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ABSTRACT

The ecological theory of teaching views the classroom as a unit within which social and psychological interactions determine the learning patterns that will take place. Three fourth-grade classrooms were observed to test and clarify this theory. A description is given of the characteristics of the pupils in each class, the teacher's instructional style and attitude, and the physical arrangement of the classroom. A comparison of the task structures of the three classes is presented, with emphasis on the grouping of students in large and small groups and the tasks assigned to those groups. An analysis is given of the relationship of the grouping and task assignments of the class to the formation of peer relations and friendships. (JD)

Ecological Theory of Teaching

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Educational Research and Development

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Ecological Theory of Teaching

TASK STRUCTURE ANALYSIS OF
THREE FOURTH-GRADE CLASSROOM
INSTRUCTIONAL-SOCIAL SYSTEMS

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Report ETT-79-1

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James Rothenberg

Ann Arbor, Michigan

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PREFACE

This is one of a series of reports by the Far West Laboratory for Educational Research and Development concerned with developing ecological perspectives of teaching. Under funding by the National Institute of Education, the project has been underway since December 1977 and is projected to continue contingent upon funding from NIE.

Overall long-range goals of the program are four. An initial goal is the development of a conventional theory of teaching that approaches and views classroom teaching and learning from ecological perspectives. Such perspectives build from knowledge about teaching/learning in the teacher-student learning group as a sociological as well as a psychological process. An underlying assumption is that, previously, only psychological perspectives have served to inform instructional theory and the training of teachers. Thus, both educational psychology as well as disciplines outside it are being utilized such that a holistic, multi-disciplinary approach is being used.

Attendant to theory construction and growing out of efforts to pilot test initial constructs and interrelationships is the development of appropriate research methodologies, the second long-range goal. As part of this process, both qualitative and quantitative methodologies are being developed and/or adapted from scholars' works in other fields. Those selected, which provide a "fit" with the phenomena being examined, will have to be piloted.

A third goal is the development and implementation of strategies--both in-service and preservice--which can be used to train teachers and others to utilize the ecological perspectives. Such strategies are perceived as being

more sociological in nature than those previously employed. In addition, it is quite likely that not only teachers but all those involved interacting with teacher and student learning groups--students, principals, other adults, etc.--will need to be reoriented to this perspective.

Finally, as a fourth goal, a restructuring experiment in nature is proposed in order to test the conventional theories in operation. Exactly how the experiment will be designed and conducted is the focus for emergent efforts growing from both the development of methodologies and identification of theoretical constructs and (re)training strategies.

To guide project development and inform constructs that serve as analytic components of the ecological perspectives, a Seminar of Scholars has been organized. Representing such fields of inquiry as sociology, cognitive anthropology, human ethology, environmental social psychology, communications theory, human ecology, and educational psychology, the Seminar continues meeting twice yearly. Expertise of Scholars is utilized by developing original papers, participating in bridging activities with one or two others which center on a particular problem, reacting and responding to syntheses of Scholars' work, and collaborating with FWL staff on specific inquiry foci. As examples of the latter, five in-depth literature reviews and annotated bibliographies have been completed by graduate students of several of the Scholars with their guidance--one each for cognitive anthropology and sociolinguistics, environmental social psychology, human ecology, human ethology, and sociology. To complement the information and insights presented within the literature reviews two secondary analyses of extant, naturalistic data also have been conducted.

The following secondary analysis, Task Structure Analysis of Three Fourth-Grade Classroom Instructional-Social Systems, has two foci. First, it considers the theoretical and empirical relationships of the conceptual elements of the

ecological theories of teaching first proposed in an early working paper. Second, it reanalyzes the data from a study of classroom socialization conducted by FWL researchers in three elementary classrooms using a task structure perspective.[2]

The following secondary analysis is the work of James Rothenberg of the Department of Sociology, University of Michigan. We owe him our special thanks for a job well done. Professor Steven Bossert, also of the Department of Sociology, University of Michigan, offered valuable guidance in the completion of this work, and we are grateful for his participation and help in this project. Michael Strong, Department of Language and Reading Development, School of Education, University of California at Berkeley, did a major edit of this report, and we express our gratitude for his contribution. Charles Steiner assisted with the initial editing and, with Carolyn Amable, Frank Malgeri, and Donne Karstens, carefully typed the manuscript in its various stages. We appreciate their contribution to the project and concern with the final product.

Finally, we wish to acknowledge the continuing support of the Teaching and Instruction group of the National Institute of Education, without whose interest such studies and analyses would not be possible. For their commitment to exploring new research areas, we extend our deepest gratitude.

William J. Tikunoff
Beatrice A. Ward
Principal Investigators

John R. Mergendoller
Associate Research Scientist

1. Dawson, M.B., Tikunoff, W.J., and Ward, B.A. Toward an ecological theory of teaching: A starting point. San Francisco: Far West Laboratory for Educational Research and Development, 1978.
2. The results of the initial analysis of those data are found in : Tikunoff, W.J., Ward, B.A. and Dasho, S.A. Study C: A case study of the socialization of students into the classroom instructional process. San Francisco: Far West Laboratory for Educational Research and Development, 1978.

CHAPTER ONE

INTRODUCTION

The following report focuses on four major issues. First, a discussion of the parameters of an ecological theory of teaching and an examination of its elements is presented in Chapter Two. This discussion isolates aspects for further study, rather than presenting an exhaustive description of the elements or definitive evidence of their interactive effects. Thus, it builds upon both component elements of the ecological theory initially proposed in a working paper,[1] and the insights which grew out of its examination and elaboration at the initial meeting of the Seminar of Scholars for the project.[2] It further is informed by completion of a task structure analysis of the naturalistic descriptive protocols of three elementary school classrooms which enabled the author to test initial theoretical notions regarding these elements against the realities of recorded classroom life.

The second focus of this paper is a discussion of the task structures of three elementary classrooms. This task structure analysis builds upon the theoretical and empirical work of Bossert (1977a, 1977b) and identifies the existence of task structures within three elementary classrooms and the effects of these task structures on classroom desist rates, or the number of negative sanctions per 100 minutes of observation. In this discussion, Bossert's original task structure categories of recitation, class task and multi-task have been

1. Dawson, M.B., Tikunoff, W.J., and Ward, B.A. Toward an ecological theory of teaching: A starting point. San Francisco: Far West Laboratory for Educational Research and Development, 1978.
2. Proceedings of the seminar of scholars (San Francisco, May 8-10, 1978). San Francisco: Far West Laboratory for Educational Research and Development, 1978.

further delineated to create more differentiated task structure categories. Although the analysis begins with the categorization of classroom activity according to Bossert's (1977a) dimensions, some task structures have been reorganized, especially within the multi-task category. These newly organized task structure categories more accurately reflect the organization and activities of the classrooms under study. Detailed descriptions and examples of the various categories used will comprise the major part of Chapter Three, and hypotheses will be presented concerning the effects of each structure on the behavior and perceptions of teachers and students.

The third issue discussed in this report is the effect of the task structure organization of classrooms upon peer association, especially in the formation of friendship groups. An attempt to answer two closely related questions is presented: (1) To what extent and how do various elements in classrooms, particularly task structures, lock students into classroom groups based on some measure of the teacher's perception of their academic skills? (2) To what extent and how do various classroom elements, particularly the predominating task structures, lead either to rigid social cliques based on academic skills or achievement or to promoting a wide range of interactive and fluid friendship groups among students? The discussion of these issues in Chapter Four appears as case studies of each teacher and student interaction in the classrooms of the three teachers who were the subjects of the study.

The final issue in this paper consists of a summary discussion of the results of the preceding task structure analysis and the theoretical suppositions upon which it was based. This discussion appears in Chapter Five, and concludes with suggestions for further naturalistic studies of the task structures of classrooms. By design, this discussion is more informal than those preceding.

Sample

The following study is based on naturalistic, descriptive data obtained form a study of three elementary classrooms in the greater San Francisco Bay Area, conducted by FWL Principal Investigators William J. Tikunoff and Beatrice A. Ward. The school district of which these classrooms were a part served approximately 13,850 kindergarten through eighth-grade students at the time of the study. A majority of the students in the school district were from low to low-middle income families. The district was heavily impacted with both state and federal compensatory education programs. The racial composition of the district, according to their reported categories, in the year preceding data collection was as follows: 53.3 percent Spanish surnamed students, 30.6 percent other white students, 12.2 percent Black students, 3.5 percent Asian students, and 0.4 percent Native American students. Little change in the racial mix occurred during data collection.

The classrooms selected for observation were chosen on the basis of the nomination of each teacher by peers as among the most effective teachers of fourth-grade mathematics in the district. Inspection of district-wide achievement test scores in mathematics later confirmed this assessment for two of the three teachers.

Each teacher's classroom was distinctive in composition, organization and emotional climate. Two of the teachers were female (Teachers 202 and 501), and the other male (Teacher 101). Brief descriptions of each classroom follow. Longer case studies which describe the rule-setting procedure of each teacher in detail appear as part of Study C: A case study of the socialization of students into the classroom instructional process.

Teacher 101

Teacher 101's class began as a fourth-grade classroom with 25 students. Light third graders were added the second week of school. Students were predominantly Spanish surnamed with a minority of Black and white students. The class was balanced evenly between boys and girls. According to achievement test scores for the beginning of the year, the students were slightly above average for students at their respective grade levels in the district.

Teacher 101's class was part of the minischool which functioned as an alternative school-within-a-school serving 270 of the 580 students enrolled at that particular school. The minischool faculty determined curriculum, scheduling, and allocation of resources for the instructional program that was offered. Both the conventional school and the minischool were supervised by the same principal.

Teacher 101 believed that students could benefit by helping each other, and he planned for this in operationalizing his instructional system by grouping desks by fours with students facing each other. Typically, Teacher 101 taught to the entire class while standing at the chalkboard. Once instructions had been given, he allowed students to help each other and he moved around the room, monitoring their seat work and instructing them informally.

Teacher 202

Students in Teacher 202's classroom were predominantly Spanish surnamed or white, with a few Blacks, Samoans and Filipinos. They comprised a heterogeneous ability group including 20 fifth graders and 14 fourth graders.

Teacher 202's instructional system was group oriented, featuring what she termed "a committee system." Students were allowed to select whomever they wished to work with so long as they worked together productively. When they

did not, she took measures to reassign individual students to other groups. Committees were assigned tasks such that they produced products (e.g., charts, skits, reports, etc.) which they presented to the rest of the class upon completion. When an assignment was given, Teacher 202 often would demonstrate and/or lecture at the chalkboard as an introduction, then move about the room monitoring students' work. During the teaching of mathematics, she monitored students' seat work, and concurrently assigned students to work at the chalkboard so she could observe their work as she moved around the classroom. No stigma was attached to chalkboard work. Over several days, all students were called upon to work there.

Teacher 501

The student population of Teacher 501's fourth-grade class was quite transient. Over the seven weeks of observation, students checked in and out of the class frequently. Teacher 501 did not consider this to be unusual and reported that during the previous year 66 students had been in her class at one time or another. By the seventh week of school, the class consisted of 32 students, 15 males and 17 females. Of these, 14 were new to the school. In addition, four members of the class were in a mainstreaming program for the educationally handicapped. They were in the classroom only a portion of each school day.

The students were predominantly Spanish surnamed (21 students), with three Black students, four white students, one bilingual Portugese, one Vietnamese, one Chinese and one Fijian. According to their achievement test scores, the class was average for the school district with beginning of the year achievement scores equivalent to a low third-grade ranking for both reading and math.

Teacher 501's instructional system was based on a belief in what she termed a step-by-step, developmental, individualized approach. She sought to create

self-direction in her students so that they could work independently. She fostered a classroom atmosphere that was quiet and business-like with little informal interaction among students. Instruction was sequenced through the use of commerically-produced materials, students were diagnosed and prescribed into curricula, and they were expected to work independently at their seats. For some activities, Teacher 501 grouped students by ability and taught one group while others worked independently at their seats. Interestingly, her instruction focused almost solely on math during the seven weeks of observation for the study reported here. Students received reading instruction by ability groups in the school's reading lab. Language arts instruction was accomplished through assignments in commercially-produced workbooks with little instructional time.

Data Collection

Each teacher and the two nonparticipant observers assigned to him or her met with the Principal Investigators for a full day prior to the opening of school. Teachers were asked to describe their "desired" instructional system for each subject area, expectations for student performance within the system(s), and both the standards for behavior they would set and the manner in which students would be introduced to the system, e.g., how rules would be established. During this free-flow discussion, clarification was sought, and teachers were asked to describe what they might expect students to do in certain types of instructional and social situations. Audio-taped recordings of these discussions were transcribed and the transcripts were read immediately. Whenever a statement seemed to be vague or incomplete, additional information was sought from the teacher.

Collection of the observational data began one half-hour be the start of the first day of school on Wednesday, September 8, 1976 and continued through Thursday, October 21. Observation occurred continually all day, every day across a total of 30 days with two exceptions: Thursday, September 9 was a school holiday (California Admission Day), and the nonparticipant observers were at the FWL on Monday, October 4, to participate in a debriefing session.

Observational data were collected in two ways. First, two nonparticipant observers, trained in naturalistic data collection procedures, were assigned to each teacher. For each period of observation, they took extensive notes which focused upon and described those events and interactions relative to the way in which students were adapting and functioning in the teacher's instructional system. Observers worked in shifts of from one hour to one and one-half hours, relieving each other in order to provide a rest period. Immediately following an observation period, notes were dictated onto audio cassettes. They were returned daily to the FWL where they were transcribed into typewritten narrative protocols. Figure 1 presents one page from a nonparticipant observer's protocol and provides an example of one form of data composing the nonparticipant observation data set for the study.

Second, the three teachers each served as participant observers. At the end of each day, they dictated audio-recorded responses to questions designed to elicit information about the day's significant events and interactions in relation to the establishment of the social and instructional systems. In addition, teachers were encouraged to share perceptions, frustrations, and any insights they felt were important to understanding their classrooms. At the end of each week, teachers also recorded a summary statement for the week which focused on the extent to which progress was made toward establishing the instructional system in the classroom and what factors, if any, had impeded such

Figure 1

Excerpt from Nonparticipant Observer Protocol

Teacher Number: T
Student Number: Y
Date of Observation: 4/19/76
Researcher Number: Z
Protocol Number: 35

The student is watching and listening to a discussion of whether or not you can measure height. The teacher is still working with objective one with only the 4th graders.

The student does not raise her hand to tell which object has tallness, but continues watching as the teacher explains and asks questions. The student is not smiling. Her eyes have a kind of a dull appearance to them. She continues to listen, but again does not smile and her facial expression seems very blank and withdrawn.

In response to the teacher's question of where you measure to show height, the student point to the cube in front of her which is made out of foam and pick it up.

She then begins pinning her name tag on to her shirt and seems to be playing with it. She is not listening to the discussion that is going on around her.

Then she begins to listen to the teacher and shakes her head in response to the teacher's talking about covering the driveway to measure error. The teacher hands her a rectangular piece of paper approximately 9 x 4 inches. The teacher is talking about covering her driveway and is using the rectangle as an example of the driveway surface. The teacher asks the student, "How would you cover my driveway? What kind of measurement would we be talking about?" The target student moves her hands up and down the entire surface of the rectangle and the teacher responds, "Correct, we are talking about area." The student then begins playing with her name tag, but is still listening. End of observation at

9:45

9:45. End of sequence 2.

9:55

The student will now be observed during sequence 5. Start time is 9:55. The student is still in the circle with the other 4 graders, discussing what things can be measured. She is holding a cardboard clock in her hand, as the teacher has asked the students to go get objects and bring them back to the circle and discuss what can be measured about them.

The student is listening to Juanita, who begins to talk to her. She has a big smile on her face as Juanita continues to talk to her. (The entire talking lasts approximately 5 seconds.) She is moving the hands of the clock around the clock and watches Frank tell about what things can be measured with his object.

Then she begins to listen to another student, Helena, talk about the properties of hers. The teacher asks if there is anything else that can be measured about Helena's object, and the student responds, "Perimeter." (She whispers this and it would be difficult to have heard her. I have noticed that her lips have moved and they moved and said "perimeter.") She continues to listen to Juanita talk about perimeter.

The teacher then asks her what can be measured on her object. She gets a gigantic smile on her face and seems to be very happy that the teacher has called on her. Her whole face lights up. She then says that you can see perimeter, length, area, and how wide the clock is, and shows all of these properties with her hands, going around the clock and over it as she explains area. She continues to listen and watch as the teacher discusses assignment #1, and then she watches the teacher talk about properties of measurement with the string. End of

10:00

observation. 10:00. End of sequence 4.

progress. Both tapes were forwarded to the FWL where they were transcribed into typewritten protocols. Figure 2 presents one page from a participant observer protocol and provides an example of the participant observation data set for the study.

In order to monitor data collection and adjust this process as necessary, the Principal Investigators frequently met with both the participant and non-participant observers.

The three teachers met with the Principal Investigators on the first, second, and fourth Saturdays during the study. The first session was designed to adjust participant data collection procedures in order to lessen the burden on the teacher. At the other two meetings, teachers were interviewed individually with respect to (1) progress in installing their instructional systems, and (2) students who were having difficulty adjusting.

On two occasions the nonparticipant observers met for debriefing sessions at the FWL. These took place on Monday of the fifth week of the study, and on Friday following the final observation day. At the first debriefing session, a decision was made to identify those students who were having difficulty adjusting to the classroom social and instructional systems and to focus on their behavior as much as possible during the observation without detracting from other data collection foci. Otherwise, part of each debriefing day was devoted to a variety of summary tasks in which the observers noted impressions and trends and described the instructional and social systems that were in operation in their respective classrooms as of that date.

The data sets for the study, then, included (1) the preactive interview statements for each teacher collected, concerning the teacher's expected instructional-social system; (2) daily nonparticipant observer protocols for the 30 days of observation; (3) daily participant observer protocols; (4) weekly

Figure 2

Excerpt from the Participant Observer Protocol

Teacher Number: W
Student Number:
Date of Observation: 4/28/76
Researcher Number:
Protocol Number: 8

We started off the hour today by reviewing what characteristics could be measured. Before we started, I asked the students to get out their squares and their strings. Some of them had lost, or couldn't find their measuring tools so I told them to just look at someone else's that all they really needed to do was to look at them to do the worksheet that we were planning to do today.
After we reviewed the characteristics (things that could be measured) we talked about the tools that we had and which tools would be best for measuring which characteristic.
I seemed to have quite a bit of trouble drumming up enthusiasm during this discussion. The students weren't very interested. I think a lot of it may have to do with me. I really didn't feel much like teaching today. I was sort of tired. I think they were sort of feeling the same way. I had two or three students that were really responding and the rest didn't seem to be too interested. I started calling on a few, trying to get some more interest going.
During the discussions we talked about which tool would be best to use for length, width, perimeter and area. In each case, they said either a square or a string could be used, except for area in which we decided that the square would be best. I tried to get them involved by actually measuring their desks with these tools and showing me which one would be best.
I started to get a little frustrated at one point and I said something to the effect that if we didn't get going on this, we could spend the whole day on it. I don't think that really had too much effect on them one way or another.
After our discussion, I passed out the worksheet, "Find the Correct Unit," and I said we were going to help Tom figure out if he measured some things correctly. After everyone had their worksheet, I asked someone to read the directions out loud. Then I asked them what they were going to do. The directions stated that we needed to tell if Tom used the correct unit by checking yes or not. When I asked what they were going to do, the students said that they were going to help Tom. So they were actually parroting back what I had said, rather than really paying attention to the directions. I finally asked them to re-read the directions. Timmy Davis and Jerry Williams were able to tell me that we were going to see if he used the correct unit.
I think there was some confusion in the word "unit." I'm not sure they really understood, what was meant by unit. I think that if I had said "tool," they would have understood better since we've been working with the word tool on the last worksheet.
We then went through each one orally together as a group and we discussed whether we used the best tool.

participant observer summary protocols; and (5) nonparticipant observer debriefing summary statements.

Secondary Data Analysis

To fulfill the aim of this secondary analysis, it was necessary to show how the workings and interactions of elements, particularly task structures, were related directly to certain processes and outcomes in the classrooms. Early in the analysis it was decided to focus on two areas which were felt to be suited to this purpose, (1) desist rates, and (2) the process by which academic and social groups were formed in the classrooms. These were areas which Bossert (1977a) had found to be strongly influenced by task structure. They also are areas which are likely to be influenced by a wide variety of factors. They are, therefore, well suited for an investigation using an ecological approach.

The initial intention was to use the task structures in the form established by Bossert (1977a, 1977b). From the protocols of the first few days of each of the teachers, it was clear that there were few activities which clearly fell into the major categories of recitation, class task, or multi-task activities, as used by Bossert. However, Bossert described four dimensions which formed the basis of his three major categories. These were: group size, division of labor, pupil choice, and the extent to which evaluation is public and comparable. Each of these dimensions may vary in one respect or another. Group size can vary from large groups comprising most of the class, to small groups within the class, to individuals. Division of labor can vary from all students performing the same task to each student performing a different task. The locus of control can swing from high teacher control to high student control. Performance and evaluation can vary in the degree to which they are

private or the degree to which they are public and comparable. To a certain extent this last dimension is dependent on the others. For example, a large group activity where all children are performing the same task will be necessarily highly public and comparable. Each child can see the level at which others are performing and where they fit into the overall scheme of performance in the classroom. It becomes clear to everyone which students receive the usually positive rewards for high performance and which receive the usually negative sanctions for low performance.

In theory, the makeup of the task structure determines the patterns of rewards and punishments in the classroom, which in turn may influence the patterns of behavior that become established in classrooms. These structures tend to make certain types of behavior more or less likely.

Data analysis proceeded as follows. From the protocols of the early weeks, types of task structures were delineated and code letters were assigned. Detailed descriptions and hypotheses concerning these various task structures are presented later. The particular task structures' categorization employed in this study grew both from theoretical concerns and from the empirical data. They are not intended to be descriptive of all activities observed in the three classrooms studied here.

The full range of task structure divisions and the coding schema were established by the time the third week of observations had been read. Once the coding schema was developed, weeks four, five, and six were coded first and then the first three weeks were recoded. Week seven was not coded because time constraints did not allow for this. This recoding was done to ensure standardization.

Other types of behavior and events also were coded. All desists were coded according to whether they were directed to the whole group, to smaller

groups, or to individuals. Since the observers specifically were instructed to note all behavior controls used by the teachers, it is reasonably certain that the desist rates are accurate. Since the observers had no notion of the task structures described in this report, any minor errors in their reports of behavior controls are likely to have been evenly distributed among the task structures which later were delineated.

All statements by teachers which served as positive reinforcements to individuals, small groups, or to the whole class also were coded. There is no certainty as to the degree of accuracy with which these were noted by the observers. Because of this and the small number of such statements which were reported, no attempt was made to analyze the relationship of these reinforcements with other elements.

At the outset the sanctions students made to each other also were coded. Again, so few were reported that this was not pursued. An attempt also was made to code whether or not the activity included work on which the children were to be graded, and who was to grade the work (the teacher or other children). It was impossible to extract this information from the data with any consistency.

The coding initially was done directly on a copy of the protocols. A coding sheet summarizing each day was then prepared. A sample coding sheet appears in Appendix B. More concise summaries of each day also were prepared, noting the total amount of each type of activity for that day and what the desist rates were for each. From these summaries, a summary of each week for each teacher was prepared. The proportion of time devoted to each type of activity was reported and the associated desist rates also reported. These weekly summaries appear in Appendix A. Finally, cumulative summaries for the

six weeks' studies for each teacher were complied. These also appear in Appendix A.

It was particularly difficult to ascertain the teacher-designated academic groups or the self-chosen peer groups of the children. This information was not collected directly by the observers as they had not been instructed to collect this information. In the analysis which follows, indirect means were used to identify peer-chosen or academic groups. The analysis of each classroom required different approaches to obtain the makeup of these groups. The exact procedure used in relation to each class is described in the text of this report in the section on peer associations (Chapter Four). A fairly general procedure which was applicable to all the classrooms was the examination of the pattern of the children's interactions. Interactions which occurred during recess and free time were assumed to be most indicative of self-chosen social groups.

CHAPTER TWO

A DISCUSSION OF THE ELEMENTS OF INSTRUCTIONAL-SOCIAL SYSTEMS RELATED TO THE TASK STRUCTURE ANALYSIS OF THREE ELEMENTARY CLASSROOMS

This chapter examines elements of classroom instructional-social systems which seem to be important determinants of activities and patterns of behaviors which develop. The paper cited earlier by Dawson, Tikunoff, and Ward identified ten elements central to the analysis of these patterns. These were:

Student(s)
Teacher
Other human elements
Role
Time
Physical locus and arrangement
Educational materials
Task
Standards and sanctions
Communication

In relation to the data base for the three classrooms (101, 202, 502), eight of these elements were useful constructs for this secondary analysis while two were not: role, and educational materials. In addition, one other element, external factors, emerged as important in the process of analysis.

The nature of the data did not permit the consideration of role as an element in this analysis. It may be that the concept of role is so interconnected with teacher and students and their interactions that it will not stand on its own as a separate element. Similarly, educational materials as an element could not be assessed based on the information obtained in the protocols.

Each of these elements is multifaceted, and it is impossible to explore them fully in this analysis. Furthermore, the elements are not static in classroom settings but operate interactively. This section will examine facets of

eight elements which analysis of these data suggests are critical to understanding activities and emergent patterns of classroom behavior. These are students, teacher, other human elements, time, physical locus and arrangement, standards and sanctions, communication and external factors. Task as an element will be discussed in Chapter 3 in relation to task structures. Finally, Chapter Four adds a section on the relationship of task structures and peer associations.

The Elements

Student

The most outstanding student characteristic to have significant impact on the classroom (particularly as it affected the behavior of the teacher) was student disruptiveness. The occurrence of such behavior frequently was reported in considerable detail. Each class had a few children who were identified both by the teacher and the nonparticipant observers as being "problems" or potential problems. "Problems" always meant behavior problems. In contrast, students who consistently had difficulty with their work but who were quiet children were not labelled as problems. In addition, the fate of the designated problem children in 501 was quite different from that of the problem children in the other two classrooms (101 and 202).

An interesting study of what happened to these problem children could result from further analysis of these data. Only a few of the general processes at work will be noted here, however.

Very few references were made about the quiet and shy students. It is, therefore, difficult to know exactly what they were doing most of the time. Apparently they received relatively less teacher time than other students, though even this is difficult to verify from the protocols.

The children observed in this study all had several years of prior school experience. They entered the classroom on the first day of the new school year already having been more or less socialized to "proper" school behavior. The amount and kind of prior socialization children have had are important as they teach the child the norms and expectations of the classroom. Such learning, and the ability to act in accordance with these learned prohibitions and norms, can be considered important characteristics of the element, student. This was made especially clear during the first few days of the term as the children knew most of the expected and acceptable "school-time" behavior. For instance, the teachers spent the first days and weeks, not teaching the students proper school behavior, but teaching them particular forms acceptable to the particular teacher. They already know about lining up, and doing so in boys' lines and girls' lines. The actual variation in such behavior demanded by the three teachers was minor compared to the overall similarities of major behavior patterns. Students generally had learned the school game well, and had little difficulty making the adjustments to particular teachers.

Other characteristics of the students, such as sex, age, race and socio-economic background, undoubtedly are important. Data on these characteristics, however, are recorded only globally in this study and, therefore, add little to analysis for this element.

Teacher

Although the teacher and students are very important elements in a classroom, it is very difficult to isolate "teacher" separately as an element. Many characteristics of a teacher become visible only in interactions with other elements. So the impact and role of the teacher often will be referred to in other parts of this report. Here, teacher personality and teaching style will be discussed briefly.

The three teachers possessed quite different personalities and styles. If each teacher were to be rated on a scale with authoritarian at one end, democratic in the middle, and laissez-faire at the other end, Teacher 501 would fall at the authoritarian end, Teacher 202 in the middle, and Teacher 101 at the laissez-faire extreme (though certainly closer to the middle than the end.) None of the teachers fell clearly into any single category as they all displayed qualities from all categories at one time or another.

The effect of their varying personalities probably was felt by the children as much through the types of activities the teachers chose as through their direct interaction with the teachers. Teacher-student relationships and interactions certainly were affected by the personalities of individual teachers. However, to isolate the effects of these interactions, based on the data in this study, is difficult. More important to this analysis is the influence of the particular task structure in use which greatly affects the quality of interactions. For instance, Teacher 501, whose behavior often was rigid and authoritarian, was able to both joke and talk seriously with the children during their free time and during some multi-task type activites. On the other hand, Teacher 101, the "loosest" of the teachers, became quite authoritarian in his actions during large group activities.

Other Human Elements

Classroom aides, principals, and parents all had varying degrees of influence on the functioning of the classrooms studied. The effects of these influences on children were both direct and indirect.

The impact of aides in the classrooms was felt both in their presence and in their absence. Teacher 202 had the help of an aide several times a week. On the basis of the protocols, the only visible impact of the aide was in accelerating the completion of the early student evaluations done by the teacher

during the first few weeks. The aide took small groups or individuals and tested them while the teacher, unencumbered by testing responsibilities, worked with the rest of the class. The evaluations performed by the aide probably were quite important, but the evidence from the protocols is not specific on this.

Teacher 501 had had an aide in previous years. All her classroom structures were designed for an aide to be present and work with part of the class while she worked with the rest. As a result of not having an aide during the period of observation, Teacher 501 unsuccessfully attempted to force her usual structures into a form that would enable the class to function along the basic lines of prior years when she had had an aide.

Other human elements, such as principals and parents, also had considerable impact on the classroom even though they rarely were present. They might be alternately classified under the category of external factors, for the two categories lose their distinction at this point. An ecological approach, however, must take them into consideration.

Parents may have an impact on the classroom in a number of ways. They may try to influence how the teacher treats their children or how the teacher runs the classroom. At another level, parental pressure groups may form for "open classrooms," or for schools to "go back to basics," thereby having a more global effect. One example of direct parental influence in this study concerns the assignment of homework by Teacher 101. He began to give homework in response to parental pressure despite his own doubts regarding its value at that time.

Principals may also affect classrooms in a variety of ways. Teachers sometimes look to the principal for help and guidance in dealing with the problems in the classroom. Teacher 501 depended on the principal to deal with what was

perceived to be a rather difficult student. However, principals may have a more general effect through the institution of their own policies. For example, a new principal was assigned to Teacher 101's school after the first few weeks of the term. She pressured the teachers to follow official district rules and policies (which presumably they had not been doing until then). In compliance, Teacher 101 sharply decreased the amount of recess and free time for his class. The effects of decreases in time on these activities are discussed below.

Time

Time, as an element, can be measured in at least two ways: the total time spent on certain activities, and the proportion of time spent on these activities. The total amount of observation time varied slightly for each classroom. The hours of observation for the three classrooms for six weeks (excluding lunch time) can be seen on Table 1.

Table 1
Total Minutes of Observation for Each Class, and the Proportion of Time Spent in the Classroom (Six Weeks)

Teacher	Minutes Observed	Minutes in Class	Proportion in Class
101	7002	5466	78%
202	7662	6744	88%
501	7782	6996	90%

Total: for 101, 116.7 hours, or 91.1 hours in class; 202, 127.7 hours, or 112.4 hours in class; and 501, 129.7 hours, or 116.6 hours in class.

As can be seen, the total number of hours observed for Teacher 101 was 116.7, with 91.1 of this comprising in-class observation. For Teacher 202, the total was 127.7, with 112.4 of those in-house, and for Teacher 501 totals were 129.7 and 116.6.

Only a small difference exists between Teacher 501 and Teacher 202 in this regard due largely to a few hours of missing protocols for Teacher 202. The

difference between Teacher 101 and the other teachers is equivalent to having a total of two days less over the 30 days of observation as the length of the school day here was shorter than for the other two teachers.

When the proportion of time spent in each classroom is examined, i.e., with recess and PE time subtracted, the differences or similarities have more significance. Teacher 101 had the equivalent of five fewer 5-hour school days than Teacher 501.

In view of the behavior and interactions examined, the proportion of in-class spent on various activities appears more meaningful than either the total or a percentage of total class time. Nonetheless, both statistics will be offered in Appendix A.

The timing of certain activities is significant. Timing in relation to specific types of activities and groupings has been examined and will be discussed in a later section. There also are other aspects of timing: the sequence of differing types of activities, the differences between mornings and afternoons, and, in general, the relationship of time and timing to other elements.

Physical Locus and Arrangements

The physical locus and arrangement of the classroom is potentially very important. By influencing the "traffic flow" inside the classroom, the physical locus and arrangement may encourage or inhibit certain patterns of interaction of student/teacher behavior. The extent to which a classroom is cheerful, comfortable, stimulating, and clean also may have an effect on behavior. For example, in Classroom 101 the windows had been replaced by a translucent material making the rooms seem gloomy. Again, the protocols did not focus on providing information assessing these factors.

There were a few areas where the teachers' use of space and seating arrangements had potentially important consequences. This is discussed in full later in the section on groups and grouping. At this point a few brief notes are necessary.

Teacher 501 specifically used the seating arrangement to separate children whom she felt fooled around or talked too much. She attempted to control behavior by decreasing opportunities for what she considered to be negative behavior. In contrast, Teacher 202 did not use the seating arrangement in this way. The following excerpt from the protocols is an example of Teacher 202's approach to the problem. She held two boys after school to talk with them:

> Teacher 202 asks Harry and Brad if they're anxious to go home. She then asks them if they like waiting. Harry says that he doesn't like waiting. The teacher talks about the two of them sitting together. She offers them a number of possibilities, one of which is to change their seats. Brad says that he doesn't think that changing their seats would be the best idea. The indication here is that it would be better to be quiet. Teacher 202 probes to get them to reveal what the seating arrangement is, which means what the necessity for sitting together is. Teacher 202 asks whether they had seated themselves together because she assigned them those positions, or whether they had chosen those positions themselves. Harry responds that they had chosen to sit next to each other. Teacher 202 then probes for a few more moments in order to have them realize that they made this choice and that they're responsible for the two of them sitting together. She says, "The room is off balance." She indicates that the two boys, Brad and Harry, are always doing something else. She discusses the problem with them. One of the problems recently was the clay on the floor which is mentioned in an earlier protocol. Teacher 202 says that she doesn't want to hassle them, but then she doesn't want to take the responsibility for them which is their own. She talks with them and tells them that they're playing games with her. She asks them what they're going to do about the situation. She talks about when it's appropriate for them to share and when it isn't appropriate for them to share. They both agree that they should be quiet and that moving their seats isn't going to solve the problem. They also agree on some

> hand signals that the teacher will give them when they've been talking and goofing off, which is a V sign, a victory sign, and also a signal for when they are very good, which is a thumbs up sign.
>
> (Teacher 202 Protocol 9/28 1:25)

Teacher 202 tried to change behavior patterns by creating internal changes on behalf of the students. Teacher 501 attempted to change behavior by manipulating the external environment. However, it is difficult to predict any long-term consequences just from the 30 days of protocols that were analyzed.

Standards and Sanctions

The primary types of sanctioning behavior examined are designated as "desists" (following Bossert, 1977b). A desist is a directive from the teacher to students to modify their behavior. It is identical to "behavior controls" referred to in the protocols. Desists usually took the form of a few words telling children to sit down and stop talking and so forth. Sometimes verbal statements were unnecessary as the teacher used hand signals or stared at a child until the message was received. These nonverbal behavior controls also are considered to be desists. Desists were divided into three categories depending on the size of the group the teacher attempted to control: first, large group desists (Ds), which were issued to the whole class; second, desists directed toward groups within the classroom (DGs); third, desists directed at individuals or pairs of individuals (DIs). Unfortunately, no differentiation was made in the protocols between private and public desists among the DIs. It is likely that being publicly singled out and disciplined has different implications than private disciplining. It also is likely that desists directed toward groups ("Boys," "Blue group") serve to strengthen a sense of belonging to that group. Individuals or groups who are recipients of repeated public desists are likely to be identified by others as troublemakers to be

avoided. An interesting study would be to assess the popularity of those students who frequently were disciplined.

It is likely that standards in the classroom also are established by a host of patterns of rewards, punishments, and other cues given to the children. For example, there are the teachers' verbal expressions of standards: "You should do this," and "I expect you to do that," and so on. Interestingly, the teachers here had quite different standards for different children. Not only did standards shift from child to child, they sometimes shifted from day to day or even hour to hour. An important factor in these shifts was the varying nature of the different activities taking place in the classroom. However, factors such as the teacher's mood also affected what kinds of behavior were tolerated.

Communication

This element follows directly from the previous one. A fascinating aspect of the classroom occurrences studied was how and to what extent the teachers' verbal communications were of varying quality. The instructions given by Teacher 501 often were confusing and incomplete. She appeared unwilling to listen to the children. When she did listen, her responses sometimes were inappropriate. In contrast, Teacher 202's instructions were clear and lengthy. She spent more time giving directions than any of the other teachers. The children understood clearly what was expected of them. Teacher 202 also spent considerable time talking with the children. Her tendency, however, was to hear what she wanted to hear. On several occasions, her own recollections, taped daily, were in marked contrast to reports of the same discussions in the protocols made by the nonparticipant observers.

Standards and expectations were communicated not only by explicit verbal instructions. None of the teachers had particularly consistent standards although some overall patterns did emerge. As a result, the children had to learn from day to day and from activity to activity how to define the changing situations. There were many cues they may have had. For example, they could watch how other children were treated and how the teacher responded to particular behaviors of other children. However, because the teachers varied their behavior from friendly joking to rigid refusal to interact, it seems that the students constantly had to "test the waters" in order to know what was expected.

The students in Classroom 501 probably had the most difficulty assessing what behavior was appropriate in any given situation. Teacher 501's expectations and standards constantly fluctuated, sometimes varying over time and from student to student. Few clues were available at any given time. They were in no position to observe how other students were being treated and they were not able to associate certain behaviors with particular activities. Thus, each student regularly had to test the situtation to discover what the acceptable behaviors were. Teacher 501 often placed them in a "no win" or "Catch-22" position. The following example reveals the general problem in communication with Teacher 501. The total time elapsed is about ten minutes.

> "You people (referring to the entire group she has been working with) may get a book and come back and bring it here and read." They all get up. Teacher 501 then says, "Two at a time." Then she says, "Sit down." And she does a gesture with her hands indicating that they are to sit down. Then the teacher says, "Lenore and Jorge, you may start...." Michael is now at the paperback bookshelf and Agnes gets out of her seat and begins walking toward the paperback bookshelf. The teacher says, "Agnes, sit down. Only one child may get out of their seat at a time." Agnes is now at the bookcase. The teacher repeats the rule about only one person being out of their seat at a time. Alan and Michael sit down.... Shawn gets out of his seat, but looks to see if Alan is going to come up to the bookshelf when he sees that Alan is coming. Shawn,

> who is closer to the bookshelf, nevertheless, sits down. The teacher says to her spelling group, "Did you guys all get books and are reading? I don't see any reading." In fact, Jorge and Lenore were the only two children who had gotten books... Now Larry is halfway out of his seat and bending backwards. I think he is trying to get a pencil or something that has fallen behind his desk. At any rate, the teacher comes over to him and says, "You need to sit down." Once again in her matter-of-fact manner. He begins by saying something to her (I cannot understand what he says), but she cuts him off and says, "You need to sit down." He does sit down. The teacher then goes to the door....
>
> (Teacher 501 Protocol 9/13 10:13 - 10:22)

Another important factor in communication in the classrooms was the presence of non-English speaking students. All three classrooms had at least one student who knew little or no English. Teachers handled this situation in various ways. Teacher 501, for example, seated a non-English speaking, Asian student next to a bilingual Asian student. This provided someone to talk with as well as someone to translate the teacher's instructions. Teacher 202, being bilingual, had conversation with and gave instructions to her Spanish speaking student., Teacher 101 situated his non-English speaking students together with the few children having reading problems, giving this small group much more teacher attention than any other classroom group. Teacher 101 often expressed considerable frustration with the language barrier. However, the nonparticipant observers in 101 commented near the end of the observation period that the two Spanish speaking boys were learning English quickly.

External Factors

There were many external factors with important consequences for what happened in the classroom. Some outstanding examples are noted below.

For reasons not made clear in the protocols, third graders were transferred into Classroom 101, which began the year as a fourth-grade classroom, and by the end of the observation period, comprised one-third of the whole class.

This transfer had implications for how the teacher grouped the children and what kind of work he assigned. All the classrooms had a steady flow of new and old students entering and exiting, and a period of adjustment always was necessary for the teacher and the students whenever a new student arrived.

Problems and decisions at the administrative level had effects and these were most noticeable in Classrooms 101 and 501. At various times both Teachers 101 and 501 were visibly upset and angry when they became involved in administrative incidents. They brought their negative emotions into the classrooms and seemed to over-react to misbehavior of their students for brief periods from a few minutes to a few hours. Teacher 202 occasionally responded similarly, yet her responses appeared to be connected to other things. One nonparticipant observer commented that Teacher 202 had been on a new diet one week, and seemed more tense than usual.

The decision to give standardized achievement tests was made at the state level and administered in all three classrooms. The choices as to what tests were to be used and on which days they were to be administered were determined at the district level. Administration of these tests clearly affected normal classroom activity.

Finally, each of the classrooms had telephones which produced decided effects. Whenever the phone rang, the class was disrupted. When a phone rang during large group activities, the teacher had to expend considerable time and energy to recall the class's attention after the phone call.

CHAPTER THREE

A COMPARISON OF THE TASK STRUCTURES OF THE THREE ELEMENTARY CLASSROOMS

A number of distinct task structures is found in classrooms. Bossert (1977a) divided task structures into three types: recitation (R), class task (CT), and multi-task (MT). He describes them as follows:

> Recitation, an extremely common instructional organization, involves the whole class or a large group of children in a single task: the children listen to the teacher, raise their hands when a question is asked, wait to be recognized and give an answer. Children can ask questions when they do not understand the material, though the teacher usually controls the flow of questions and answers. During recitation a child's performance is very public. When the response is correct, the teacher usually praises the child, and when the response is incorrect, the teacher either corrects it or asks the same question of another pupil. Since the task and content are the same, pupils' performances can be compared easily.
>
> Another task structure might be called class tasks. Worksheets, tests, or any other tasks assigned to the entire class fit into this category. Sometimes pupils may organize some of their own class tasks; however, the teacher usually assigns the task that every child must complete. Performance on a class-task activity is less public than recitation. Since these tasks are done independently or in small groups, neither all pupils nor the teacher can observe each other constantly while they are working, though pupils' performances are comparable due to the common task.
>
> The third type of task structure is the multi-task organization, consisting of tasks like independent reading, small group and independent project, art work, and crafts. These activities involve the greatest amount of pupil choice in organizing and completing task activites. Like class task, multi-task involves independent or small group work. The distinctive characteristic of multi-task activities, however, is that many different tasks are being worked on simultaneously. Since the class is involved in a variety of activities, the teacher and children rarely are able to observe the task performance of every pupil. Furthermore, pupils' performances cannot be compared except among a few children doing the same task.

> The organization of instructional activities, then, can be described in terms of the size of the work group, the number of different tasks being completed at the same time (the organization of labor), the amount of pupil choice in organizing the tasks, and the extent to which evaluations of task performance are public and comparable.
>
> (Bossert, 1977a, pp. 4-5)

The nature of the task structure can have important consequences both for student and teacher behavior. Short-term consequences with immediate effects on behavior can be observed in each classroom as the structure changes from one task to another during the day or week. Task structures can influence the amount of noise, movement, and student-to-student interaction a teacher will allow. They can determine whether a teacher will relate to students in a personal, individual manner or as members of a group to be treated equally despite individual variations. They can determine, too, whether a student is grouped or made to feel part of a group, based on academic skills or the teacher's perceptions of such skills.

The cumulative effect of these structures can be substantial, for students can come to see themselves as members of a sub-group, either elite or low-ranking, and therefore become stigmatized.

Bossert's task categories were not directly applicable to the classrooms in this study. Many of the classrooms' activities, which would be described generally as class tasks, displayed a number of heterogeneous characteristics and structures that differed from Bossert's pattern. A finer division of class task type activities was necessary. Also, a number of large group activities that occurred in these classrooms did not fit into Bossert's recitation category. A set of large group activity categories was needed, of which recitation was only one form. Finally, few types of activities paralleled the multi-task category. Those multi-task activities that did exist displayed important differences, particularly with regard to pupil choice.

The task structures employed in this study were derived from the protocols depicting classroom activity. The important aspect of Bossert's work is not the specific tasks he describes, but the effects of the components of those tasks on short- and long-term behavior of students and teachers. Bossert's dimensions of group size, division of labor, pupil choice, and evaluation were employed as a basis for organizing the major activity categories of Large Group Structures, Class Task Structures, and Multi-Task Structures. Within the major categories, most individual task structures vary along one or more dimensions although certain dimensions remain constant. In such instances, there were other important variations: whether or not students were required to be actively engaged in the activity, whether or not students were grouped for the activity according to academic skill or achievement levels, and whether or not the activity was chiefly academic with a reward structure based on academic skills or achievement. Although the following analysis begins with the categorization of classroom activity according to Bossert's (1977a) dimensions, some categories have been reorganized, especially within the multi-task category. These newly organized categories more accurately reflect the organization and activity of the classrooms under study. Detailed descriptions and examples of the various categories used will comprise the main part of this chapter. In addition, hypotheses will be advanced concerning the effects each structure is likely to have on students and teachers.

One major premise of the task structure approach is that teacher and student behavior is shaped and influenced by the intrinsic characteristics and demands of the task structure. Observed teachers each had quite different personalities and teaching styles yet their behavior was surprisingly similar when compared during similar activities. The following examples provide some support for the hypotheses concerning the short-term consequences of activity

structures. Later sections in this analysis will demonstrate the validity of hypotheses for long-term effects.

The activity and/or task structures presented here are not meant to be comprehensive of all those to be found in classrooms. Instead, they emerged from analysis of data under study, and serve to describe how three fourth-grade teachers organized instruction in their classrooms.

Large Group Activities

Large group activities generally are those in which most or all students perform the same task under the control of the teacher. Examples might be teacher-led discussions or oral recitation. Performances and evaluations tend to be highly public and comparable since all students are able to both observe their peers' performances and make comparisons among themselves. Thus, "top" students stand out when they receive positive reinforcement as do the "bottom" students, who usually are the focus of negative sanctions.

The public nature of large group activities dictates that teachers treat all students equally, measuring them by the same standards of performance. To do otherwise might be viewed as showing favoritism. Thus, a teacher who applies individualistic criteria for public rewards and punishments is likely to experience considerable student pressure for equal treatment. Large group activities are designed such that it is difficult for a teacher to handle discipline problems in a personal way. For example, teachers cannot both lead a class discussion and counsel an individual student. Thus, teachers tend to handle infractions by using brief, public sanctions directed at the offending student(s). Students who refuse to comply after a few desists from the teacher often are sent out of the room. In addition, a large group activity generally limits student-to-student interaction. Students who talk with each other

during these activities are viewed as being disruptive. Teachers generally establish a system like raising hands so that only one student talks at a time. Interactions are limited to teacher-to-student and student-to-teacher, and few student-to-student interactions are tolerated.

Large group activities limit the behavior of teachers, although individual personalities can moderate a given situation. Examples showing how teacher personality can mediate the effects of task structures are included in Chapter Four.

Table 2 delineates the structures for a number of different types of large group activities categorized for Teachers 101, 202, and 501. These are presented and described below. In addition, for each large group activity, data are presented to illustrate the number of minutes and percent of class time allocated by each teacher.

Large Group Activities Ra and Rb

As the summary charts indicate, there are a number of different types of large group activities. Two of these--Ra and Rb--are considered together because their characteristics and consequences are similar. A description and discussion of each will be presented first. Then, examples drawn from the narrative protocols under study will be provided.

Ra large group activities. Ra is a large group activity usually involving the entire class. The teacher talks to or lectures the class and no response is required or expected from the students. Most of the observed Ra type activity consisted of giving directions for work or giving information on rules and expectations (standards and sanctions). Lecturing to convey academic knowledge was rare.

Table 2. Large Group Activity Structure Categories

Task Category Code	Examples of Activity	Organizing Characteristics of Activity Structures			
		Group Size	Division of Labor	Pupil Choice	Evaluation
Ra	Teacher talks to class, often giving directions; student response is required or expected	Large group	Single task	Teacher control	None
Rb	Recitation: teacher asks questions; students answer aloud, read aloud	Large group	Single task	Teacher control	Public and comparable
Rc	Seatwork and boardwork: students actively engaged while teacher presents material	Large group	Single task	Teacher control	Public and comparable
Rd	Presentation to group such as movies; students passively participate	Large group	Single task	Teacher control; but student attention not enforced	None
Re	Group activity: active participation of whole class, e.g. music lesson	Large group	Single task	Teacher control; some pupil	None
Rf	Class or group discussion unrelated to academic material	Large group; sometimes small groups	Single task	Teacher control; some pupil choice	None

In an Ra activity, while the teacher is talking to the class no student interactions are tolerated since they are seen as disruptions to the teacher's presentation. Student behavior, which would be ignored in other circumstances, is likely to be controlled by the teacher giving a large number of desists. Because the teacher's attention and responsibility are focused on the whole class, personalized attempts to work out individual, student problems are difficult.

Significant disruptions from students are likely to lead to students' temporary removal from the classroom.

All of the above comments apply equally to Rb type activities. What distinguishes the two is that Ra activities do not require any academic performance on behalf of students. Therefore, there is no differentiation between students based on academic skills. No one stands out as being a high or low performer. However, students who misbehave during large group activities by talking, excessive movement, or inattention to the teacher will stand out during Ra activities. These students probably will be disciplined frequently and publicly, and therefore be identified by themselves and/or by other students as a subgroup or sub-type. "Good" students do not stand out in this way. Eliteness is not likely to form as a result of Ra type activities.

One possible effect of a substantial amount of Ra activity, particularly when combined with a teacher giving clear instructions, is that students will know exactly what is expected of them in other situations. Lower desist rates may well occur in these activities than might be experienced in classrooms where less time is given to instruction-giving, and some misbehavior may be the result of frustrated children who are unaware of what to do. This is likely to result in some disciplinary actions from the teacher.

As can be seen on Table 3, Teacher 202 devoted more time to this activity than either of the other two (646 minutes), but the percentages of in-class

Table 3. Time Spent in Ra Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	394	5.6	7.2
202	646	8.4	9.6
501	408	8.4	5.8

times are very similar. One explanation for this might be that, in Classroom 202, time was taken for class meetings wherein rules were established or negotiated. The other two teachers did not do this.

2b large group activities. Rb activity is the closest to what Bossert calls recitation type activities. It, too, involves a large group, usually the entire class. The teacher presents material to the class, eliciting responses to questions. Another form of Rb occurs when the teacher calls on students to read aloud from a text or ditto sheet. The teacher will praise those who do well, and will criticize, although often in a gentle manner, those who make mistakes.

As can be seen on Table 4, Teachers 101 and 202 are closest in the percentage of in-class time allocated to Rb activities. However, the amount of time

Table 4. Time Spent in Rb Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	272	3.9	5.0
202	394	5.1	5.8
501	220	2.8	3.1

allocated to this activity by Teacher 501 is close enough such that there was not considered to be a great deal of difference among them.

In many respects the characteristics and consequences of Ra and Rb activities are similar. The important and crucial difference is the public and comparable nature of student performance and evaluation in an Rb activity. In an Rb activity it is clear to the whole class who are the high and who are the low performers. The class is aware that performance is the key to receiving rewards from the teacher while low performance leads to negative responses. Students

who are not actively performing are able to compare themselves to students who are, and thus can determine where they fit in the classroom hierarchy of skill levels. Bossert found that in classrooms where recitation type activities predominated, student cliques formed based on academic skills.

Examples of Ra and Rb large group activities. Teacher 501 generally was the most rigid of the three teachers and usually tolerated only minimal amounts of talking and interactions among the students. The following excerpt is from the first day of school and is exemplary of Ra large group activity.

> The teacher says, "I need everyone's attention." She then explains the procedures for playground equipment; she interrupts herself describing where the balls are kept and who can use them by saying, "I need you to sit still (emphasis) while I'm talking, not moving mouths or bodies." A student starts to ask a question and the teacher says, "Your question will have to wait until I am done." Another student has his hand up. This is Billie, I believe, and the teacher says, "You can't listen with your hand up." She then proceeds to say that they will take the balls and put them back in the basket when they are done with them, that a student will be picked each week to be in charge of the balls. That they are not to play with the ball exclusively, they are just responsible for the balls. She then tells Lance that he needs to sit down. Lance doesn't sit down. She then says, "Sit down where you are, FREEZE." Lance makes several jerking motions and then stops. Teacher 501 says, "Thank you." She does not do this sarcastically, but with an even tone. Lance then continues to move around and talk when the teacher begins to address the class again; she then says to Lance, "Come here a minute, you'll need to wait outside the classroom door." When she finishes describing where the baskets will be kept so the balls may be placed in it, she asks if there are any questions. And a girl asks a question about lunch. The teacher says, "I really can't give you more information now, you'll have to wait forty minutes." She then says to a boy, "I don't like it when you are moving when I am talking; put those down, down now!"---referring to some pick-up sticks that they need to take home, insurance papers, lunch qualifying papers, etc.... She then interrupts her talk to say to a girl rhetorically, "Do you hear people moving? I do, too; and I don't like it. You have to sit still."
>
> (Teacher 501 Protocol 9/8 11:15)

Rb large group activity was characterized by this excerpt from Teacher 101's protocols. The students have just completed a math worksheet.

> The teacher then asks the students to please tell what answers they have. He calls on Raphael, Eric, Juan, Marta, Thomas and says, "Excellent!" when they give the correct response. Thomas has been called on, and he does not know what number they are on. The teacher and a number of students repeat it. He finally gets it, and gives the wrong answer. When he gives the wrong answer, the other students respond that it is wrong, and the teacher tells him to go ahead and try to figure it out. Sam is called on, and while he is talking, Robert goes to the pencil sharpener and begins to sharpen his pencil. The teacher gets a disgusted look on his face but says nothing to him. They continue discussing the answers. Thomas is beginning to talk with Robert. The teacher turns to him and in a firm voice says, "Thomas, you didn't do it right, so would you please pay attention up here?" He points his finger at the student. The students continue responding to the teacher. Danny answers correctly and the teacher says, "Exactly." Carolyn is called on and gives the correct response. The teacher turns and says, "Thomas, please put that away." (The sense of this remark is that "I'm tired of asking you to cooperate.") Julio is called on and makes a mistake. The teacher tells the other class members to please be quiet: "Just a sec, let him have a try." Robert and Susie are called on. The teacher then says to Donald, "I'm sure you didn't because you were talking too much." (Donald does not know where they are.)
>
> (Teacher 101 Protocol 9/30 11:13)

The above interaction lasted approximately six minutes. As can be seen, Teacher 101 tolerated a fairly high level of noise, disruption and interaction among students.

The next excerpts from the protocols of Teacher 202 demonstrate many of the characteristics of both the Ra and Rb type activities. Teacher 202 generally tolerated moderate amounts of noise and movement in her classroom though less than Teacher 101. For the most part here interactions with the children were carried out in a relaxed and informal manner, but her days generally were quite structured and well-planned.

The first example occurred during the second day of the term.

> She picks up a yardstick in her right hand and passes the yardstick along the numbers in a line pointing to each number. She tells the students that she would like to have them double the numbers.... She then turns to the class and asks, "Hold it just a second, Brad and Harry, I do expect your attention and I want it right now." Teacher 202 moves back to the board and writes more numbers. She then turns and faces the boys and says, "I've got competition and I don't like it." The noise level immediately drops to 0 and the students all face the teacher in attention. Teacher 202 then tells the boys, Brad and Harry, to put away their things; they have been playing with the ruler. She says, "Tomorrow we are going to have some races and this is what it is going to look like." She writes some numbers on the board. She turns and says, "Anytime now." She says this with some irritation in her voice and a very expressionless face. A student, some place in the room, says, "The teacher said, 'Anytime now.'" The teacher looks around the class and says, "Okay, you kids have your choice, either do it now or during recess. How many want to do it now?" She looks around and most of the students raise their hands. She then says, "How many later?" Only two boys raise their hands. They are working on a book on their desk and not really paying attention to what the teacher is asking. Teacher 202 returns to the board and begins to write some more numbers. She then asks the students to double the numbers and call out the answers as she points to the board. She says, "Everybody on the count of three." The students call out the answers as she points to the numbers. Teacher 202 then turns and faces the class and asks the students to count by two's and then four's. As they are going through this procedure, the students all fall apart and are in various levels of attention.

(Teacher 202 Protocol 9/10 10:30)

The next example takes place a week and a half later.

> She then talks about minus signs and during her instructions she asks Dan to please pay attention. She says, "Be very careful with the writing of numbers", and then she continues to explain some of the other little things the students have not done on their papers. She then says she would like to do an exercise at the board with the students. She writes on the board and asks the class where the commas and decimals go in the numbers. Half a dozen students are looking at the teacher. Donald gets up to sharpen his pencil. A lot of the students are not watching the teacher but are glancing around the room or playing with their pencils. Teacher 202 glares at the class and then turns and begins writing on the board again. Brad has his arm stretched above his head.

> Harry is drawing pictures again. Donald puts his head down on his desk. Rene is yawning and stretching but he does not call out the answers to the questions when the teacher asks the class something. The teacher turns around to the board after Rene calls out the answers and Rene makes some hand signals to Harold. Rene and Harold are sitting at opposite ends of Zone 1. Rene is by the teacher's desk and Harold is back by the sink. The teacher continues to instruct at the board. Harry is turning pages in a book. The teacher says when she finishes writing on the board, "Okay, you understand that a little better."
>
> (Teacher 202 Protocol 9/2 9:45)

The teacher's own comments are revealing with regard to the pressure she felt to treat all children equally during large group activities. In one of her daily tapes, while discussing a large group poetry lesson, she said:

> ...I went ahead and asked them for some attention on this and we repeated the poem a couple of times and then we talked about some of the words in the poem asking what their definitions were and I found that there was some response for different children, but the person who responded was Harry and I felt that his explanations were very good and he proved to be very knowledgeable of the definitions so I was very, very pleased with his participation. Again, it has come to my attention that even though he pretends, so to speak, that he really isn't listening or he really isn't doing the work with the rest of us...he really is tuned in and he is getting it so I am beginning to realize that I am going to handle the situation differently. I just cannot be on his back all the time if he gives me the impresssion that he isn't doing his work. I think part of it is that he is playing a game with me. Again, I do feel that I can't always excuse him and let him get by with this whereas other children are being asked to control themselves and to participate more, and he goes along doing his own thing, so I am going to have to figure something out on this...
>
> (Teacher 202 Daily Tape 9/24 p. 1.)

In the weekly tape she commented further about this:

> Harry seems to be having problems adjusting to the particular guidelines which I set up. I have found that Harry is very, very intelligent. He has indicated to me by his responses sometimes that he seems to know what is going on even though he may be involved in all kinds of activities which are really not related to the work that we are doing.

> He usually is about the last person to put things away if I ask the children to prepare to go outside or home or lunch. He usually is the last person if I ask the children to do a particular exercise in math or language. He is for the most part on other activities such as doing something that relates to math or art, and it doesn't actually bother him to be doing the other activity, but it does bother me and I feel that I am quite set on having the children perform in certain ways when I am presenting new information or new instruction and it does bother me when I look at a class and I can see two or three people that are doing exactly what I wish them not to do and that they are not giving me some form of attention. Now it may be the case with Harry that he is giving me the attention, but it isn't in the way that other children are doing it, and perhaps I may have to be the one that has to bend somewhat. The only thing that bothers me in this case is the possibility of some of the other children noting this and saying to themselves or to me or to the rest of the class, "Why is it that Harry gets away with it and the rest of us have to do it?" So I do feel that Harry and I are going to have to have some kind of common understanding as to what is expected at certain times.
>
> (Teacher 202 Weekly Summary 9/20-9/24)

There were occasions during Ra and Rb activities when all of the teachers asked individual students to leave the room. Despite different personalities, none of the teachers tolerated student movement or talking during large group activities. All dealt with disruptions in fairly similar ways.

Rc Large Group Activities

Rc activities fall somewhere between recitation activities and class task activities. The difference between Rc and Rb activities is that most or all of the students are engaged positively in the activity. In a typical example, the teacher assigns a math problem and calls a few students to work at the board while the others do it at their desks. Once everyone has completed the problem, the teacher spends a few minutes in the recitation mode, going over the problem and explaining a few concepts. The teacher then assigns a new problem and the process repeats itself. Everyone is doing the same task under the teacher's direction. Performance and evaluation are public and comparable.

The defining characteristic of an Rc activity is the active participation of all students. Results of this activity will be similar to other recitation types, but with fewer desists. There are two reasons for this. First, actively engaged students are less likely to misbehave. Second, the class task phase of the activity will bring down the average desist rate. The reasons for this are discussed later.

Only Classroom 202 had appreciable amounts of Rc activity as Table 5 shows.

Table 5. Time Spent in Rc Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	16	0.2	0.3
202	239	3.1	3.5
501	18	0.2	0.3

Rd Large Group Activities

Rd activities are those in which students only passively participate. Watching movies or filmstrips are common Rd activities. During such activity, teachers usually do not demand student attention. Rd activities do not group children, and generally they are involved with the activity so little interaction occurs.

For the three classrooms, Table 6 illustrates that Rd activities were

Table 6. Time Spent in Rd Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	279	4.0	5.1
202	152	2.0	2.3
501	83	1.1	1.2

observed to account for little of the time. Only Teacher 101 devoted regular time to watching movies, and this accounts for the 5.1 percent of in-class time in Rd activities for him.

Re Large Group Activities

Re type tasks are group activities not associated with academic subjects, and all students actively participate. Music, singing and games such as "Simon Says" and "7-Up" are examples of Re activities. Since the activities are nonacademic, level of performance and its associated rewards and sanctions are less influential than they are in other types of tasks. Children are not encouraged to group themselves along academic lines. Because students are actively involved and enjoy these activities, desist rates are lower than for other recitation activities. However, the following example, which occurred during a 7-Up game, demonstrates how Re activities can retain the public and comparable nature of large group activities:

> (The teacher) tells the people who are guessing that they have one-half minute to guess, otherwise they will be passed over. One girl is pointing while she is guessing, and she says, "The one with the pink shirt." The teacher says, "Read it, read the name". The girl repeats, "The one with the pink shirt." The teacher says again, "Read it." Then the teacher says, "That says Evelyn." One of the boys says relatively quietly, "The kid can't read."
>
> (Teacher 501 Protocol 9/8 10:00)

Teacher 202 was observed to have spent more time with Re activities,

Table 7. Time Spent in Re Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	116	1.7	2.1
202	354	4.6	5.3
501	147	1.9	2.1

allocating over twice as much time as the others. However, as Table 7 shows, not much time was allocated to Re activities by any of the three teachers.

Rf Large Group Activities

Rf activities are classroom discussions unrelated to academic areas. Often they deal with problems in the classroom, although discussions about a class project would enter into this category. Classroom discussions regarding feelings and values also would come under this type of activity.

As can be seen on Table 8, while Teacher 101 spent almost no time on this

Table 8. Time Spent in Rf Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	8	0.1	0.1
202	203	2.7	3.0
501	111	1.4	1.6

activity, the other two teachers devoted some time to it. In all the discussions of this type described in the three classrooms' protocols, the teachers dominated and manipulated, often quite subtly, the direction of the discussions. An in-depth study of these discussions would reveal much about the dynamics of teacher-student relationships. However, an exploration of these relationships is beyond the scope of this report.

Class Task Activities

Groups of students working by themselves or in small groups, usually in pairs, characterize class task activities. They perform the same task, though not always at the same level. Sometimes part of the class is engaged in one activity while another is engaged in a different activity. However, in

Classrooms 101, 202, and 501 there were never more than three different activities occurring at the same time. In addition, in class task activities, performance and evaluation generally are less public and often less comparable than in large group activities.

In class task activities students generally are allowed more peer interaction than in large group activities. Teachers do not appear pressured to maintain constant student involvement, and are able to be more personal with students. Thus, teachers are able to spend time with individual students who need extra help or have problems. Class tasks also are likely to lead to a lower desist rate than large group activities.

The task structures for a number of different types of class task activities which occurred in Classrooms 101, 202, and 501 are summarized on Table 9. These are presented and described below.

CTa Class Task Activities

In a CTa activity all students work on their own, doing the same task. Worksheets, textbook problems, and tests are examples of materials for CTa activities. A CTa activity is closest to the class task categorization described by Bossert. Evaluation here generally is less public than in large group activities, but it is comparable since all students are performing identical tasks.

For instance, sometimes students in Classrooms 101, 202, and 501 corrected each other's work. In Classroom 501, top students corrected the work of the rest of the class. Under these circumstances, performance and evaluation were public and may have encouraged the formation of an elite group. However, in general, nothing inherent in CTa activities promoted academically-based peer groups as observed in these data. Time allocated to CTa activity appears on Table 10.

Table 9. Class Task Activity Structure Categories

Task Category Code	Examples of Activity	Organizing Characteristics of Task Structures			
		Group Size	Division of Labor	Pupil Choice	Evaluation
CTa	All students perform same task at same level but on their own	Individual	Single task	Teacher control	Less public and comparable
CTb	Class divided into 2 or 3 groups based on academic skills, each group performs CTa task	Individual (within 2 or 3 groups)	Single task	Teacher control	Less public and comparable
CTab	Class divided into groups based on grade level	Individual	Single task	Teacher control	Less public and comparable (within grade)
CTbr	1/3 to 1/2 class doing Ra or Rb; rest of class doing Class Task or Multi-task activity	One large group; others individual	2 or 3 tasks	Teacher control	Public and comparable
CTc	All students perform same type task at their own level; students progress at their own rate	Individual	Single task; each student works at own level	Teacher control and some pupil choice	Less public and comparable
CTd	Arts and Crafts students work alone at own seat	Individual	Single task	Teacher control and some pupil choice	Less public and comparabel
CTe	Small groups (2 or 3 students); same task at same level	Small groups (2 or 3 students)	Single task	Teacher control and some pupil choice	Less public and comparable
CTf	Small groups (2 or 3 students); same task at different level	Small groups (2 or 3 students)	Single task, different levels	Teacher control and some pupil choice	Less public and comparable

Table 10. Time Spent in CTa Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
[illegible]	1430	20.4	26.2
[illegible]	1028	13.4	15.2
[illegible]	2046	26.3	28.2

The degree of student interaction in CTa activities varied considerably. Helping each other sometimes was considered to be cheating, whereas at other times it was considered to be cooperation. Sometimes teachers insisted on quiet and at other times they permitted some noise. All the teachers displayed these variations but with differing emphases. The following example shows the extent to which interaction and cooperation were possible during a CTa activity in Classroom 101.

> Students are working very well on their paper. This is a word game which has to do with dogs, and they have to find various names jumbled with other letters and circle them. Peggy comes back to the desk and asks for a pencil. Teacher 101 says, "Oh, I've given you so many pencils this week." Barbara, Marta, Susie, Fannie and Carolyn have emerged from the rug in the back of the room. They want to begin playing with other puzzles and games. Teacher 101 asks them if they have finished the word game. They shyly say no, and the teacher asks them to return to their seats and work on it. They do so. Danny is talking to Eddy about the German Shepherd that he has. He's telling him that it's a pure German Shepherd and begins telling him about how much fun it was. Teacher 101 is sitting in the back of his desk, and he overhears this. He comments to me that these games are fun because he hears so many different anecdotes from the students and different things about their lives outside of school.
>
> (Teacher 101 Protocol 9/22 10:40)

When Teacher 101 gave tests, he limited interactions, and copying, which was previously a form of helping, became "cheating." The next example concerns his instructions for a math-facts timed test.

> Teacher 101 says, "Okay, five minutes. Keep your eyes off your neighbor's paper. In fact, hide your paper. Everything you do on this I'm going to make you do again, so you better know it. Keep your papers hid." The students then start on their timed, multiplication test.
>
> (Teacher 101 Protocol 9/21 9:55)

CTa activities provide the teacher with an opportunity to relate to the children on an individual basis and to spend time with those who need it. The

following protocol excerpt serves to illustrate this.

> Teacher 501 then crosses the room from area C back over to Lance in area B and asks him in a quite voice, "Did you not do the spelling test, because it was too hard?" And Lance answers firmly, "No. I had my hand up because I didn't have any paper." The teacher raises up his desk to look and see if he had a spelling book in it, which he didn't. Teacher 501 asks Lance, "Where is the paper I gave you yesterday?" Lance answers that he doesn't know. She gets a spelling book from her desk and brings it to him and says, "You begin on page two then."
>
> (Teacher 501 Protocol 9/10 p.4)

CTb Class Task Activities

For CTb activities, the class usually is divided into two or three sections based on academic skills. The assignment for each group is of a CTa type. The groups clearly and visibly are working at different levels. Once children are assigned to a group, they essentially are locked into it. They cannot progress faster than the group itself, and, although a child may be moved from one group to another, that movement is strictly under the teacher's control. The children would appear to have no sense of controlling their own fate. Table 11 displays time allocated to CTb activities.

Table 11. Time Spent in CTb Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	399	5.7	7.3
202	90	1.2	1.3
501	1122	14.4	16.0

As in the CTbr activities, children are placed in groups with distinguishing labels. In general, the groups having a recitation type activity during CTbr activities (see below) are based on the groups previously arranged

for CTb type activities. These tend to promote the growth of academically-based peer groups. Desist rates are unlikely to be higher than they are during other class task activities.

CTbb Class Task Activities

CTbb activities put children into groups depending on their grade levels. This category was applicable only to the two classrooms with mixed grades (101 and 202). Within each group in these classrooms, students performed a CTa activity. Time spent in CTbb activities is shown on Table 12.

Table 12. Time Spent in CTbb Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	486	6.9	8.9
202	5	0.1	0.1
501	0	0	0

A variety of arrangements of activities is possible, but two are most common. If both groups are performing the same type task at the same time but on different levels, a certain amount of comparison is probable, and a certain amount of status will be gained by those in the more advanced levels. The effects are likely to be different, however, when older-grade students are performing a more advanced task then when a same-age peer is performing a more advanced task.

CTbb also may involve children at each grade level performing totally different types of activities. For example, third graders may do math while fourth graders do spelling. On these occasions, a third grader is unlikely to compare his or her work to a fourth grader's since both are doing different tasks. Comparisons are likely only where others are performing the same or

similar tasks. Or, if there is something special or rewarding about being in one grade level or the other, then CTbb activities would tend to encourage peer groups based on grade levels. Otherwise, such groups do not form.

CTbr Class Task Activities

During CTbr activities the teacher is engaged in an Ra or Rb type activity with a fairly large group, involving usually one-third to one-half of the students present in the room. The remaining students are engaged in a class task or multi-task activity. The students with the teacher usually are working together at a particular academic level. They usually have some identifying label such as "The Blue Group" or "Level B Spelling Group" or "The children working in Math Packet 67."

All the characteristics of Ra and Rb activities are the same for the group singled out as for a recitation activity. The fact that they are physically separated from the class at large (grouped around a table or in an area at the back of the classroom for this activity), and that they are identified as being part of a group operating on a particular academic level indicates the power of CTbr activities for creating academically-based peer groups. Students are likely to identify themselves as part of a particular group and they also are labelled as such by the rest of the class.

CTbr activities place the teacher in a position where he or she is likely to have to discipline more often. Not only must the students involved in the recitation activity be "kept in line," but the rest of the class must stay quieter than they otherwise might during a class task activity. Talking and noise tends to interfere with the teacher's lesson. Further, the teacher's attention is concentrated on the recitation group, and other students, who may require assistance, frequently are unable to get it and begin to misbehave and disrupt the rest of the class.

As can be seen on Table 13, two classes, 501 and 101, had appreciable

Table 13. Time Spent in CTbr Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	142	2.0	2.6
202	23	0.3	0.3
501	467	6.0	6.7

amounts of CTbr activity. The following examples are taken from those classrooms.

> Teacher 501 says to the entire group in Section C, "Finish all of the pre-lesson and then, if you are finished, you may draw. Since I am teaching this group now, I don't want to be interrupted. I have already given you enough directions on what to do...". Sandy is sitting in her seat in Section D. She is doing something at her desk, but I cannot see what she is doing. She may be drawing. Joann comes up to the teacher. The teacher immediately says, "I have already given the directions." And she indicates that Joann is to return to her seat in Section C.
>
> (Teacher 501 Protocol 9/13 10:07)

She tells everyone to put their hands on the orange section of their spelling text books. She adds, "This is at the bottom of page eleven." Then Teacher 501 continues, "What you need to do is...". She crosses to Section C. The boys who had been playing on the rug have returned to the table in Section C. She tells them, "You people may play another game with lists, too." Bobby: "Huh?" Teacher 501 crosses back to Section D. Teacher 501 (to Pink Group in D): "Be quiet while I give instructions." Then she turns back to Section C and says, "Play B2 on the rug. Don't make any noise." She turns back to Section D. Then she immediately turns back to C and says, "You people, Neil. What I have to say here is important so I want you to freeze until I tell you you may unfreeze." She turns back to Section D, "You write the words correctly, copying from the book. You write in pen. Suppose you spell the word cat, 'k-a-t.'" The teacher stops and turns toward Section C and says, "All right, outside." She points to the door. "All right, outside." Bobby: "All of us?" Teacher 501: "No. Luke." The teacher looks toward Section B and says, "You people who are doing the games. You are to do them quietly. Joel, Michael...you are

> not in the same group." The noise from the spelling game is disturbing Teacher 501 who is at the other side of the room. Teacher 501 says, "Blue Group....Blue Group. Listen to me. You may whisper only." She begins her instruction again and then says to Joel, "Joel, if I overhear you again, you will go back to your seat."
>
> (Teacher 501 Protocol 9/23 9:45)

The final examples of CTbr activity come from Classroom 101. Teacher 101 was working with the lowest reading group, most of whom were Spanish speaking students who knew little English.

> I notice that Juan is banging on the wall to the next room, making little taps. The other students are chattering. Some are reading. I note that Barbara is lying on her desk, not reading or participating in the assignment. "Hey, people; quiet down!" Teacher 101 says this from the back of the room in a very loud, firm voice. I look at the group of Spanish speakers and note that Jennifer is not paying attention. She just keeps saying to the teacher, "Can I do it, can I do it?" He says, "Yes." She picks up her book and then has to find her place as she hadn't been following. Thomas is up and then sits down again. Barbara is still not reading. Fannie and Annette are talking. Donald, Thomas, Julio, and Enrique are laughing and talking. Donald is turned around in his desk and not reading at all. Ruben is throwing things out the window...
>
> (Teacher 101 Protocol 10/13 10:45)

A few minutes later Teacher 101 decided to do something about the situation.

> The teacher gets up and walks very quickly over to Donald. He says, "Turn around, put your nose in that book, and shut your big mouth." He turns Donald around and then says something to the other boys in the group. I cannot hear it, but his voice is very firm. He says something to Eric, and then he moves over to Dee, Myra, Marta and Carolyn. "Hey, you guys! You're too loud, too loud."
>
> (Teacher 101 Protocol 10/13 10:50)

The relative size of the group working with the teacher seemed to be quite important. When working with a few students or less than one-third of the children in the room, the teachers appeared more tolerant of noise. They

also appeared more willing to interrupt what they were doing in order to assist other students.

CTc Class Task Activities

During a CTc activity all or most children are working in the same subject area but at various levels. Children progress at their own rate. SRA reading kits and self-paced workbooks are good examples of materials used in CTc activities. The important characteristic is that children do have a fair amount of control over their own progress. They also may be rewarded on the basis of progress rather than on their absolute level of performance. Children clearly compare their level with that of other students. However, since few students are performing exactly the same task, CTc permits rewards to be given on the basis of a child's progress rather than on an absolute level of achievement.

Whether a teacher actually rewards progress rather than level of achievement may be influenced by such factors as a teacher's training, absolute standards set by the school, the district, or the state, and the extent to which the predominance of other structures encourage the teacher automatically to select a specific mode of evaluation However, it should be noted that if a teacher bases rewards solely on progress, then the general effects of CTc activities, which limit a child's sense of belonging to academic groups, are likely to be strengthened.

Children are much less likely to feel part of an academic group in CTc activities thar they are in CTb activities. There is a real difference between being put into a clearly labelled group and working at a certain level in a workbook or a reading kit. Children placed at a specific level in a CTc activity do not see themselves necessarily as being part of a group. There may

be a developmental aspect to this lack of group identification. Older children may be able to generalize from being placed at an academic level to being in a group, though no evidence of such an occurrence appeared in any of the three classrooms studied.

CTc activities permit a flexibility on behalf of the teacher which is not likely to occur in other class task activities or whole group activities. The following example occurred because the activity structure permitted it, and the teacher was willing to take advantage of the situation.

> She puts the teacher's manual down and goes over and pulls the map down. The map is a large wall map in front of the room over the chalkboard in Zone 1. Tim goes up to look at the wall map. He touches the map and the teacher says to him, "Be careful, don't pull it down." Rene says to Tim, "Do you see it?" Teacher 202 turns and says, "What are you trying to see? The size of it? Look in the encyclopedia and see what it says about the square miles of Alaska." Tim walks back to the bookcase, gets out a book and goes back to his desk. Brad and Harry have a loud discussion in Zone 1 over the planets. They seem to be trying to convince Tim of something.
>
> , (Teacher 202 Protocol 9/21 8:15)

Table 14 displays the amounts of time allocated for CTe activities.

Table 14. Time Spent in CTc Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	29	0.4	0.5
202	878	11.5	13.0
501	0	0	0

As can be seen, no time was coded for Teacher 501 for this type of activity, while very little time was observed for Teacher 101. The 13 percent of in-class time coded for Teacher 202, however, indicates that CTe activities formed the basis for a great deal of instruction in Classroom 202. This becomes

interesting in light of analyses presented later in this chapter.

CTd Class Task Activities

CTd activities are art projects. The main difference between a CTa and a CTd activity is that a CTd activity does not concern academic areas. Students still work on their own at their desks. However, being a nonacademic activity, the formation of academically-based peer groups is not encouraged. Teachers apparently allow more talking and interaction among students than in other class tasks. For these three classrooms, CTd activities occurred infrequently. Time allocated appears on Table 15.

Table 15. Time Spent in CTd Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	182	2.6	3.3
202	120	1.6	1.8
501	263	3.4	3.8

CTe Class Task Activities

CTe activities are small group activities where all groups perform the same task at the same level. Groups usually consist of two, or sometimes three, students. Pairs of students using flash cards is a typical CTe activity. CTe activities encourage a high degree of interaction among children. The desist rate is likely to be lower since the teacher encourages talking and interaction between children.

There were no CTe activities coded for Classroom 101, and very few noted for the other two classrooms. Allocated time is on Table 16.

Table 16. Time Spent in CTe Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	0	0	0
202	220	2.9	3.3
501	105	1.3	1.5

CTf Class Task Activities

CTf activities are related to CTe activities, but children are grouped by the teacher on the basis of academic skills. Since the groups are small, the effect on peer groups is to reinforce other patterns of academic grouping rather than to be the source of its information.

Only Classroom 202 had an appreciable amount of CTf activity. This is shown on Table 17. A number of factors which will be discussed later in the section on grouping caused the planned CTf activities in Classroom 202 to become CTe activities. For the most part, the teacher allowed the skill groups to reform as friendship groups.

Table 17. Time Spent in CTf Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	0	0	0
202	430	5.6	6.4
501	0	0	0

Multi-Task Activities

Multi-task activities are characterized by students working either on their own or in small groups on a variety of tasks. The students have

considerably more control over what they do and when they do it, and they interact relatively free. Performance and evaluation are the least public and the least comparative of all the activity structures. The teachers are able to relate to students in a personal and individual manner. Desist rates are likely to be quite low since much of the talking and interaction that normally would be controlled is accepted here, and even expected. Another, perhaps more important reason for low desist rates is that the teacher is quite often unaware of behavior that normally would be subjected to desists if there was less happening in the classroom.

The two types of activities labeled multi-task which are described briefly below fit the category. There was little student control in either, and interactions often were limited. However, these activities did allow more interaction than did class task activities, performance and evaluation were less public, and they discouraged grouping on an academic basis.

Multi-task activities observed in Classrooms 101, 202, and 501 are summarized on Table 18. These are presented and described below.

Table 18. Multi-Task Structures

Task Category Code	Examples of Activity	Organizing Characteristics of Task Structures			
		Group Size	Division of Labor	Pupil Choice	Evaluation
MTd	Arts and Crafts students work on one or more projects, often working together	Individual and small groups	Several tasks	Teacher control; some pupil choice	Less public; not comparable
MTe	1/2 class or more doing multi-task or Free Time; small group doing Recitation or being tested	Individual and small groups	Several tasks	High teacher control for some; some pupil control for rest	Public and comparable
MTg	Children doing a number of different tasks but under teacher control	Individual and small groups	Several tasks	Moderate pupil choice	Less public; not comparable

MTd Multi-Task Activities

MTd activities, like CTd's, involved art projects. The difference between the two is that during an MTd type activity, the children are allowed to move and interact freely. It is not unusual for small groups to work together on projects. During CTd activities, however, children usually work by themselves at their own desks. Desist rates are likely to be lower than in CTd activities for the same reasons that any multi-task activity is likely to have lower rates than class task or large group activities.

As can be seen on Table 19, there are no MTd activities coded for Teacher 501.

Table 19. Time Spent in MTd Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	122	1.7	2.2
202	311	4.1	4.6
501	0	0	0

In that students' movement in the classroom was limited, and an essential characteristic of this activity is student mobility, this perhaps is to be expected. Even so, little time was observed for this activity for any of the teachers.

The activities described in the protocols which were rated as MTd types tended to be more creative art activities and were often the artistic phases of academic projects. Classroom 202's work on dinosaur dioramas is a typical MTd activity.

The examples that follow for Teachers 501 and 101 occurred during the second day of class and offer an interesting comparison between CTd and MTd activities. There are also indications of other differences between the three classrooms studied.

The art project in Classroom 501 clearly fell into the CTd category. Children were to work on their own at their desks. They were given sheets of

black construction paper with sheep outlined on them, and they were told to cut the sheep out and paste cotton wool on them. The following was coded CTd:

> Five children are now out of their seats. Teacher 501 says, "All right, I need all children, that means you (indicating a child) and you (indicating another child), and everyone in their seats." Ida is still talking with Teacher 501. Lance has walked over to Claude's desk and they are carrying on a conversation. Claude is exploring some books that are on a shelf in Section C close to his desk. He is standing and out of his seat. Lance now walks to Shawn. Neil walks to the trash can. Ida leaves. Teacher 501 says, "All right, who's finished and wants to put their sheep up?" Lance returns to his desk and begins working with his sheep. Teacher 501 says, "All right, Marcia." Marcia comes up to the teacher who is standing by the bulletin board in Section A. She whispers to Marcia that she is to call the people like this, "Give them eye contact...." After she finishes saying this, five students still are out of their seats. Myrna and another girl are having a play fight on the way back to their seats. The fight, however, is not disruptive. Everyone is now seated except for Marcia who is calling people to put their work on the bulletin board.
>
> (Teacher 501 Protocol 9/10 10:15)

Notice that despite Teacher 501's efforts to have children stay in their seats, there were considerable amounts of interaction, more than usual for a class task activity in this classroom.

The art activity in Classroom 101 was difficult to categorize. Students were making stained glass windows on white paper using heavy, black crayon lines as the lead. Although Teacher 101 asked the students to work by themselves, a great deal of interaction occurred at first. This excerpt was categorized MTd:

> Teacher 101 says that he expects beauty. The students are mainly talking amongst themselves. The teacher is monitoring the students and making certain they have the correct materials as well as giving them various ideas. Again Bill is conversing freely amongst the students in his cluster and working on the assignment. Many of the students are looking at other students' work. One student, Robert, begins to look at another one's work and begins to give a criticism of it. As Teacher 101 walks by, he says, "And when were you an

> art critic?" The teacher then turns to the class and says, "Now, let's not give away our artistic views. Let's work individually and see how nice we can make this."
>
> (Teacher 101 Protocol 9/10 10:35)

At this pont the activity coded became CTd, for Teacher 101 began to work with a small group on something else and insisted on quiet in the rest of the room.

In MTd activities children get their own material. A lot of movement and interaction takes place. Although the activity appears chaotic, much work gets done. The following example demonstrates Teacher 202's ability to handle problems on an individual, personal basis during multi-task activities.

> Teacher 202 now explains again what is necessary for completing the project, "Getting Acquainted with Myself." The teacher tells the students that they are to get magazines at the back of the room and cut pictures out of these magazines that relate to their lives. She gives them examples. For instance, if one of the students runs across the number 8, they could cut that out if there were eight numbers in their family. If they liked hamburger, they could cut a picture out of a hamburger or a camper if they went camping, etc. The students make random responses to this, and the noise level increases somewhat. Teacher 202 then tells the students not to do any pasting yet, that they are later going to make a big picture with all of these things that they've cut out and then paste these pictures into a book. The students are talking so loudly at this point that it's difficult to hear the teacher. Teacher 202 moves over to Harry and begins talking with him quietly. I assume that this is an attempt to put Harry under control. He's been laughing and talking loudly. As Teacher 202 leaves, Harry begins to work.
>
> (Teacher 202 Protocol 9/10 11:22)

The next excerpt describes a later moment in the same activity.

> She tells the students where the magazines belong, and she encourages them to share. Teacher 202 holds the magazines up and points out various ideas for them to use for their project. The students are moving about picking out magazines. Teacher 202 moves to the back of Zone 1, and begins to pass out magazines to some of the students.... The students are looking at magazines, ripping out pictures. Harry is at the back of the room

> in Zone 1 with Marcia and they are at the magazine stack. Harry says, "Everybody calls you Stinky." Marcia just laughs at him.... Teacher 202 talks to Donnie for a few minutes and then moves back to her desk, picks up a paper and carries it to the board taping it up. She goes back to the magazine stack and says, "Hey, don't be ripping things up." She is talking to Brad and he nods, "Okay." Teacher 202 shuffles the magazines and talks to the boys at the stack (I cannot hear what is being said). Kristy sits in Zone 2 at the end by herself. Everyone else is working in groups on their magazines and chatting. The students are busy with their magazines.
>
> (Teacher 202 Protocol 9/10 12:35)

MTe Mutli-Task Activities

MTe activities do not quite fit into either the class task or the multi-task category. During an MTe activity, one-third to one-half of the class is engaged in free time or in multi-task activities, while the remaining members are involved in a highly evaluative task such as taking a test or having papers graded. Generally, MTe activities tend to reinforce academically-based peer groups. The group under evaluation usually is one already formed for other activities such as for reading or math. The desist rate is likely to be higher since the teacher is attempting to maintain quiet in the class while working with the smaller group.

The chief difference between MTe and CTbr activities is that the small group activity is not of the recitation type. Usually most of the class is doing busy work or something to occupy themselves while the teacher works with the other group.

It will be noted on Table 20 that Teacher 202 allocated no time to MTe activities, and that none of the teachers devoted much time to them.

Table 20. Time Spent in MTe Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	51	0.7	0.9
202	0	0	0
501	213	2.7	3.0

MTg Multi-Task Activities

MTg activities involve individuals or small groups working on a variety of tasks. All of the tasks are done under the direction of the teacher. For example, the teacher might tell the students to finish previously unfinished work. Some students might be finishing their math worksheets, others their spelling and still others teacher-assigned pages in a language workbook.

The time allocated in the three classrooms for MTg activities is displayed on Table 21. It can be seen that Teachers 202 and 501 allocated more time to these activities than did Teacher 101. The discussion that follows serves to illustrate how MTg activities were manifested in Classrooms 101 and 202.

Table 21. Time Spent in MTg Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	173	2.5	3.2
202	443	5.8	6.6
501	449	5.8	6.4

Teacher 202's dinosaur project was an example of an MTg activity. There were various parts of the project: outlining a story or history of dinosaurs, listening to tapes about them and answering questions, and making a dinosaur diorama. All the students had to participate in each phase of the project, but

each student worked on parts in different order. The following excerpt conveys a clear impression of what activity and interactions occurred during this type of activity. It also shows the extent to which Teacher 202 controlled the activity.

> Harold is still working on the same project. Teacher 202 now moves over to help the girls who are outlining the "Reptile" book. She tells the students who are writing outlines not to use big sentences, but only a few words under the different headings. Teacher 202 then goes over to work with Donald and Xavier who are working on something else (I'm unsure as to what they are working on exactly). Harry and Brad talk while doing the diorama, i.e., coloring dinosaurs and tree figures. Teacher 202 comes over and asks Harold to work on the diorama now that he is finished with the shading project, which is apparently related to math. The time is 11:15 a.m., the noise level is 0+ to 1, Harry and Brad are talking about Disneyland at this time. Teacher 202 tells the students who have been listening to the reptile tape that they'll do their outlines tomorrow. She tells them this after the tape is completed. Richard comes back from the group and looks out the window while seated on the heater. Teacher 202 walks around assisting those students who were sitting at the middle table working on the dinosaur outline. She moves and tells Rene and Elwood to "come on!" with irritation. She tells these two boys that she doesn't know if she's just irritated or if they're getting on her nerves by being out of line. The time is 11:20 a.m. As the students come back, they start working on the diorama, i.e., back from the group which is listening to the Reptile tape. I notice at this time that Emilio's coloring work is quite creative, more so than some of the other boys. Donnie at this time is looking at a book on the sea; he has been doing this for sometime. The book is one of the Time-Life series books. Teacher 202 tells him to put it away and to work on the dinosaur project, i.e., the diorama. She doesn't tell him this with irritation but it is an attempt to direct him to the tasks which everyone else is working on. Donnie takes his book back to the b - shelf and then he wanders around towards the front of the room. Teacher 202 continues assisting students who are outlining. One of the students says that Donnie is shooting rubber bands. I was unable to identify that student. The teacher says, "Yeah (to Donnie), I've been wondering how long it would take you to settle down." She tells him to throw away the rubber bands. The time is 11:25 a.m. He now stands near the door and wanders around. (I believe he is looking for the waste paper

> basket which is over between Harry and Brad.) Teacher 202 goes to Shane and Belinda and asks them to start working on something. She says, "It's a puzzle how I keep telling you guys to keep going." Donnie finally goes over to get scissors and begins working on his diorama.
>
> (Teacher 202 Protocol 9/21 11:10)

MTg activities also allow a great deal of teacher-student interaction that is not typical of class task on large group activities. The following excerpt for Teacher 202 illustrates this opportunity.

> Teacher 202 walks back to the center group and sits down on the desk which is nearby. She smiles and seems to be joking with Elwood and Harold. She then turns to Rene and says, "Neat idea, huh Rene?" Rene looks up at her and smiles. The bell rings. Kristy walks back in the door and sits down at her desk. Teacher 202 is circulating through Zone 1. Harold says to the teacher, "How are you going to do a crocodile?" She looks at him and says, "You'll have to read about it." Peter walks up to Teacher 202 and shows her his paper. She smiles at him. He puts it over on his desk. She walks over to Tanya and says something. The students are still in groups and there is quite a bit of activity going on in the room.
>
> (Teacher 202 Protocol 9/16 1:15)

Teacher 202's own description of the dinosaur project follows:

> In the area of the social sciences, one of my objectives was to incorporate the study with other studies....for instance, the science project, which was based on the theme of reptiles and dinosaur, has involved not only the science aspect....studying the actual facts regarding this particular category, but it has also involved outlining and creative writing, and has involved listening activities where children were involved in small groups listening and participating in this type of situation. It has also involved creative crafts...the working with clay in the participation through the art media. The building of dioramas and the compiling of a booklet which will be entitled, "The Study of Reptiles and Dinosaurs." This has been, probably, the most enjoyable type of activity the children have experienced. I am really pleased that we have been able to integrate this particular study in the social sciences so well and I feel that the response has been so gratifying that it does not become a big hassle for me to

> pursue new activities; and if I introduce new activities such as outlining or creative writing, the children respond very favorably.
>
> (Teacher 202 Weekly Summary 9/20-9/24 p.2)

Teacher 101 described some of the advantages of a plan which permitted him to operate a program that was essentially an MTg activity.

> I have at least three other reading type labs that I want the children to be familiar with so if they're finished with the basic reading program that L.U. has set up, and I've gone along with that when they're through, they can go somewhere else and work on some reading concepts, reading skills, anywhere from comprehension to usage of words that really borders and slops over into the area of language arts. If they have these places to go and they know that's where they can go to, little by little it'll start working a little smoother, and it will give me some more time to zero in on students that are having particular problems, taking smaller groups, and not having the other students feeling (I guess that's my biggest fear) that they will get through their work and they then can feel that because I'm spending some time with other students that they either don't have my time or I'm not interested, to have them able to do something and then be able to come up and say, "Hey. Teacher 101, I did four RFU's today," and I can come back and say, "Damn, that is neat."
>
> (Teacher 101 Tape 10/12 p.5-6)

Miscellaneous Activities

Free Time (FT)

FT stands for free time. Students work, or do almost anything they wish in the classroom. Students are able to have a great deal of interaction with each other and the teacher. The following excerpt for Teacher 202's classroom is an example:

> The time is 12:45 a.m. The students continue to play with the play activity, consisting of puzzles and checkers. Rutila joins Eleanor with the puzzle. Teacher begins to say something about Lennie having a difficult time "getting with it,"

but at this time Lennie walks over and stands next to Thomas who is sitting right in front of us. Teacher 202 then talks with him and asks him if he lives in the area. Lennie tells the teacher that he does. Teacher 202 then asks him if he has any brothers and sisters who are living with him. Lennie says he has an older brother but his brother isn't living with him because he had to move because his brother was stealing and trying to get Lennie to steal, so his mother kicked him (the brother) out. Lennie then goes over to play checkers with Brad. Luis and Rene play a dice game using the numbers on the board as an additional game that is on the blackboard. Donald works alone on a puzzle. The noise level throughout has remained a 1, surprising for the activity the students are engaged in. The teacher gives Harry some clay to work with. This is somewhat of a special treat since she told the students that they couldn't have any more clay. Harry calls Rene over and asks him to make a snake for him out of clay.

(Teacher 202 Protocol 9/28 12:40)

Desist rates are likely to be quite low in this activity. Table 22 illustrates the amount of time allocated to FT activities.

Table 22. Time Spent in FT Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	440	6.3	8.1
202	69	0.9	1.0
501	216	2.8	3.1

Recess and Physical Education Time (REC and PE)

Recess is outside free play time. Having no planned or structured activities, the groups of children may organize games, but none are teacher-organized and particiption is voluntary. Recess allows student interactions to occur freely.

PE or physical education is distinguished from recess in that activities are structured games generally planned by the teacher. Almost all the PE

activities in the three classrooms studied involved competitive games. Times which were designated as PE by teachers but which consisted only of free play in the school yard were coded as recess times. The time allocated to REC or PE activities appears on Table 23.

Table 23. Time Spent in REC/PE Activities

Teacher	Minutes spent in activity		Percent of total time	
	REC	PE	REC	PE
101	1318	220	18.8	3.1
202	644	274	8.4	3.6
501	589	192	7.57	2.46

No behavioral controls were reported for recess and PE, but the likelihood is that desist rates would be very low during recess and relatively higher during PE.

During competitive PE, it is likely that peer group patterns, established during in-class time, would not necessarily hold since athletic prowess becomes the rewarded attribute. The effects of PE on peer group patterns would be well worth studying, although the data in this study are insufficient for analysis of such factors.

Transition, Organization, and Clean-up Time (TrOC)

Because these activities occurred frequently in various combinations, and their individual or combined effects were similar, they have been coded as a single kind of event. Transition time was the time before an activity begins, or the time following the end of one activity and the beginning of the next. Time spent entering the classroom and settling down also was coded as transition time, as was that spent lining-up or preparing to leave the classroom. Organization time was time spent on activities of an organizational

nature related to other-than-instructional business. Things such as collecting lunch money and taking attendance were typical examples. If the teacher conducted organizational activities while also conducting instructional activity, however, then the time was coded to that category of instructional activity. Only when students waited while the teacher completed organizational activity was time coded to it. Clean-up time was that time students spent cleaning-up after an activity, and this occurred most frequently following art. Times allocated by each of the teachers to this category are displayed on Table 24.

Table 24. Time Spent in TrOC Activities

Teacher	Minutes spent in activity	Percent of total time	Percent of in-class time
101	925	13.2	16.9
202	1137	14.8	16.9
501	1130	14.5	16.1

Desist Rate Analysis

The analysis presented here concerns the number of desists which occurred for each 100 minutes spent in the various types of activities identified above. Following Bossert (1977b), desists are "a teacher's request for a child, group or the entire class to stop an activity that violates classroom rules" (p. 556). This definition is consonant with Kounin's (1970, p.2) use of the construct.

Desist rates are good indicators of the effects of interactive processes which occur in classrooms. High, overall desist rates indicate that a teacher is expending considerable time and energy on discipline. This is likely to have significant effects on the teacher's perceptions of and relationships with the students. In turn, this can affect students' self-images and their

relationships with each other. Further, when a teacher directs a large number of desists to the whole class, he or she may begin to view the students in toto as a difficult group. The students then may begin to view themselves that way and behave in a manner consistent with this self-image. This behavior, in turn, reinforces the teacher's perceptions.

Certain groups in the classroom receiving a disproportionate number of desists also may be identified as problem groups by the teacher and/or by themselves. Such identity well may influence the teacher's treatment of these groups and their relationships with the other students. Subjected to a relatively high number of desists, a group may develop a strong group feeling, thus isolating and separating them from the rest of the class. This phenomenon is discussed more fully in Chapter Four.

In addition, high rates of group desists addressed to "boys" or to "girls" can have important implications for sex role development. Commands to boys may differ in content from commands to girls. The differences may reflect already-established behavior patterns or they may generate new patterns. In either case, high rates of desists either to boys or girls and/or differential treatment may reinforce specific types of self-images.

Of course, individuals also may receive a high rate of desists. This may influence the teacher's perceptions of these students and their own self-images. When desists are public, how other students view and interact with those receiving them can be influenced.

Table 25 presents the time spent in various activities by types and the desist rates for each during the first six weeks of school for Teachers 101, 202, and 501. Activities are categorized by types, i.e., large group, class task, multi-task, and miscellaneous. Each activity type is further broken into its component, categories. Information presented is in relation to each

activity structure and in total for each of the four major activity groups. Time is presented in three ways: by total amount of time for each category, by total amount of class time (i.e., time spent in all activities, instructional as well as recess, P.E., lunch, etc.), and by total amount of in-class time (i.e., time spent in classroom instructional activities only). Desist rates then are presented for each category in terms of the number of desists observed per 100 minutes of activity. It should be noted that not all of the teachers used all of the task structures that appear on this table. This is indicated by drawn dashes through the appropriate cells which do not apply for a teacher.

In order to understand the amalgamation of data in relation to activity structure analysis presented in the remainder of this report, some explanation is in order. First, structure CTbr has been placed with the large group activities for purposes of analysis because, during CTbr, the teacher works with one-third of one-half the class in a recitation format. While other students are engaged in class task or mult task activities during CTbr, the task for students engaged in recitation with the teacher is the same as for recitation in large group recitation activities Ra and Rb. In these activities it will be recalled that instruction is under control of the teacher and evaluation of student performance is made public and comparable. Thus, since CTbr activities resembles Ra and Rb activities it has been placed with them for this analysis.

A second reassignment of a category that is obvious is that Rd, a large group activity by definition of the defining characteristics, has been placed in the miscellaneous category. This is because Rd activities were those in which students were passive observers and did not participate actively, such as during the watching of a film. Thus, because no opportunity was made

Table 25. Time Spent in Activities and Desist Rates for Teachers 101, 202, 501

Type of Activity	Minutes spent in activity			Percent of total time[1]			Percent of in-class time[1]			Desist rate per 100 minutes		
	101	202	501	101	202	501	101	202	501	101	202	501
Large Group												
Ra	394	644	408	5.6	8.4	8.4	7.2	9.6	5.8	29.4	15.6	20.1
Rb	272	394	220	3.9	5.1	2.8	5.0	5.8	3.1	25.0	18.5	15.9
CTbr[2]	142	23	467	2.0	0.3	6.0	2.6	0.3	6.7	14.8	4.3	26.8
Rc	16	239	18	0.2	3.1	0.2	0.3	3.5	0.3	18.8	12.6	44.4
Re	116	354	147	1.7	4.6	1.9	2.1	5.3	2.1	[illegible]	[illegible].3	10.2
Rf	8	203	111	0.1	2.7	1.4	0.1	3.0	1.6	75.[illegible]	[illegible].8	27.9
Totals	948	1859	1371	13.5	24.2	20.7	17.3	27.5	19.6	23.4	15.5	21.6
Class Task												
CTa	1430	1028	2046	20.4	13.4	26.3	26.2	15.2	28.2	11.4	9.6	10.2
CTb	399	90	1122	5.7	1.2	14.4	7.3	1.3	16.0	10.0	5.6	13.3
CTbb	486	5	---	6.9	0.1	---	8.9	0.1	---	13.6	20.0	---
CTc	29	878	---	0.4	11.5	---	0.5	13.0	---	6.9	10.0	---
CTd	182	120	263	2.6	1.6	3.4	3.3	1.8	3.8	11.0	3.3	16.0
CTe	---	220	105	---	2.9	1.3	---	3.3	1.5	---	6.8	8.6
CTf	---	430	---	---	5.6	---	---	6.4	---	---	9.8	---
Totals	2526	2771	3536	36.0	36.3	45.4	46.2	41.1	49.5	11.5	8.8	11.6
Multi-Task												
MTe	122	311	---	1.7	4.1	---	2.2	4.6	---	3.3	7.1	---
MTg	173	442	449	2.5	5.8	5.8	3.2	6.6	6.4	8.1	9.0	8.9
Totals	295	753	449	4.2	9.9	5.8	5.4	11.2	6.4	6.1	8.2	8.9
Miscellaneous												
Rd[3]	279	152	83	4.0	2.0	1.1	5.1	2.3	1.2	2.5	3.9	3.6
MTm[4]	51	---	213	0.7	---	2.7	0.9	---	3.0	17.6	---	17.4
[illegible]	440	69	216	6.3	0.9	2.8	8.1	1.0	3.1	4.5	2.9	3.2
PIC	1318	644	589	18.8	8.4	7.57	---	---	---	---	---	---
PI	220	274	192	3.1	3.6	2.46	---	---	---	---	---	---
TrOC	925	1137	1130	13.2	14.8	14.5	16.9	16.9	16.1	20.6	17.9	18.1

1. Columns will not necessarily add to 100% if not all events' categories are included on table.
2. As described in the text of this report, CTbr was considered to be a large group activity for purposes of analysis.
3. Because of the hybrid nature of MTe, it was separated from the other multi-task categories for purposes of analysis.
4. Because the activities within Rd do not demonstrate discernable patterns of grouping, this category was not included in the analysis of large group activity structures and appears here as a miscellaneous activity.

available for participation of students, evaluation of student performance and opportunity for observing desists were absent.

A third category reassigned was MTe, during which the teacher is testing a small group of students while the others, usually one-half the class or more, are engaged in multi-task or free time activities. Because the hybrid nature of MTe made it impossible to assign it consistently to either of the three major instructional activity groups, it was reassigned to the miscellaneous category.

Data on Table 25 are presented such that it is possible to consider for purposes of discussion the amount of time allocated to various activities and their activity structures by each teacher and the desist rates in relation to these. Care must be taken, however, when comparing classrooms solely on the basis of activity structures and desist rates since there are many factors which can influence both. However, inasmuch as Bossert (1977b) discovered that rates of desists were associated with types of activity structures, it was considered to be worthwhile to pursue this possiblity. In fact, as will be made apparent in the remainder of this report, such differences did emerge in this analysis for the three teachers and their classrooms under analysis.

In terms of time for activities, as can be seen on Table 25 all three teachers allocated far more in-class time to class task activities than to the other categories. Teachers 101 and 501 spent 2 1/2 times as much in-class time on class task activities than on large group activities, while Teacher 202 spent 1 1/2 times more. In addition, none of the teachers devoted much in-class time to multi-task activities, although Teacher 202 did spend 11.2 percent of her instructional time with such activities. These data are particularly interesting when desist rate information is examined for each category. In all three classrooms, large group activities had by far the highest desist

rates while class task or multi-task activities had half as many or fewer. This pattern was maintained from week to week. Although the multi-task activity desist rate sometimes was higher than that for class task activities for a particular week, the large group activity always was much higher than the others. (Data from Table 25 on a week-to-week basis for each teacher appears as Appendix A.)

Teachers 101 and 501, whose teaching styles can be said to have varied widely, nevertheless allocated similar amounts of in-class time across large group, class task, and multi-task activities, and their desist rates were similar within each major category as well. Table 25 reveals the differences in allocation of in-class time to various activity structures within the three major activity categories for each teacher, illustrating dramatically the difference in their style. These important differences had considerable impact on other aspects of their classrooms, particularly on the academic and social groups that formed. The discussion later in this report which focuses on peer group associations explores this phenomenon further. The important point to be made here is that, as Bossert found, desist rates seem to relate to types of activity structures for these data as well. Whether this is a function of the activities themselves or other factors such as a given teacher's over-all style was not possible to determine from these data.

Looking at the desist rates for the three teachers in relation to large group activities also is revealing. While Teacher 202 had the highest percentage of in-class time devoted to large group activities (27.5 percent vs. 17.3 for Teacher 101 and 19.6 for Teacher 501), she also had the lowest desist rate for these activities (15.5 per 100 minutes compared to 23.4 for Teacher 101 and 21.6 for Teacher 501). There are a number of potential reasons for this. Of course, part of the explanation could rest in the varying tolerance levels

among the three teachers in relation to off-task student behavior. Another explanation might be that there were fewer disruptive students in her class. In direct relation to activity structures, however, analysis of Teacher 202's classroom protocols reveals that considerable time was spent giving specific and clear directions to her students, both in relation to instructional procedures and to appropriate and inappropriate social behavior.

Teacher 202 allocated 9.6 percent of in-class time to Ra activities, the main function of which is to give directions, and 3.0 percent of in-class time to Rf activities, which are class discussions unrelated to academic activities. In Teacher 202's case, these discussions centered on clarifying what constituted appropriate student behavior in her class. In itself, this would tend to limit problems during other activities, resulting in an expected decrease in desists. Apparently, this was the direct result. In comparison, when considered in toto for all three teachers, Ra and Rf tasks combined accounted for 12.6 percent of in-class time in Classroom 202, but only 7.3 percent in Classroom 101 and 7.4 percent in Classroom 501. Clearly, Teacher 202's attempts to clarify both precedures and appropriate student behavior while carrying these out contributed to a lower desist rate.

Another interesting aspect of the allocation of time to large group task structure categories for the three teachers is that for CTbr activities (one-third to one-half the class engaged in a recitation activity--Ra or Rb--while the others are engaged in class task or multi-task activities), and Rc activities (students actively engaged in seatwork and boardwork while the teacher presents material). As can be seen on Table 25, Teacher 202's allocated in-class time is directly the inverse of the other two teachers for these two activities. She allocated 0.3 percent in-class time to CTbr and 3.5 percent time to Rc, while Teacher 101 allocated 2.6 percent to CTbr and 0.3 percent to

Rc, and Teacher 501 allocated 6.7 percent to CTbr and 0.3 percent to Rc. While these are small amounts of allocated in-class time, a comparison among the three teachers of the desist rates during such times nevertheless is revealing. As can be seen, while Teacher 202 registered far fewer desists per 100 minutes for both kinds of activities, all three teachers registered fewer for CTbr than for Rc activities. In fact, Teacher 501's desist rate almost doubled for Rc activities, indicating apparent recognition of this as an undesirable activity for her instructional system in that she allocated such a small segment of in-class time to it.

An examination of data for class task activities, particularly for CTb and CTc activities, reveals a similar comparison between Teacher 202 and the other two. It will be recalled that both CTb and CTc activities allow for more student control over both work and progress. Students' work is less comparable since everyone works at his or her own level in CTc activity and each group works at its own level in CTb activities. In each of these two activities, students are rewarded on the basis of progress rather than on absolute skill levels. In addition, evaluation necessarily is less public since the teacher must work either with individuals or with groups of students.

As Table 25 shows, Teacher 202 allocated only 1.3 percent of in-class time to CTb activities and 13 percent to CTc activities. On the other hand, Teacher 101 inversely devoted 7.3 percent in-class time to CTb and only 0.5 percent to CTc, while Teacher 501 allocated 16 percent to CTb and no time to CTc. Interestingly, while Teacher 202's desist rate was less than half that of the other two teachers during CTb activities, her desist rate almost doubled for CTc activities while Teacher 101's desist rate declined almost proportionately. Clearly for Teacher 202, individuals working at their own rate caused an increase in desist behavior while this apparently was not so for Teacher

101. It should be noted, however, that both classrooms were split-level in terms of grades, Classroom 501 being a combination third-fourth grade class and Classroom 202 a fourth-fifth grade class. This difference in age combination may account for some of the desist rate differences. However, it is more likely a function of the teachers' individual tolerance levels for disparate student off-task behavior.

Comparison of transition, organization and clean-up time (TOC) also is interesting. As indicated earlier, times for these three activities were combined. This was because organization time seldom occurred by itself but always in conjunction with other activities. Thus, even though the teacher was collecting lunch money or taking attendance, students were engaged in other, identifiable instructional activities. Similarly, transition and clean-up time overlapped, or some of the students frequently were engaged in an activity while others were moving to the next, making coding for the entire class difficult in terms of a single activity type.

Two things are of interest here. One is that so much in-class time in all three classrooms was devoted to these activities. The other is that, despite three very different types of instructional systems and teacher styles, the amount allocated for these activities was similar. Partly, this can be explained by the nature of the time of year. It will be recalled that the six weeks' observational data for the three classrooms were collected during the first days of the school year. Such times frequently are organizational in nature. This also can be explained by the nature of the school day independent of an individual classroom's structure. Thus, all classrooms spent some time entering and leaving classrooms in the morning, for recess, and to lunch, and all classes are expected to clean up.

When all in-class time allocated to instructional activity exclusive of TOC activities is summed, Teacher 202 accounts for 79.8 percent allocated to instruction compared to 75.5 percent for Teacher 501 and 68.9 percent for Teacher 101. In addition, Teacher 202 devoted more time both to large group and multi-task activities than the others, and almost as much time to class task activities. For all three of these major activities as well, she also displayed the lowest desist rate.

An aspect of desist behavior of interest is whether desists are directed to individual students, to groups of students, or to the entire class. Table 26 presents desist rate information for Teachers 101, 202, and 501 for each of the major activity structure categories. Desists are reported as total number of desists for a given activity as well as by number of desists per 100 minutes (desist rate). In addition, number of desists are broken down by whether desists were directed to the whole class, to an individual or a few students, or to a group of students. Whole class desists include verbal disciplinary interventions from the teacher, such as, "Class, be quiet." or "There's too much noise." Desists intended for individual children or for very small groups of children include, "Billy, be quiet." or "You three children working on the bridge project are too loud." Sample verbalizations for desists directed at groups might be, "Boys! Be quiet!" or "Girls! Sit down!" or "Blue Group! Stop Talking!" and "Would the students working around the table in the back please be quiet!"

To reiterate, the importance of desists is whether they are made publicly or privately. Particularly in the case of desists directed to individuals, this difference is an indication of two possible consequences of activity structures having opposite effects. A student who is regularly the focus of many public desists eventually becomes labeled by other students. This

Table 25. Number and Frequency of Desists by Activity Categories for Teachers 101, 202, 501

Activity	Total number of minutes			Number of desists by recipient: Whole Class			Individual			Small Group			Desist rate per 100 minutes		
	101	202	501	101	202	501	101	202	501	101	202	501	101	202	501
Planning	116	101	82	48	24	34	57	33	40	11	4	8	29.4	15.6	20.1
Routine	96	73	85	28	23	21	31	36	12	9	4	2	25.0	18.5	15.9
Test	1	1	125	1	1	10	11	1	83	9	0	32	14.8	4.3	26.4
Drill	1	39	1	1	11	5	2	19	2	0	1	1	1.8	12.4	44.4
Review	1	54	15	1	34	5	4	14	9	2	1	1	4.9	15.3	10.2
Lecture	1	30	31	1	21	8	4	7	20	1	2	3	25.0	14.8	27.9
Subtotals	215	284	298	81	167	83	109	110	166	32	12	47	23.4	15.5	21.6
Seatwork	196	89	208	48	30	59	93	52	133	22	7	17	11.4	9.6	10.2
Discussion	48	5	149	6	0	21	31	5	113	3	0	15	10.0	5.6	13.3
Transition	23	5	5	23	5	---	35	1	---	8	0	---	13.5	20.0	---
Test	1	58	---	0	22	---	1	55	---	1	11	---	6.9	10.0	---
Drill	30	3	45	3	2	7	15	2	35	2	0	0	11.0	3.3	16.0
Review	1	10	9	---	2	2	---	10	6	---	2	1	---	6.8	8.6
Lecture	1	1	---	---	1	---	---	24	---	---	16	---	---	9.8	---
Subtotals	301	244	409	80	65	89	175	149	287	36	30	33	11.5	8.8	11.
Transition	5	11	---	---	5	---	3	15	---	1	2	---	3.3	7.1	---
Miscellaneous	14	40	40	4	11	5	7	24	30	3	5	5	3.1	9.0	8.9
Subtotals	19	62	40	4	16	5	10	39	30	4	7	5	6.1	8.2	8.9
Unclassified	1	6	3	3	3	0	4	3	3	0	0	0	2.5	3.9	3.6
Test	1	---	37	3	---	6	4	---	25	2	---	6	17.6	---	17.4
Drill	29	2	1	3	0	0	1	2	5	5	0	2	4.5	2.9	3.1
Review	1														
Lecture	4														
TOTAL	191	203	205	67	101	75	98	86	107	26	16	23	20.6	17.9	18.1

1. As described in the text of this report, Other was considered to be a large group activity for purposes of analysis.
2. Because of the hybrid nature of MTe, it was separated from the other multi-task activities for purposes of analysis.
3. Because the activities within Rd do not demonstrate discernable patterns of group activity structures and appears here as a miscellaneous activity.
4. It will be recalled that recreation and physical education activities were not observed. Therefore, desist data for these activities are unavailable.

labeling can result in the individual becoming a hero to be emulated or a troublemaker to be avoided. On the other hand, if the individual desists are private, the student does not stand out.

Such personal and individual treatment usually is not possible and, in any event, difficult to enact during large group activities. No differentiation was made between private and public desists in this study. It is clear, nonetheless, that almost all the desists directed to individuals which occurred during large group activities were public. A greater number of these during class task and multitask activities were private. It is a reasonable hypothesis that private desists were more effective. If this is so, then it might help to account for the lower desist rate during class task and multi-tsk activities.

Time did not allow for in-depth analysis of the data presented on Table 26 in relation either to the effects of individual, small group, and whole class desists on any of the individual activity structures within the large activity categories, or the differential effects of these across major categories. Thus, summary conclusions only can be drawn from summative data which are reported.

Table 27 displays in percentages of total number for Teachers 101, 202, and 501 those desists enacted during large group, class task, and multi-task

Table 27. Percentage of Desists During Large Group, Class Task, Multi-task, and Miscellaneous Activities for Teachers 101, 202, 501

Teacher	Large Group	Class Task	Multi-task	Miscellaneous
101	29.3	38.4	2.4	29.9
202	35.9	30.3	7.6	26.2
501	29.7	41.0	4.0	25.3

activities. As can be seen, all teachers enacted the smallest percentage of desists during multi-task activities, and miscellaneous activities (particularly TrOC activities) accounted for one-fourth or more. However, Teachers 101's and 501's desist patterns for large group and class task activities vary from those for Teacher 202. Both Teachers 101 and 501 had a higher percentage of desists for class task activities (38.4 percent for Teacher 101 and 41 percent for Teacher 501) than for large group activities. This was opposite to Teacher 202, who had 35.0 percent for large group activities and only 30.3 percent for class task activites. In light of differences among these teachers reported earlier, this makes for some interesting speculation.

CHAPTER FOUR

THE RELATIONSHIP OF CLASSROOM TASK STRUCTURES AND PEER ASSOCIATIONS

One of the resultant effects of the way a teacher organizes activities for instruction is the demands made upon students by the various task structures. In turn, how a student behaves in response to these requirements determines to a great extent his or her success as a student in that classroom. As has been shown in Chapter Three, a contributing factor to how a student might begin to perceive of himself or herself as a student is the frequency and nature of desists directed toward the student by the teacher. When these are frequent and public, for instance, the student may be labeled--by the teacher, by himself or herself, or by other students--as a social deviant. Also made obvious by the data reported in Chapter Three is the fact that the manner in which a teacher structures instructional activity contributes greatly to creating a forum within which desists directed at individual students, to small groups of students, or to the entire class, as well as the degree to which such desists, when necessary, can be made publicly or privately.

As indicated earlier, another major consideration in relation to the effects of the activity structures of classrooms is upon peer associations, especially in the formation of self-chosen friendship groups. Two questions in particular which will be taken up in this chapter in relation to peer association formation are: (1) To what extent and how do various elements in classrooms, particularly activity structures, lock students into classroom groups based on some measure of the teacher's perception of their academic skills? and (2) To what extent and how do the predominant activity structures lead either to rigid social cliques based on academic skills or achievement, or to promoting a wide range of interactive and fluid peer structures among students?

The first question builds directly upon Rist's (1970) study of how certain students, particularly those who looked poor, were locked into low academic skill groups. Rist observed that the teacher he studied had lower expectations for such students which were based more on intuitive perceptions rather than empirical evidence. As a result, the teacher spend less time with them than with the children placed in higher groups. Operationalizing this notion, this chapter focuses on how students were tracked within self-contained classrooms on the basis of perceived skills by the teacher. It also considers the extent to which students' behavior affected their group placement.

The second question which deals with student-chosen peer groups is closely related. It follows from work done by Bossert (1977a). In his study, Bossert found that peer associations were affected greatly by the classroom activity structures. For example, in classrooms where a recitation style predominated, performance and evaluation of the students were public and comparable. Students formed tightly-knit cliques based primarily on academic achievement. Once formed, these cliques remained stable throughout the school year. In the classrooms characterized by a class task or multi-task format, performance and evaluation were less public and not as comparable. Social groups formed around particular interests and cut across academic ability and achievement levels. As interests changed, so did the friendship groups. As described in Chapter Three, the task structures in the three classrooms under study did not fall neatly into the structures described by Bossert, so sub-categories had to be developed. This chapter discusses how and to what extent the structures that were found in these classrooms affected the social groups. It also is concerned with the effects of other elements on these groupings.

The analysis that follows proceeds on a teacher-by-teacher basis starting with Teacher 501 and ending with Teacher 202. Much of the analysis is dependent

on comparisons between and among the classes and therefore builds as each successive class is discussed. One factor should be noted. The nature of the data--naturalistic, descriptive protocols of classroom interactions--did not lend themselves easily to determining peer associations and their changing patterns. There were no regular or formal reports of the social groups that developed among the students. Furthermore, the names of the particular students who belonged to the various groups created by the teacher usually were not reported. Seating patterns changed fairly frequently in all three classrooms, but only one teacher's changing seating patterns were reported. Thus, the findings reported in this section must be considered to be somewhat tentative. It is possible that the peer group patterns differed from those reported.

Teacher 501

Many factors combined to ensure that, in Classroom 501, children's social groups and cliques would be based on the teacher's academic grouping of the children.

Seating Arrangements and Peer Associations

On the eighth day of the term, Teacher 501 arranged the seating of the classroom into three equal-sized groups, based mostly on the results of spelling tests she had given. The blue group was the low group, orange the middle group, and pink the high group. The reason for grouping the students in this manner was related to the operation of the school's reading lab. When the lab began full operations (a week after Teacher 501 had established her spelling groups), each group was sent to the lab for a fifty-minute period every day. The teacher, left with a smaller class divided into two groups, assigned one

group to work on spelling and the other to a language arts activity of some kind. Presumably the reading lab was individualized so that if lower and higher reading levels did not coincide with lower and higher spelling levels, it would not affect the reading program.

The class was divided by seating arrangement and by task, so that the three groups were formed basically according to a specific academic skill, spelling. It can be assumed that the students knew how they were divided and who was in the low, middle and high groups. However, the groups were not based completely on spelling scores or academic skills. For example, the blue (low) groups contained most of the behavior problems, so identified by the teacher, at least two of whom scored in the middle range on the teacher's own assessment of their spelling skills. In addition, six of the ten students in the blue group spent at least part of the day with the E.H. (Educationally Handicapped) teacher. None of the other students in the class spent time with the E.H. teacher. Thus, the blue group contained some students who had relatively high academic skills, some students with low academic skills (at least in one area), and some identified by Teacher 501 as behavior problems.

It should be noted that Teacher 501 sometimes assigned the same work to the blue (low) group and orange (middle) groups. She also occasionally assigned the same work to the orange and pink (high) groups. Neverthless, whatever the actual academic skills of the children, they were identified with and came to feel a part of either a low, middle or high group.

There were two important exceptions to Teacher 501's seating arrangement. Three of the orange (middle) group students were in a higher spelling group than anyone else in the class. They had their own special spelling program, more advanced than either the orange or the pink group, which set them apart as an elite group. The second deviation from the seating arrangement also was

based solely on adacemic skills. One of the girls in the pink group was a non-English speaking Asian student. She was seated originally with the blue group but was moved to the pink group so she could be next to another student who also was Asian and spoke her language.

Breakdown of the groups by sex was:

Blue (low)	1 girl	9 boys
Orange (middle)	7 girls	4 boys
Pink (high)	9 girls	2 boys
Total	17 girls	15 boys.

The highest spelling group, seated with the orange section, contained 2 girls and 1 boy.

Teacher 501 was quite aware of how she was grouping students. In her preactive interview before school began she stated:

> ...I group how the kids go to the reading lab. I often group by things other than academic things. For instance, work skills, or sometimes I put the kids who need a lot of physical activity in one group. And the kids it doesn't bother to sit still for a long time in one group. Or things like that.

Unfortunately, it was impossible to determine from the protocols whether any of the groups received more or less attention from the teacher. However, as will be discussed below, there were some qualitative differences in the way the teacher attended to the different groups.

Teacher 501 used her spelling groups for a variety of purposes besides spelling and the reading lab. In the preactive interview she said of her class the previous year:

> And so, after I got their reading groups set, I used those groups for other reasons. For instance in math, if I wanted only half the kids up I'd just call the orange group up arbitrarily, maybe just for numbers. They undertood what that meant. And it didn't have anything to do with the math grouping. [It was] just like a social grouping or something.

She generally dismissed the class by groups. If some members of the group were talking, the whole group was delayed. She often rewarded or punished a whole group. Very quickly, group feelings began to develop. This was particularly true for the blue (low) group, which was punished or held back from recess or lunch the most often.

A few examples convey these functions of group feelings and their effects. The following excerpt occurred on the second day after spelling groups were formed as the students were being dismissed for recess.

> Teacher 501: "The blue group may line up." Then she excuses the pink group. Lenore is talking. Evelyn is a member of the orange group. Teacher 501 says, "There are a couple of people who are keeping the orange group from lining up because they are turned around talking." The orange group gets quiet and the teacher excuses the orange group.
>
> (Teacher 501 Protocol 9/22 10:30)

Two days later at recess:

> The teacher excuses the pink group and then the orange group is excused....Teacher 501 then says, "Guess which group was not quiet? Which group do you think?" One of the boys in the blue group indicates that it was the blue group. The teacher nods. Then she excuses Barbara who is part of the group, but who was not making noise. Teacher 501 says, "It took you two minutes to get quiet, so you will have to wait two minutes."
>
> (Teacher 501 Protocol 9/24 9:31)

And later that day as Teacher 501 was getting ready to dismiss the children for lunch:

> Teacher 501 brings in the students who are playing games outside. She then, after they sit down at their desks quietly, dismisses the orange and pink groups...leaving the blue group. She goes out to take the lunch line down to the cafeteria. This leaves the blue group alone in the room with the observer. Joel says, "What the heck am I doing here?" He shuffles out of the room. Lance says, "He'll be back." Neil says, "I bet blue is her favorite color." Within about a minute Joel comes

> back accompanied by the teacher and all the students in the blue group laugh.
>
> (Teacher 501 Protocol 9/24 12:02)

As the children in the lower group began to form a sense of group identity based on misbehavior and a pattern of negative reinforcement, the children in the highest group began to form a group identity as an elite group. In part this had to do with the pattern of positive reinforcements Teacher 501 typically used with the students she defined as being brighter. The students from the high group often were used to correct the work of other students and to give tests to other students or groups of students. Also, Teacher 501 would choose a student of high ability to help those with less ability. Rarely did she ask or permit students within the same perceived academic level to help each other.

Using higher ability students to help lower ability ones sets them apart in several ways. It makes the academic gap more public. While it may be assumed by the teacher to be a reward, it also might stir resentment in those being asked to help. In the preactive interview Teacher 501 was asked if she ever used "the better or faster students to monitor the others." She responded:

> To teach them? I do a lot of that. So much that some of the better ones resent it sometimes. I feel like this is a family affair, and for the common good your problem right now is to help this kid. And so sometimes they might feel like they deserve to play a game at that time and I'll say, "After you help. You put in your two cents' worth here"....Actually that complaint doesn't happen a lot, but it is something that I'm aware of. A lot of times they like that. They feel important when they get to help.

Math Grouping and Academic Stratification

On the tenth day of the term, two days after Teacher 501 had divided the class into spelling groups, the school began its staggered-day reading program.

On four days each week, part of the class arrived early and received forty minutes of instruction, from 8:10 to 8:50. At the end of the day the other part of the class stayed late, from 1:35 to 2:15. This system provided the teacher with the opportunity to work with small groups and supposedly to give students more individual attention. Teacher 501 chose to use the early and late time periods for math.

She used several criteria to divide the class. A comparison of her original ideas for dividing the students with what actually occurred is interesting and revealing. In the preactive interview she said:

> Now, I usually schedule the kids. The way I decide who comes in the morning and who comes in the afternoon is scheduled by my tolerance level. And I have a low tolerance level for noise, etc. So I usually pick the people who can work independently and don't have to be parented about turning in their work to be in the late group. I might have a kid in two-place addition level in the late group if he can be independent.

She also said that:

> ...one of the reasons why I put the kids who might have problems getting their work done in the early group is so that they can stay with the late group if they need extra help. There is that extra. Sometimes I will ask the kids to stay.

There also may be a connection between the particular math program used and student grouping. In discussing her current math program and math grouping of the previous year, Teacher 501 stated:

> The math grouping was a lot more flexible than the spelling grouping in that there were like a hundred possibilities where a kid could be in math. Literally, our math program is divided into a hundred levels. So I tried to keep in mind what the skills were that were necessary. I have a log, a folder with names in it, in which I'd jot down a name, and say, "Ok, Johnny needs testing on level 27," or "Susie needs help in borrowing." And then I'd go to that log and say, "Ok, Johnny, all these people that need help in borrowing, come to this group." I'd forgotten about that, but that was an important thing.

> Now, I don't know if groups will be so flexible in math grouping this year because one of the problems with that form of individualized work is that it's not always efficient for getting group instruction done so I might have more structured groups in math this year. I don't know. That's a question mark in my mind right now because the math program is so new.

The previous year Teacher 501 had a paraprofessional aide in her classroom. With the removal of her aide in the coming year (when these data were collected), she naturally perceived that she might have to make some adjustments, particularly in the math program. It was not possible, however, to determine what effect, if any, the new math program had on how the children were grouped for math or whether this was done differently than before.

As it turned out, Teacher 501 created a high math group for the late session and two lower math groups for the early session. She decided that the math placement tests she gave were not very useful for placing the students. The specific criteria she actually used to determine the high and low groups never were stated explicity, but the overlap between the spelling and math groups was rather striking.

The last session contained eight students. Initially, six of the eight were in the pink (high) spelling group and two were from the small, elite spelling group seated with the orange group. Eventually, a student from the blue spelling group joined them, raising the total number to nine. The early session was divided into two levels, Group I (middle) and Group II (lower). The placement of four of the students could not be determined from the protocols. Table 29 shows the breakdown for each session and groups by makeup as they had formed by the end of the 5th week of school.

Several facets of the groupings on Table 29 are interesting. In addition to what is displayed, it should be remembered that four of the students could not be placed because of lack of evidence from the protocols. Thus, of the 32

Table 28. Math Groupings by Color Grouping (Spelling)

Early Session Group II (Lowest)	Early Session Group 1 (Middle)	Late Session (Highest)
6 Blue 3 Orange (1 from elite group)	2 Blue 5 Orange 3 Pink	1 Blue 2 Orange (from elite group) 6 pink

students in the class, only 28 are accounted for. As can be seen, the elite spelling group (3 members of the orange group) were split, with one being placed in Group II and the other two in the late session or highest group. In addition, five of the six students who spent time with the E.H. teacher was in Group II, while the sixth student's placement into a group was not determinable from the date.

Some movement occurred among the groups. For instance, two of the blue-group students who started off in Group I later were switched to Group II. One pink-group student began in Group I but after two days was switched to the late session group. During the fifth week of school, a boy who was in Group I and the blue spelling group was switched into the late session group.

This late session group contained, with one exception, children who were in the highest spelling groups. This group also was by far the smaller of the two major divisions, despite the fact that the teacher did, on occasion, keep some of the other children late to finish work. The late group received more individual teacher attention and in a much more peaceful atmosphere. One indication of this is the desist rate. The early group averaged 16.3 desists per 100 minutes' observation while the late group averaged a desist rate of only 3.5. The causes of this striking difference are clear. Not only was the early group much larger, but it contained all the children identified as

behavior problems. The early students, who presumably had the least skills, thus were in a large group situation where they could get less individual help from Teacher 501. In addition, the learning environment was relatively chaotic.

Effects of Grouping on Friendship Groups

From the evidence presented so far, it can be seen how the students essentially were locked into an academic stratification system in Classroom 501. Those at the bottom were faced with all the problems of low expectations for academic performance and high expectations for misbehavior. Those at the top had the advantage of the reverse set of expectations. While Teacher 501 did not distribute the students randomly, neither did she do so solely on the basis of actual ability or skills. Students who behaved in ways which she defined as problematic ended up at the bottom of the academic ladder, despite evidence from her own testing that at least some of those placed low belonged in the middle group. The one boy from the blue group who was moved from the middle math group to the high math group gave no indication of any behavior problems.

The social groups in Classroom 501 appear to have followed the academic groups established by Teacher 501. Furthermore, once the academic groups were established there appeared to be relatively little fluidity among the friendship groups. Within days after the formation of the blue, orange, and pink seating groups, the social interaction of the children shifted, reflecting these groupings.

For this analysis, social groups were determined by examining the interactions reported in the protocols. It was assumed that the interactions during recess and free time revealed freely chosen social groups most clearly. Since the students' seating arrangement was determined completely by the teacher, interactions which occurred during seatwork were more likely to reflect

geographical than social groups. Protocols presented information both for free time and for seatwork.

A word of caution about these findings is necessary. In all three classrooms the most noticeable makeup of friendship groups was based on sex. Since the lowest and highest academic groups in Classroom 501 also show a high degree of segregation based on sex (mostly boys in the lowest groups and mostly girls in the highest group), the social groupings may reflect this rather than academic levels. There are indications, however, that this was not so. Before the friendship groups were formed, the three boys who would later be placed in the highest groups often were observed playing and generally interacting with boys who later would be placed in the lowest group. After the groups were formed, very rarely were they reported playing with those boys. Also, only after the elite spelling group was formed did the one boy member begin to play games and socialize with one of the two girls in that group.

In general, before the groups were formed there was a fair amount of interaction reported between future blue (low) group boys and future orange (middle) group boys, and also between future orange group girls and future pink (high) group girls. Once the groups were formed, much less interaction seemed to occur among these same children. Furthermore, in the orange group (and to some extent in the pink group) interaction outside group activities seemed to increase between boys and girls in the same group.

Certainly the teacher-determined seating arrangement of a classroom will affect peer associations. However, the seating arrangement and the teacher-assigned academic groups may be factors in the formation of rigid academically based cliques only because of, and in combination with, other crucial elements. The pattern of activity structures may be particularly important in this process. Some of the other factors, including the activity structures

which led to academically-based scliques, will be examined next for Classroom 501. No cause and effect can be shown by examining just one classroom. However, in comparison with the other classes, particularly with Classroom 101, the crucial nature of these other elements will become apparent.

Effects of Activity Structures on Academic Peer Groups

The task structures in Classroom 501 worked in several important ways to establish and reinforce the academically-based peer groups. In combination with other factors like the teacher's low tolerance for noise and student mobility, these worked effectively to structure students into friendship patterns based on academic grouping.

An examination of the activity structures in Classroom 501 reveals that, in total, 29.1 percent of Teacher 501's in-class time was spent on activities which emphasized or encouraged a stratification of the class based on academic performance or skills. In contrast, only 11 percent of in-class time was spent on activities that would encourage or permit interactions among the students based on other factors besides academic skills.

A total of 10.1 percent of in-class time was allocated to recitation activities. In these activities, the students' performance and evaluation tend to be highly public and comparable, thus establishing a forum in which academic ability either can be reinforced or denigrated. For Teacher 501, this recitation time included 3.1 percent in Rb activities, 0.3 percent in Rc activities, and 6.7 percent in CTbr activities. In addition, she devoted 5.8 percent in Ra activities which center on rule formulation, an elaborate process in Classroom 501.

In addition to these recitation activities, 16 percent of in-class time was spent in CTb activities. This, of course, reflects the various academic

groupings the teacher had created. In CTb, tasks are determined by group level. Teacher 501 also spent 3 percent of in-class time in MTe activities, when from one-half to two-thirds of the class had free time or was engaged in a class task activity while the rest of the class was involved in rather intense evaluations, either being tested or having their work corrected. This activity also lends itself to the creation of peer groups based on academic skills.

Students in Classroom 501 only had 3.1 percent of in-class time for free time, when they could interact freely, and only 1.5 percent of in-class time was devoted to CTe where the children worked in small groups not based on academic levels. Also, only 6.4 percent of the in-class time was devoted to multi-task type activities. However, as will be described below, personal qualities of Teacher 501 reduced the amount of free interaction the children might have had during these activities.

Somewhat related to the activity structures was the opportunity to play games in the classroom. As children completed their required work they were allowed to play games, either in the back of the room or in the hall. In one respect this might have led to social groupings based on some level of academic skill and ability (those who were able to finish quickly) combined with behavior characteristics (those who concentrated on their work). It worked somewhat differently in 501.

Before the spelling groups were formed it was not unusual for children who subsequently would be in different groups to play these games together. Later, once the groups were formed, only children from the same group were likely to play together at these times. This happened because the teacher would be working with one group while another group was finishing up an activity and playing games. As it turned out, once the groups were formed, even during free times

when children from all the groups could play games, it was unusual for children from the different groups to play with each other.

There was an interesting and important interaction between certain personal qualities of Teacher 501 and the activity structures. She seems to have had a rather low tolerance for noise. In fact, she acknowledged this in the preactive interview. She also seems to have had a very strong need for absolute control of the class. She controlled all movement and all the materials in the classroom. One way she did this was with a set of small colored flags. If a child needed something, he or she raised a particular flag. One flag was for going to the bathroom, another for sharpening a pencil, another for individual help, and so forth.

An example from the protocols will illustrate both Teacher 501's need for control and how it tends to limit interactions among the children. The first example occurred on the second day of school. The children had just completed an art activity and the teacher was talking to the whole class:

> I think it's time to explain something that I've explained to some of you individually but not as a group. You've heard me say that you need to sit down. In this class you need to ask to get out of your seat. Maybe in other classes, during times like art, you could get out of your seat and go and get things and throw things in the garbage whenever you wanted to, but not here. It's just like one girl needed to wash her hands, but I preferred that she give out paper towels to everyone rather than having people get out of their seats.

(Teacher 501 Protocol 9/10 10:21)

As a result of these characteristics of Teacher 501, the children were not able to interact as much as they might have during class task and multi-task activities. In contrast, in Classrooms 101 and 202 there seemed to be considerably more interactions between students during similar types of activities. However, despite Teacher 501's desires for students to work alone and quietly,

there seemed to be considerably more student interactions during class task and multi-task type activites than during recitation and other large group activities. Apparently, characteristics of the class task and multi-task structure promoted and permitted more interactions than under recitation or large group activities, and to a greater extent than the teacher might have wanted. Teacher 501 limited the amount of that interaction to less than it might have been.

During the sixth and last week analyzed in this report, Teacher 501 made some changes in the seating arrangement and classroom groups. She made the changes so that she could have more time with the highest spelling group. It could not be determined exactly who was in each of the new groups, although it was possible to get a general idea of the changes.

The new blue group contained the three top spellers who had been in the orange group plus two students from the pink group who were getting the highest scores on their spelling tests. The rest of the new blue group contained most of the students who normally spent part of the day with the E.H. teacher. The rest of the old blue group became part of the orange group. A few of the top-scoring students from the old orange group were moved to the pink group. This move meant that during at least one period each day, while either the orange or pink group was at the reading lab, the children in the blue group who went to the E.H. teacher also would be out of the room. This left only two groups in the room, one of which contained the highest spellers. Before the move, during the reading lab times when the highest spellers were in the room there were really three groups: the highest spellers, the rest of the orange group and either the pink group or some or all of the blue group.

The effects of this change in groups were not clear. It would be interesting and valuable to analyze the seventh week of observations to see what

effects show up. One thing that is clear is that the highest group is in a position to get more teacher attention than it did before. Those in the lowest group may end up getting less attention than before.

Teacher 101

At the start of the school year, Classroom 101 was a fourth-grade class only. On the fifth day of the term, eight third graders joined the class. By the end of the sixth week, there were eleven third graders and twenty fourth graders in the classroom. As will be seen, friendship groups in Classroom 101 did not form as a result either of being a third or fourth grader or on a basis of academic grouping. By the end of the sixth week of school, it was clear that students in Classroom 101 interacted, both in the classroom and at recess, in ways that were apparently not affected by their grade or academic placement.

Seating Arrangements, Academic Grouping, and Friendship Groups

Teacher 101 arranged the seating such that one corner of the room, the rug area, became the third grade area. This area happened to be closest to the teacher's desk, but it was unclear whether Teacher 101 planned it that way. Based on a seating chart made by the nonparticipant observers at the end of the sixth week, all but two of the third graders sat in the rug area. The other two third graders sat with one fourth grader at the edge of the rug area. The fourth graders were seated across the rest of the classroom.

Within their own areas, the students generally were permitted to sit where they wanted and were allowed to rearrange their desks whenever they wished. On a few occasions during the observation period Teacher 101 separated individuals for discipline purposes, but this only had minor effects on the seating arrangement. Of the in-class time, 8.9% was spent on activities (mostly math)

in which the class was divided on the basis of grade level (noted as CTbb activities on Table 25). Thus, the third graders not only were set apart by the seating arrangement but also, for a fair amount of time each day, by the activities they performed.

Like School 501, School 101 also had a staggered day program four days a week. The program began on the sixteenth day of the term. Each group was assigned for about fifty-five minutes to either an early or late session. This was somewhat longer than the forty-minute periods for Classroom 501. Teacher 101 chose to use these times for his reading program. He divided the early and late groups largely on the basis of academic skills. Although behavior may have been a factor in the division of the students, there is no indication that this was so.

The early group was comprised of two lower reading groups with a total of ten boys and seven girls. The late group also was divided into two groups and totaled eight boys and six girls. It was impossible to determine one fourth-grade boy's affiliation. The late groups also included one girl from another class. One of the two late groups apparently was working in the same level reading workbook as the higher of the two early groups. It is not absolutely clear whether Teacher 101 divided the students who worked on this level arbitrarily or not. However, indications are that the division was not arbitrary and that the late group was comprised of students he considered to be brighter or more advanced. Unfortunately, it was impossible to distinguish which of the students in the late group were at which level. However, it was apparent that the second late group clearly was the highest reading group.

As in Classroom 501, a child's membership in the early or late group in Classroom 101 seemed to relate to his or her placement in other classroom groupings. Nine of the eleven third graders in Classroom 101 were in the

early group. All five members of the lowest reading group were third graders. In addition, it is known that the two third graders in the last group were not the same two who sat somewhat apart from the other third graders.

If the important variables for peer associations are seating arrangement and/or academic grouping, the expectation would be that stable social groups in Classroom 101 would form around grade level and/or the early and late reading groups. With a few important exceptions, this was not so in Classroom 101.

The seating chart provided by the nonparticipant observers was useful in determining the relationships between academic groups and social groups. Shortly before the chart was made, many of the students had switched their seats. In all likelihood the groups sitting together indicate the then-current social groups, with the exception of the third graders who mostly sat in their own area. All of the seating groups contained students from both the early and late groups, making it possible to compare social groups with academic groups. If any of the seating groups had contained only late group students, it would not have been possible to make the comparison. The breakdown of the seating group is present on Table 29.

Table 29. Seating Groups for Classroom 101

Group	Split session attended	Sex Composition	Grade
A	3 early, 4 late	all boys	4
B	3 early, 1 late	all girls	4
C	1 early, 2 late	all girls	4
D	1 late	girl*	?
E	1 early, 2 late	all boys	4
F	2 early	all boys	3
	1 late	boy	4
3rd grad rug area	7 early	4 boys, 3 girls	3
	2 late	1 boy, 1 girl	3

* Sat equidistant from, but to the side of Groups B and C

With few exceptions, nonparticipant observer's protocols provided no evidence for social groups based on academic groups. The social groups in Classroom 101 also appeared to be quite fluid. It may be that the effects of the staggered day and skill grouping would have had an effect on peer associations in the long run. Periodic monitoring of the student's social groups over several months or the entire year would have been valuable for detecting any changes. In any event, what happened in Classroom 101 was in marked contrast to Classroom 501 where the social groups began to mirror the spelling (seating) groups within days of their formation.

The only way to assess the degree to which the social groups in Classroom 101 were influenced by the division of seating was to examine the interactions reported in the protocols. This can only be suggestive but the indications were that the peer associations did not differentiate themselves along the third- or fourth-grade division. This is not to say that pairs and groups of third graders or fourth graders did not form groups. The key point is that third graders had no difficulty in joining fourth graders in groups, and there was no stigma attached to a fourth grader who played or interacted with a third grader. In general, it appears that tightly-knit cliques did not form. The children moved easily in and out of a variety of groups crossing academic and grade barriers.

A few important considerations are relevant here. As in Classroom 501, integrated boy-girl groups were rare although they did occur on occasion. The reasons for this and the whole question of sex role socialization are beyond the scope of this report. However, the protocols provide valuable information on this, and further analysis might be quite valuable.

The other exceptions center around the children in the lowest reading group in the morning. All of them were third graders. One of the boys in this

group had joined the class during the sixth week and it was difficult to define any interaction patterns for him. Two boys in the group did share a close, exclusive friendship. However, this had started weeks before the reading groups had formed. Both were Spanish speaking and had difficulty with English. It may be that their common problem of communicating with others (including the teacher), and their ability to communicate easily with each other brought them together. By the end of the six weeks, more and more interactions were reported between these boys and other students. One nonparticipant observer commented on how rapidly they seemed to be learning English. It is probable that their ability to communicate more easily with others had much to do with their increasing contacts.

The two girls in the low reading group also seemed to be close friends. Their friendship developed after the formation of the group and their interactions with each other appeared to increase as time went on.

Comparison of Task Structures of Classrooms 101 and 501, and Effects on Friendship Group Formation

An important consideration here is the question, "Why are the peer associations much more flexibile and fluid in Classroom 101 than in Classroom 501?" The more flexible seating in Classroom 101 does not seem by itself to explain it, since the third graders were segregated from the fourth graders, yet they still showed a high level of interaction. The answer appears to lie in a comparison of the activity structures of these two classrooms.

The interaction of activity and the timing of certain activities also seems to be an important factor. Here, as in Classroom 501, it is important to examine both the activities that encourage social grouping based on academic skills, and those that promote free interaction between students. Table 30 displays relevant information to be considered in the following discussion.

Table 30. Comparison of Task Structures and In-class Time Relationships for Teachers 101 and 501

Teacher	Task Structures and Time Percentages				
	Large Group			Other	
	Rb	CTbr	Rc	Ctb	Mte
101	5.0	2.6	0.2	7.3	0.9
501	3.1	6.7	0.3	16.0	3.0

It will be remembered that Rb, CTbr, and Rc activities all are recitation activities wherein student performance and evaluation are public and comparable. Although Teacher 101 spent more Rb time, there was less CTbr time in his classroom. As we have seen, CTbr activities seem to encourage most the organization of academically-based peer groups. In Classroom 101 a large part of the time for CTbr activities occurred in the early reading session. The lowest of the two early reading groups usually was the group which had a recitation type activity. In part, this may account for the exceptions in the fluid, non-academically-based peer groups among these students.

Large amounts of CTb activities' time indicate that children have been grouped on the basis of skills (and in Classroom 501, also by behavior). These groups also are quite public. Such groups are fixed in the sense that students have no chance to advance on their own. In Classroom 501, students occasionally moved up to higher academic groups, but all such movement was completely under the teacher's control. More important, there was no evidence to indicate that students were aware that a high performance rate could lead to placement in a higher group.

A student's classroom identity becomes defined, in part, by that group to which he or she belongs. As Table 30 indicates, Teacher 101 allocated significantly less time to CTb activities than did Teacher 501. Overall, students in

Classroom 101 spent considerably less time than those in Classroom 501 engaged in activities that were likely to create an identity that associated a student with a group or level of academic skill. Of in-class time, 16.0 percent was spent on such activities in Classroom 101 compared to 29.1 percent of in-class time in Classroom 501.

The timing of these activities also is important. In Classroom 101, with a few minor exceptions, all CTb and CTbr activities occurred during either the early or late sessions. This meant that anything public and comparable which occurred during these times only involved about half the class. Therefore, even though the late group was the higher group, no sense of prestige or status developed based on that fact. As noted before, only the lowest reading group in the early session was signaled out for recitation activities. There was very little recitation activity for either of the two late session groups. Therefore, even though the late group was divided into two levels, performance and evaluation were neither highly public nor comparable. In Classroom 501, however, many of the CTb and CTbr activities occurred throughout the day and therefore when most of the class was in the room.

Grade Level Effects on Friendship Groups

In order to understand why the peer associations did not divide along grade-level lines in Classroom 101, it is important to examine the structures used during activities based on grade level. Since almost all of the CTbr activities were involved with the math program, this will be the focus of the discussion.

The math program operated such that, within each grade level, everyone did the same task. To a certain extent Teacher 101 determined each grade level's assignment based on general students' needs discovered from his evaluation of

the class during the first few weeks. Generally, however, the math assignments followed the textbooks. The fourth graders had one series and the third graders another. Teacher 101 also had a math enrichment program which he used with the whole class without differentiating between third and fourth graders. With the exception of this enrichment program, there was a clear distinction made between the third and fourth graders in math.

However, that time was spent exclusively in class task activity. Students worked alone at their desks, and evaluation was less public than during recitation activities. More importantly, within each grade level everyone was performing the same task at the same level. Although their performance was comparable to others at their grade level, it was not comparable to students working on a different grade level. So, although third and fourth graders were given different tasks, no sense of competition between the grades apparently developed. The work at each grade level was equally rewarding. Contrast this to Classroom 501 where membership in the low group was associated with the likelihood of negative sanctions, while membership in the high group increased the likelihood of various rewards.

In Classroom 101 the only time there was any indication that the grade difference might lead to competition or cause problems was when, on the fourth day, Teacher 101 announced to the fourth graders that a group of third graders would be joining them. Here is an excerpt from the protocol for that day:

> He tells them that tomorrow they're going to have eight new students from Mrs. X's class....Teacher 101 continues to tell how they have to make room for these students.. They will be third graders, and he wants them to be welcomed into the room as little (at this point one of the boy students says, "Little chickens"). Teacher 101 looks at him with a stern looks and says, "No, like little citizens." He asks then to make these new students feel at home. Boy student R says, "Oh, I won't hurt any of them, I'll just make them wish they didn't know me." With this Teacher 101 looks at him and says, "Oh, well,

> would you like to go into another room?" The boys in the back of the room in the cluster say, "No, you're just a meanie, but you're not that mean. We know it." Teacher 101 looks a little bit tense...
>
> (Teacher 101 Protocol 9/14 1:17)

In fact, the fourth graders treated the third graders very well and interact between children of the two grade levels began at once. At no point was there any sense of status attached to one grade level or the other.

Effects on Friendship Groups of Tasks Requiring High Degrees of Interaction

Not only did Classroom 101 have less time than Classroom 501 in activities structures which promoted certain types of peer groups, but it also had more time devoted to activities that permitted or encouraged a wide range of interactions among the students. There was ample opportunity for students to interact on the basis of their interests rather than either grade level or academic ability and achievement. These factors are crucial, not only for encouraging the social integration of the two grade levels, but also in moderating the effects of ability grouping.

Table 31 shows that in-class time for activities which permit or encourage student interaction is somewhat greater for Teacher 101 than for Teacher 501. When the amount of recess is taken into consideration, the differences are striking.

Table 31. Comparison of Time Allocated on Activities Which Require or Encourage High Degrees of Interaction for Teachers 101 and 501

Teacher	Task Structures and Time Percentages			
	Free Time (FT)	MTg+MTd	CTe	Recess*
101	8.1	5.4	---	18.8
501	3.1	6.4	1.5	7.6

*Recess is included as Total class time category only on Table 25. It is not summed with in-class time.

Recess is outdoor free play time. The protocols only provided a limited amount of information about what actually occurred during the recesses. However, recess usually provided unstructured time and permitted students to interact free of seating arrangements or ability groups. It is true that groups which had formed as a result of academic grouping might well carry over into recess, and, indeed, that was so in Bossert's research. However, when as much time is devoted to recess as in Classroom 101, and when the activities in the classroom promoting academic groups are minimal, one can predict that students will have the opportunity to establish relationships based on factors other than academic skills or grade level.

The nature of the in-class activities listed on Table 31 differed between Teachers 101 and 501. Teacher 101 had several jigsaw puzzles which were being put together continually (and occasionally taken apart). Groups of students worked on the puzzles during their free time. The groups working around any particular puzzle usually were mixed, both in terms of grade level and reading group membership (but rarely in terms of sex). Jigsaw puzzle activities did not require academic skill and did not tend to differentiate between low and high achievers. Also, they provided a good opportunity for the Spanish speaking students to interact and work with others without being particularly handicapped by their lack of fluent English.

Teacher 501 provided nothing comparable to jigsaw puzzles. Many of the games the children played in Classroom 501 were spelling, language, or mathematics games. Although such games may be effective for advancing academic skills, they do not tend to promote interaction between children from higher and lower ability groups nor between children who speak different languages.

Teacher 101 also permitted much more talking and free movement in his classroom during class task and multi-task activities than did Teacher 501.

This meant that even during similar activities, students in Classroom 101 had more opportunity to interact with each other than did those in Classroom 501.

To summarize, peer groups based on academic skills apparently did not form in Classroom 101. The pattern of peer associations was one of change rather than of rigid cliques. Although it was impossible to learn from the protocols whether or not students of differing abilities received differential teacher assistance, there was no indication of it, except for the lowest reading group. These students seemed to get the most personal attention from Teacher 101 in the form of small group recitation time. There also was no overlap between lower skill groups and behavior problems. A higher desist rate for the later, higher level reading groups is one indication of this. The late groups had 14.7 desists per 100 minutes compared to 12.1 desists per 100 minutes for the early group.

Teacher 202

Classroom 202 was a mixed fourth-fifth grade class. There were twelve fourth graders, seventeen fifth graders and six students whose grade was not determinable from the data provided. Unlike Schools 101 and 501, School 202 did not have a staggered day program.

Effects of Academic Grouping on Friendship Groups

There were several ongoing activities during which Teacher 202 attempted to group students according to academic skills and activities. However, the children did not appear to be locked into a particular level nor did their own social groups appear to mirror the academic groupings. The pattern of peer associations seemed to be rather fluid with a number of friendship groups which formed and/or reformed during the observation period. As with the other

classes, the methods for determining peer associations were not exact and these findings can only be suggestive.

It was difficult to determine students' skill levels from the protocols, since, except for the highest of the four science groups, the membership of the other skill groups was not apparent. Near the end of the seven weeks' observation time, one nonparticipant observer described each of the students on an informal tape. Some of the descriptions included notes on the academic level of the students. Also, in the daily and weekly tapes made by Teacher 202, mention sometimes was made about the skills or abilities of some of the students. On the basis of this information, it was possible to identify twenty-four of the students as being fair, good, or very good. Table 32 displays the apparent academic assessment for students in Classroom 202.

Table 32. Distribution of Students in Classroom 202 by Academic Skill Assessment

Academic Skill Assessment	Boys	Girls	Total Students
Fair	2	3	5
Good	7	2	9
Very Good	8	2	10
Undetermined	3	8	11
Total	20	15	35

Because there were more boys than girls in the class and because there were more girls whose level was undetermined, the difference between the numbers of boys and girls in the various levels presented here probably is not significant. However, with this somewhat unsatisfactory information, it still was possible to look at the various groups and interactions noted in the protocols and to determine to what extent those interactions followed academic lines.

All of the groups that could be identified during activities when students could choose their partners for a project, or their own seats in the library, were made up of students from at least two of the three ability levels. Despite the relatively few students identified as being fair academically, they were distributed equally among the groups. The peer groups also were clearly in a state of continuous change during the observation period. A few pairs of students remained together, but by no means were they exclusive and they often joined with various other individuals or small groups. There was no evidence of any pattern of friendship groups based on grade level.

This is not surprising when one compares the activity structures and other factors in Classroom 202 with the other two classrooms. This will be considered next.

Effects of Activity Structures on Friendship Groups for Teacher 202, and Comparison with Teachers 101 and 501

There were elements in Classroom 202 that might have led to academically-based friendship groups, but they were moderated by other factors. For instance, when compared with Teachers 101 and 501, Teacher 202 allocated more time to tasks which required a greater degree of interaction among students. Table 33 serves to summarize activities presented earlier for Teachers 101 and 501, and displays the same information for Teacher 202 for purposes of comparison here.

Table 33 shows that Teacher 202 spent less time than either of the other teachers in activities that were likely to lead to academically-based peer groups, and more in-class time in activities that were likely to allow a wide range of interactions among the students. For example, Teacher 202 spent almost no time on CTbr activities. As indicated earlier, these would tend to have the strongest effect on grouping the students. Teacher 202 also spent

Table 33. Comparison of Activity Structures and In-class Time Relationships For Teachers 202, 101, and 501

Teacher	Task Structures and Time Percentages								
	Large Group			Other					
	Rb	CTbr	Rc	CTb	MTe	MTg+MTd	FT	CTe	Recess*
202	5.8	0.3	3.5	1.3	---	11.2	1.0	3.3	8.4
101	5.0	2.6	0.3	7.3	0.9	5.4	8.1	---	18.8
501	3.1	6.7	0.3	16.0	3.0	6.4	3.1	1.5	7.6

* Recess is included as Total class time category only on Table 25. It is not summed with in-class time.

the most time on multi-task activities (MTg+MTd)--in fact, almost twice as much in-class time as either of the other teachers. This provided the students with many opportunities to form friendship groups around common interests.

The students in Classroom 202 had considerably more freedom of movement in the classroom than did the students in the other classes, particularly when compared to 501. They also could sit wherever they wished and change their seats at will. They were allowed to talk and interact during most class task and multi-task activities. The fourth and fifth graders were not segregated by seating. The only occasions where grade level was apparent were during the twice-weekly flute lessons held in another room. These were for fourth graders only. Only 0.1 percent of the observed time was spent in activities that separated the two grade levels.

For several weeks, Teacher 202 did not place students into different math levels. Later, she did so slowly, forming first two groups, then four. It is not clear to what extent students were locked into a level, or to what extent they could move upward or downward in level according to achievement. None of the groups seemed to receive any special privileges or treatment, and there were no rewards for being in a higher or lower academic group. Teacher 202

seemed to distribute her time equally among the groups, though this was hard to determine precisely. There also were a number of math activities which were not grouped by skill levels.

Teacher 202 formed four groups for a science project. One group in particular was based on her judgment of ability level. She described the basis for the group in this excerpt from a daily tape:

> During the science time in the afternoon the children again broke into groups. These groups were based according to ability in some cases and also chosen for the availability for books. The one group that I chose to hear the tapes on the reptiles was chosen primarily because I needed a pilot group to learn the skills for outlining, and I felt that these children had some skills in cursive writing and were quite aware of how to find answers in a book by following the format of the outline...My plan is to use this particular group as helpers in supporting other children who may not have the partciular skills in outlining and may need additional help.
>
> (Teacher 202 Daily tape 9/16 p.3)

Under other circumstances, the "pilot" group might have become an elite group. In Classroom 202, few things supported the formation of such a group and many things actively discouraged it. With the possible exception of this pilot group, there never was a sense that one group was operating at a higher or lower academic level than the others. All the groups ended up doing all the activities in the project on a rotating basis.

One part of the reading program (twenty to thirty minutes day day) involved students working together in small committees of two or three students. Teacher 202 described the basis for these groups as follows:

> ...I did form new groups for the new reading program which I was to introduce. The groups were set up mostly according to personalities, similar reading skills and the availability of books.
>
> (Teacher 202 Daily Tape 9/16, p. 1)

It is apparent from the following remarks that she was quit flexible and allowed students to change groups fairly freely.

> I was pleased to see that the committee work was being carried on quite nicely and quite smoothly. Brad approached me and asked me if he could change back and go into the group with Harry. At this point I felt that he was sincere in desiring to work with with Harry so we made arrangements for the two boys to get together. Richard changed places with another boy, and those two boys seemed to be working close together.
>
> (Teacher 202 Daily Tape 9/13, p. 2)

The students brought pressure to bear on Teacher 202 to change her grouping. This was possible because they normally were given a fair amount of control over themselves and over their activities. For the most part, it seemed that friends apparently ended up working together. The actual extent to which they were academically grouped was not clear. In any event, the groups were small and there was no sense either of eliteness or low status.

There was one aspect in Classroom 202 which lead to a fair amount of competition, though it did not seem to form the basis for friendship groups. Teacher 202 kept charts on the wall showing each students level in spelling and math facts. Every time a student moved up a level, a star was added. One nonparticipant observer described the effects of this as follows:

> One of the...ways that students are exposed to peer pressure and competitive environment is the charts which allow students to look at each other's achievement and compare. This keeps them moving fairly consistently from one level to another. Teacher 202 seems to be tolerant of the students' levels of performance. She doesn't try to push them beyond the level that they are functioning on although she does encourage them to go further.
>
> (Observer's Informal Tape of Teacher 202 10/15 p. 3)

Although these charts were quite public, each child was evaluated individually and relatively privately. This meant that Teacher 202 was able to treat each child individually and could push children, or not push them, depending

on the needs of the individual. The same is true for CTc activities. Students worked at their own rate and at their own level, although most students certainly knew the level of other students. The structure of this type of activity ensures that the teacher can treat each child individually. Evaluation in CTc activities is less public and less comparable than for other class task activities, and thus is less likely to lead to peer associations based on academic skills or ability.

In fact, Classroom 202 was the only class that had any appreciable CTc activities, and it had a fair amount--13 percent of in-class time compared to 0.5 percent for Teacher 101 and none for Teacher 501. In general, the activity structures in Classroom 202 permitted the students to have much more control over their own progress than in either of the other classrooms.

There is an important difference for a student between being placed in a particular academic group and working at a particular academic level. Being a member of a group and having no control over moving out of it will tend to cause a student to identify with that group. Very clearly that happened in Classroom 501. On the other hand, working at a particular level, but not necessarily as part of an assigned group and with control over one's own progress, will encourage a different self-image. Also, when students work at their own rate in many areas, there is less likelihood of being identified as being low in any of them.

It has been shown (Jones and Nisbett, 1971; Monson and Snyder, 1976; Ross, 1977) that people have a tendency to attribute qualities from one facet of an individual's personality, abilities or behavior to other facets of that individual. For example, in the classroom, when a teacher decides that a student is of low ability in one area he or she may expect the student to be low in all academic areas. This phenomenon was most apparent in Teacher 501's

classroom. If students were placed in a low group in one subject, the likelihood was that they would be placed in a low group in all subjects. On several occasions Teacher 501 expressed surprise that a child high in spelling could be low in math, although she did place a few children in a high group in one area and in a low group in another.

In a classroom where students are allowed or required to progress at their own rate, independent of a particular group, those students who incorrectly are placed at a low academic level in one or more areas are soon able to demonstrate their ability, thus working their way up to the proper level. They are not held back appreciably by being placed in a low academic level at first.

The point is that the sort of public comparison evident in Classroom 202 is not so likely to lead to status groups by placing students into low or high groups. Table 34 compares the amount of time students spent in all three classrooms on acivities where they had control of their own progress and, to a certain extent, over the task itself.

Table 34. Comparison of Time Spent in Activities Where Students Had Control Over Their Progress in Classrooms 202, 101, and 501

Teacher	Task Structure by Type and Percentage of In-class Time			
	CTc	Mtg	MTd	Total
202	13.0	6.6	4.6	24.2
101	0.5	3.2	2.2	5.9
501	----	6.4	---	6.4

Almost a quarter of the time in Classroom 202 was spent on such activities. One of the nonparticipant observers said of Teacher 202 on an informal tap:

...the teacher's acceptance of the individual methods that the students use to proceed with the academic tasks has allowed for a well-integrated classroom. This is most noticeable during the recess periods and lunch periods when the students play. I notice that at the beginning, a certain group of boys dominated the four square game. Now there are girls playing the game. Some of the boys have broken off and gone over to other parts of the playground to play other games.

(Observer's Informal Tape Teacher 202 10/15 p. 4)

CHAPTER FIVE

SUMMARY AND CONCLUSIONS

The activity structures of classroom instructional organization appear to provide a key to understanding the nature and derivation of social groups that form in the classroom and the extent to which students may become trapped in an academic stratification system. Other factors may moderate or strengthen the tendencies established by the complex interaction of varying activity structures. For example, recitation and class task activities which lock children into a particular group and/or level promote rigid peer groups based on academic skills. In these activities, performance and evaluation tend to be public and comparable. Control of progress and interaction with others is completely in the hands of the teacher.

On the other hand, class task activities and multi-task activities which permit students to work at their own rate and which either allow or encourage student interaction, tend to promote a series of changing peer groups based on interests rather than on academic skills. During these activities performance and evaluation tends to be less public and less comparable then in recitation type activities. Students have a fair amount of control over their own progress and their interactions with others.

Activities which place children in a group based on skills are more likely to promote rigid peer groups than activities which place students in various levels but do not encourage a sense of elite groupness. An abundance of activities such as free time and recess, which encourages a wide range of interaction among students, stimulate change among peer groups.

Teachers who severely limit students' interactions during class task and multi-task activities moderate the effects of these tasks on social groups. Teacher control of the seating arrangement also tends to moderate opportunities for the evolution of flexible and changing social groups.

The timing of activities can be important. Activities which group students academically when a large part of the class is out of the room are less likely to encourage rigid peer groups than the same activities occurring when most of the class is in the room.

This section concludes with an observation which is mostly speculative. Having a staggered-day program seems to encourage the academic grouping of the class by the teachers. It encourages them to form groups based on academic skills. One session can be for a higher academic level skill group and the other for a lower academic level. In both of the classes that have staggered days, the teachers went on to form several different groups. Perhaps once a teacher begins to think in terms of groups and already has tested the students to make the original division, it becomes easy to take the next step and create more than two groups. The groups formed for one activity may generalize and form the basis of groups for other activities.

Suggestions For Further Studies of This Type

It must be realized that what the nonparticipant observers were told to look for specifically did not necessarily coincide with all of the objectives of the present analysis. Clearly, it is impossible to do everything in any one study. Thus, the suggestions that follow are not in any order of priority.

- Regular seating plans, possibly twice a week, would be helpful. They should particularly note seating changes made by the teachers and those made by the students.

- All groups of children should be noted. It is important to differentiate groups formed by the teacher and those formed by the students themselves.

- There should be more intensive observations of recess, P.E., and lunch time activities. Students' unstructured play time can be quite revealing. It is particularly useful in exploring the generalized effects of events occurring inside the classroom.

- Periodic reports of what most the students are doing during a particular activity would be helpful. There are some observations of this sort in the protocols. It would help to have them on a regular, activity-to-activity basis.

- At the end of each day (or each half-day) teacher and nonparticipant observers should (independently) rate the day on some standard scale, maybe even on a couple of items, e.g., behavior of students, effectivenss of instruction, overall feeling of the day.

- Activities should be coded according to amount of interaction permitted.

- Many observations of classrooms tend to be from the teacher's point of view. Attempts should be made to see things from the students' point of view. How are they interpreting events (both those they are involved in and those they just watch)?

- It would be useful to know which students had been together in previous classrooms.

- For studies that concentrate on only the early part of the school year, periodic (even once a month) additional observations would provide data on long-term effects, if any, of early events.

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APPENDIX*

Percent of In-Class Time for Various Activity Structures for Teacher 101

Task Structure Activity	Week 1	2	3	4	5	6
Large Group						
Ra	12.2	8.9	6.2	8.6	3.2	6.8
Rb	12.7	5.5	5.6	8.1	4.9	2.4
CTbr	-	-	-	1.2	8.5	4.0
Rc	-	-	.6	-	1.2	-
Re	-	-	1.7	1.6	3.3	4.3
Rf	-	-	.9	-	-	-
Totals	14.9	14.4	14.9	19.5	21.1	17.5
Class Task						
CTa	33.6	45.1	28.5	19.0	27.9	12.9
CTb	-	-	-	2.8	10.8	21.3
CTbb	-	-	8.2	17.5	12.0	9.4
CTc	-	-	-	-	-	2.3
CTd	18.7	1.7	1.5	2.3	-	4.0
CTe	-	-	-	-	-	-
CTf	-	-	-	-	-	-
Totals	52.3	46.8	38.2	41.6	50.7	49.9
Multi-Task						
MTd	-	3.6	4.1	4.9	-	-
MTg	3.4	8.3	5.2	1.9	-	3.9
Totals	3.4	11.9	9.3	6.8	-	3.9
Miscellaneous						
Rd	-	5.3	5.7	5.9	5.0	5.6
MTe	-	-	6.0	-	-	-
FT	9.2	5.6	3.5	9.9	8.4	3.4
REC	11.2	19.1	25.7	19.6	19.5	14.3
PE	5.1	3.5	4.5	-	4.2	3.1
TrOC	15.5	13.9	14.5	11.3	9.3	15.7

Percent of In-Class Time for Various Activity Structures for Teacher 202

Task Structure Activity	Week 1	2	3	4	5	6
Large Group						
Ra	17.1	9.8	6.7	10.7	9.7	8.1
Rb	2.9	5.1	2.6	5.5	8.1	9.3
CTbr	-	-	-	-	-	1.7
Rc	4.7	9.4	2.6	-	2.5	2.5
Re	7.5	2.4	4.6	4.2	8.8	6.1
Rf	2.5	1.3	7.3	4.9	1.5	-
Totals	34.7	28.0	23.8	25.3	30.6	27.7
Class Task						
CTa	10.4	16.9	7.7	26.0	8.8	16.9
CTb	-	-	-	-	-	6.7
CTbb	-	-	-	.4	-	-
CTc	15.3	15.5	13.1	13.7	11.4	10.4
CTd	-	-	-	-	3.9	5.9
CTe	8.8	2.7	6.1	3.8	-	1.0
CTf	-	10.0	7.3	3.0	7.6	6.9
Totals	34.5	45.01	34.2	46.9	31.7	47.8
Multi-Task						
MTd	7.6	5.0	8.3	-	10.1	-
MTg	4.5	4.7	12.7	10.0	6.5	-
Totals	12.1	9.7	21.0	10.0	16.6	-
Miscellaneous						
Rd	-	3.1	.9	.9	1.5	5.4
MTe	-	-	-	-	-	-
FT	-	-	-	3.0	-	1.6
REC	7.1	8.8	6.4	7.0	9.3	10.8
PE	1.8	.7	4.4	.9	5.0	7.2
TrOC	17.0	12.7	17.7	12.6	16.8	14.01

Percent of In-Class Time for Various Activity Structures for Teacher 501

Task Structure Activity	Week 1	2	3	4	5	6
Large Group						
Ra	13.1	4.0	6.9	6.7	4.7	3.9
Rb	1.0	.6	5.0	5.3	3.1	2.4
CTbr	-	1.7	18.2	5.9	8.6	2.3
Rc	-	1.4	-	-	-	-
Re	4.9	2.8	-	2.7	4.0	.8
Rf	1.0	.2	2.4	3.5	2.2	-
Totals	20.0	10.7	32.5	24.1	22.6	9.4
Class Task						
CTa	31.2	39.0	10.8	29.0	39.2	29.0
CTb	-	9.4	24.7	23.1	12.2	16.1
CTbb	-	-	-	-	-	-
CTc	-	-	-	-	-	-
CTd	14.4	2.6	3.1	2.7	5.7	.9
CTe	4.0	-	3.3	1.1	-	1.8
CTf	-	-	-	-	-	-
Totals	49.6	51.0	41.9	55.9	57.1	47.8
Multi-Task						
MTd	-	-	-	-	-	-
MTg	5.7	4.4	1.4	1.3	2.7	21.0
Totals	5.7	4.4	1.4	1.3	2.7	21.0
Miscellaneous						
Rd	-	1.0	4.6	-	1.1	-
MTe	-	8.1	-	-	-	-
FT	-	5.7	3.4	2.4	2.0	1.3
REC	6.1	7.7	9.2	6.4	7.5	7.7
PE	-	1.9	2.9	3.8	2.2	2.3
TrOC	23.2	17.2	13.8	14.5	12.4	11.4

Daily Coding Sheet

TEACHER: DATE:

Activity Description	Task	Time	Mins.	Graded	SS	Positive Reiforcements				Desists			
						PR	PRI	PRG	T	D	DI	DG	T

Activity Description - short description describing activity with comments

Task - indicated by letter codes as described in summary charts

Mins. - length of time activity lasted in minutes

Graded - whether or not students were formally evaluated during activity*

SS - student sanctions--indicates any sanctioning behavior between students

PR - positive reinforcement by Teacher to whole class

PRI - positive reinforcement by Teacher to small group

T - Total

Desists - (PA-11)

D - desist to whole class

DI - desist to individual

PG - desist to small group

* Often this was difficult to ascertain from protocols and was not used.