in which one observer can code all three subjects, e.g., classroom/camp instructional sessions.

Problems in the observations technology occur when students and teachers go their own ways after an observer has coded them in a confined area. One solution to this would be to assign observers to a specific subject. In this case, simply follow the format for single observation (See Table 4 on following page).
TABLE 4

FORMAT FOR SINGLE SUBJECT OBSERVATION

<table>
<thead>
<tr>
<th>Signals</th>
<th>Student</th>
<th>Student</th>
<th>Student</th>
<th>Student</th>
<th>Student</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&quot;Observe&quot;</td>
<td>&quot;Record&quot;</td>
<td>&quot;Observe&quot;</td>
<td>&quot;Record&quot;</td>
<td>&quot;Observe&quot;</td>
<td>&quot;Record&quot;</td>
</tr>
<tr>
<td></td>
<td>10 Sec</td>
<td>10 Sec</td>
<td>10 Sec</td>
<td>10 Sec</td>
<td>10 Sec</td>
<td>10 Sec</td>
</tr>
</tbody>
</table>

OBSERVATIONS ROUTINE

At the beginning of each observational period you will receive your schedule of observations. The schedule will indicate the subjects you are to observe, the location of that subject, and the length of the observational period.

RELIABILITY CHECKS

METHODS AND PROCEDURES

Throughout the observational routine, reliability checks on all observers will be taken by independent observers. Each observation session will consist of at least ten minutes of reliability observations.

The method used will be simultaneous recording of the same subject by independent observers. Each subject observer will have an extra ear jack on his tape recorder. When the independent observer wishes to code, he simply takes the extra ear jack in order to receive the same signal. The independent observer will then
record the page, block, and row of the subject observer's coding sheet and begin to observe the subjects. It is important in the observation session to be sure that both observers are coding each subject in the same order and to designate on the coding sheet which subject(s) you are observing.

GENERAL INSTRUCTIONS

Three important factors must be considered in order to observe the behavior of students and teachers accurately. These factors are the following:

**Interaction with Students**

Children of this age are curious and uninhibited. They will undoubtedly want to know what you are doing and why. Simply respond by saying that you are writing down ideas about their school and camp experience for other boys and girls.

**Interaction with Staff**

The school and camp staff will be informed about the observations in the classroom and in the resident school camp. Undoubtedly, some conversation will be necessary, but you should avoid discussing the specifics of the study, such as lecturing, management, sensory learning, student-teacher interaction, etc. You should also avoid interaction when it will interfere with your observations.

**Reactivity**

There are times within the observational session in which your presence or the measurement procedures that you use may have an
effect upon the subjects being observed. Webb [1966] refers to this effect as "reactivity." It is, therefore, important to remain as unobtrusive as possible, that is, to "blend into the background." Observers must learn when to get in there and dig for the data and when to back off. This ability comes with experience and training.

There are also instances when the observer must respect the privacy of the students and teachers being observed. For this reason, observations will cease when the following instances occur:

1. The teacher enters the office, teachers' lounge, or teachers' dorms.
2. The teacher is talking with a parent.
3. The student enters the office or student dorm or health clinic.
4. Whenever other obvious circumstances in which student and teacher privacy is of utmost importance occur.

EVALUATION

You may choose to evaluate how well you comprehend the definitions of student and teacher behaviors by responding to the following narratives of student and teacher behaviors found in the school classroom or resident school camp experience. Cover the answer with a sheet of paper, and then write the symbols for the correct behavior in the blanks provided. The correct answers may then be checked. The climate of the behaviors is included to provide secondary information. If you need further clarification on some specific situations, circle the question and we will discuss the problem at the group meeting.
Climate: Instructional Time

L 1. Student is listening to teachers lecture.

IP 2. Student is answering a question.

IP 3. Student is participating in class discussion about pond wildlife.

SL 4. Student is collecting leaves for tree identification.

PL 5. Student is referring to a classification index (book) to determine the type of tree he is observing.

M 6. The student erases the blackboard as his teacher has instructed him to do in order to list additional math problems on the board.

SL 7. The student is experimenting with a meter stick to determine its relationship to a yard stick.

D 8. The student is talking to another student while the teacher is explaining a homework assignment.

PI 9. Teacher is showing the class a map of Camp Ohio.

SI 10. Teacher is showing the class some samples of the types of rocks that they might find at camp.

P 11. Teacher congratulates the class on their behavior during a movie.

DS 12. Teacher is asking several students the reason why leaves turn different colors.

FB 13. Teacher corrects student on his usage of the butterfly net.

P 14. Teacher congratulates student on his art work, and student responds by showing her some of his additional work.

CP 15. Teacher is talking to camp director about camp schedule.

MO 16. Teacher is watching class build a lean-to on the survival hike.

MD 17. Teacher is demonstrating the proper use of the axe while chopping firewood.

SL-T 18. Student is asking the teacher what type of animal she caught.
19. Student is waiting her turn to use the butterfly net.

20. Student is looking in the grass for a four leafed clover.

Climate: Free Time

21. Teacher is sitting on a log talking with students.

22. Teacher is actively participating in a softball game.

23. Teacher is clapping hands because Billy hit a home run during the softball game.

24. Teacher is on recess duty talking with student.

25. Teacher is on recess duty telling the student to stop throwing sand.

26. Teacher is blowing a whistle telling students to line up to go back to the classroom.

27. Student A is hitting Student B because the first boy took away second boy's basketball.

28. Student is wading in a stream looking for crayfish.

29. Student is throwing rocks in the stream.

30. Student A is throwing Student B in the water.

Climate: Meal Time

31. Student is throwing food at the dinner table.

32. Teacher is scolding student for throwing food.

33. Student is eating and talking with teacher.

34. Teacher is eating and talking with student.

35. Student is listening to camp director before the meal begins.

36. Teacher is listening to camp director before the meal begins.
Climate: Class/Camp Time

PR  37. Student is singing songs around the camp fire.
M-S  38. Teacher is taking lunch count and attendance.
L  39. Student is listening to the teacher taking attendance.
CP  40. Teacher is listening to students sing songs around the campfire.

You may choose to evaluate how well you comprehend the coding procedure by responding to the following programmed video tape sessions of students and teachers in a variety of camp/class climates. If possible, you should try to code in pairs so that you may have built-in reliability for your observations. Coding sheets are available in the back of this training manual. If you have any questions about the behavioral definitions, please make a note of them on the coding sheet and in your decision log.

The programmed tapes will be stored in the Teacher Learning Center. They will be labelled, "School Camping Study." Be sure to return the tape when you have finished.

You will need a cassette tape recorder and a ten second programmed tape for your timing device. Follow the directions for each session and compare your results with the key for each session and with your partner's results.

At the beginning of each programmed video tape session is a short introduction which will provide you with specific coding information such as the following:

1. When to start your timing device, and
2. Which subjects to code.
After you have coded each session, you may refer to Table 5 to determine the reliability of your observations.

**Session #1**

Code the teacher behavior in instructional time. Start your cassette tape with the signal (observe).

Length of Session: 3-1/2 minutes

Climate: Instructional

**Session #2**

Code student and teacher behavior in the instructional session. Start your cassette tape with the signal (observe).

Length of Session: 4 minutes

Climate: Instructional

**Session #3**

Code student and teacher behavior in the instructional session. Code student with striped shirt and pigtails, and code teacher.

Length of Session: 5 minutes

Climate: Instructional

**Session #4**

Code teacher (wearing football jersey) and student (holding pole) at the beginning of the tape. After two minutes, you will lose sight of the teacher; continue coding the student until the teacher can again be observed. A counselor will enter. If interaction occurs, code this as teacher-interaction. The teacher will again enter.
Begin observing him as soon as he enters the picture.

Length of Session: 12 minutes
Climate: Instructional

**Session #5**

This session is designed to show examples of student and teacher behavior during free time. You do not need to code this session. Simply try to define those student and teacher behaviors which take place.

Length of Session: 7 minutes
Climate: Free Time

**Session #6**

Code the student and teacher behaviors during this free time session. Student 1 is in the striped shirt standing on the bridge, and Student 2 is nearest you. Code Student #32 on the basketball court. After four minutes, code the boy with the striped shirt who is on the stream bank. The voice in the background is a teacher (do not code the teacher). After a few moments, code the two teachers on the bridge. Teacher 1 is in shorts. The next segment is a teacher and two students. You do not need to code this short segment; this is an example of "hanging around with interaction."

**Session #7**

Observe student and teacher behavior during camp meal time.
(No coding necessary)

Length of Session: 10 minutes
Climate: Meal Time
Session #8

Code teacher behavior during instructional time.

Length of Session: 15 minutes

Climate: Instructional
<table>
<thead>
<tr>
<th>Teacher</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA</td>
<td>SI</td>
</tr>
<tr>
<td>I</td>
<td>SL</td>
</tr>
</tbody>
</table>

**SESSION 2**

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>MO</td>
<td>SI</td>
</tr>
<tr>
<td>I</td>
<td>SL</td>
</tr>
</tbody>
</table>

**SESSION 3**

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA</td>
<td>SI</td>
</tr>
<tr>
<td>I</td>
<td>SL</td>
</tr>
</tbody>
</table>

**SESSION 4**

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>MO</td>
<td>SI</td>
</tr>
<tr>
<td>I</td>
<td>SL</td>
</tr>
</tbody>
</table>

**SESSION 6**

<table>
<thead>
<tr>
<th>Student 1</th>
<th>Student 2</th>
<th>Student 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>FT</td>
<td>SL</td>
<td>AR</td>
</tr>
<tr>
<td>FT</td>
<td>SL</td>
<td>AR</td>
</tr>
<tr>
<td>FT</td>
<td>SL</td>
<td>AR</td>
</tr>
<tr>
<td>FT</td>
<td>SL</td>
<td>AR</td>
</tr>
</tbody>
</table>
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