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ABSTRACT

After reviewing the importance of understanding tracking in terms of academic achievement and educational inequality, this paper describes a study that explored the day to day educational experiences of students in tracked classes and in heterogeneously grouped classes. The investigation focused on curricular content, instructional practices, and social interactions at different track levels in secondary school English and language arts classrooms. In the paper, the theoretical basis of the study is discussed, sampling and data collection procedures are described, and the study's results are presented in detail. Some of the findings include: (1) conspicuous differences exist in the quantity of learning time provided to students at different track levels; (2) in terms of topics of instruction, cognitive levels of skills and learning activities, and non-cognitive behaviors mentioned by teachers as part of instructional content, pronounced differentiation occurred among the tracked classes; (3) teachers of higher track students were perceived to be more enthusiastic and clearer in their presentations than were lower track teachers; (4) distinct differences could be seen in the kinds of social relationships and interactions that characterize classes at different track levels. These findings are held to be consistent with the views of theorists who articulate the cultural reproduction notion of schooling. (Author/GC)

# TRACKING AND INEQUALITY WITHIN SCHOOLS:

# FINDINGS FROM A STUDY OF SCHOOLING

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# TRACKING AND INEQUALITY WITHIN SCHOOLS: FINDINGS FROM A STUDY OF SCHOOLING

Tracking -- the process of identifying and grouping together school children who appear to have similar learning aptitudes or academic accomplishments for the purpose of providing them a differentiated course of instruction--has been an organizational practice in American schools during the last seventy years. The practice developed in response to both the increased diversity in student populations following the great influx of immigrants in the late nineteenth century and the institution of compulsory education laws which followed soon thereafter.

Before 1900, secondary school populations were quite similar and the function of the public school was to provide a common educational experience. Throughout the nineteenth century a shared curriculum was characteristic of schools. In 1900, only eleven percent of America's youth attended high schools, and two-thirds of this group were preparing for college (Coleman, 1966). With the movement toward universal secondary education and the comprehensive high school, however, secondary school populations became highly diverse as they increased in size. Tracking was viewed as a mechanism to assist the school in providing effective programs for this newly diverse student population.

At the same time, pressures from elsewhere in society were brought to bear on schools urging them to become "business-like" and efficient and to utilize "scientific" approaches to these ends (Callahan, 1962). The classifying of students and sorting them into programs based on seemingly objective and scientific measures--standardized group tests

of intellectual performance--seemed to meet both the need for effective programs and for efficient methods. As a result, tracking became a widespread feature of secondary education.

The major theoretical purposes of tracking have been to better meet the different needs of various groups of students and to maximize individual learning within the group. The practical aim has been to reduce the range of individual differences in class groups to simplify the teaching task (NEA, 1968). Widely accepted by educators has been the assumption that individual differences can best be served in classes where students share similar characteristics.

The separation of students into tracks has been questioned, however, both in recent educational studies of equal opportunity and by the courts. Following the Brown v. Topeka Board of Education (347 U.S. 483) decision of 1954 and the court's clear committment to the tenet that public education "must be made available to all on equal terms," increased scholarly attention has focused on sources of educational inequality at all levels. Coleman's (1966), Jencks' (1972), and Smith's (1972) analyses of the Equality of Educational Opportunity data make it clear that greater variation in pupil outcomes exists within the same school than exist between schools. The implication from this work is that inequality in American education is far more likely to result from the ways the same school treats different children rather than from differences between schools. Tracking, perhaps the primary vehicle for affording differential educational treatments to students within schools, has thus become a major focus of inquiry into the sources of educational inequality within schools.

Despite the pervasiveness of tracking in American education, however, and the numerous investigations of schooling outcomes related to it, the process and content of tracking has remained relatively unstudied. Little is known about the differences in the daily classroom life of students in different tracks and how these differences may contribute to educational inequity within schools.

The cumulative results of three lines of research point to the importance of a tracking study which focuses on these daily classroom processes: 1) studies of the relationship between tracking and academic achievement, 2) studies of the relationship between tracking and student outcomes in the affective domain, and 3) studies of the relationship between tracking and the racial and socioeconomic separation of students within schools. An examination of these groups of studies, taken together, implicates tracking in the failure of schools to provide educational equity to students from poor and minority groups. Thus, the processes which take place in classes at different track levels within schools become important in determining whether, and in what ways, different groups of students in the schools may not be equally served.

The considerable amount of existing research on the relationship between tracking and academic achievement has not demonstrated that this type of grouping and, presumably, the differential treatment which accompanies it have led to gains in student achievement. (Excellent recent reviews of this literature include the following: Heathers (1969), Findley and Bryan (1970), Espositio (1971), and Persell (1976). In addition, a number of these and other studies have shown that tracking has had

negative effects on students in average and lower groups with the most adverse effects on those students at the bottom levels (see Borg, 1966; Findley and Bryan, 1970 for excellent reviews of this literature). Rosenbaum (1976), for example, studied the effects of tracking on I.Q. scores longitudinally and found that test scores of students in low tracks become homogenized with a lower mean score over time. In contrast, students' scores in higher tracks became increasingly differentiated with a higher mean score over time.

In the area of affective outcomes, Shafer and Olexa (1971) found more school misconduct and higher dropout and delinquency rates among students in lower tracks, even with the social class of students held constant. Kelly (1975) found track position directly related to self-esteem with lower track students scoring lowest on self-esteem measures. Heyns (1974) found that, even with ability level and status origins controlled for, track level was an important determinant of future educational plans, a finding confirmed by Alexander and McDill (1976) in a study that found that track placement effected differences in intellectualism and academic self-concepts of students as well. (See Findley and Bryan, 1970 for an extensive review of earlier studies on grouping and affective outcomes.) These research findings on the negative relationships between tracking and student achievement and affective outcomes take on a special significance in view of work that has demonstrated that tracking in schools functions to separate students along socioeconomic and racial lines. While there is considerable controversy in the literature about the relative contribution of ascriptive and achieved characteristics to student classification (Rehberg and Rosenthal, 1978) and about the neutrality or objectivity

of placement criteria, studies have consistently found high correlations between race and socioeconomic status and track level (Mehl, 1965; Hobson v Hansen, 1967; Heathers, 1969; Shafer and Olexa, 1971; Heyns, 1974; Rosenbaum, 1976; Morgan, 1977 among others). Other studies have found that socioeconomic or racial characteristics of students have a considerable influence on the track placement decisions made about them. (Alexander and Eckland, 1975; Hauser et. al., 1976; Alexander and McDill, 1976; Metz, 1978.) These findings implicate tracking in the consideration of educational inequity for poor and minority students, in that children from the lowest socioeconomic groups and minorities are usually found in classes at the lowest track levels.

Additionally, when tracking has been considered by the courts, in cases involving racially and socioeconomically diverse school settings, it has often been found to be a discriminatory denial of equal educational opportunity. The Equal Protection clause of the Fourteenth Ammendment has been the tool in these cases which have adjudicated the constitutionality of tracking. In several school desegregation cases, classifications of students based on measures of academic aptitude have been treated as "suspect"--those which A) result from congenital and immutable characteristics over which one has no control, B) have a stigmatizing effect resulting in psychic injury and C) involve a discrete and insular minority, a politically defensless group which may need the protection of the court against majority supression (Dick, 1974). Based on the assumption that academic aptitude is randomly distributed in the population, the courts have determined that classifications, purportedly based on this neutral criterion, which, in fact, allocate racial and socioeconomic groups to different classes in disproportionate numbers, can be a denial of equal

protection and therefore a barrier to equal educational opportunity. The ruling in many of these cases has been that tracking or classification of students with measures or criteria which result in disproportionate racial groupings are discriminatory and therefore unconstitutional (e.g. Hobson v. Hansen 269 F Supp. 401, 1969; Moses v. Washington Parrish School Board 409 U.S. 1013, 1972; McNeal v Tate County School District 508 52d 1017, 1975; Read v Rhodes 455 F Supp. 569, 1978; and Larry P. v. Riles, 343 F Supp. 1306, 1972; 9th District Court Slip Opinion, 1979).

While it is clear that students differ in socioeconomic and cultural characteristics and in aptitudes which influence their learning, it is unlikely that these attributes alone account for the measured differences in cognitive, affective and I.Q. outcomes associated with them. (Deutch and Brown, 1964; McCandless, 1967, among others). Much of the research on tracking and student outcomes has controlled for these background and ability factors. In addition, while not dealing with tracking specifically, other work has focused on the different effects of various teacher behaviors and instructional approaches on students with similar characteristics and learning needs. Many of the teacher expectation studies have shown differential outcomes for students with similar characteristics resulting from teacher behaviors modified by differing expectations for them (see Persell (1976) for a comprehensive review of this literature). Moreover, Morgan (1977), in one of the few studies comparing treatment effects at track levels, found that teachers employing different strategies with students at the same track level achieved considerably different results in student outcomes. It seems evident, then, that the impact of tracking itself and the resulting differences in the educational experiences of students at different track levels are partially responsible for differences in

student outcomes.

The purpose of this study, then, was to explore the day-to-day educational experiences of students in classes which are tracked and in those classes which are heterogeneously grouped. This investigation focused on three major aspects of the classroom experience at different track levels in secondary English/language arts classes: curricular content, instructional practices, and social relationships and interactions. It was expected that, in the examination of the relationships between these classroom variables and track level, patterns would emerge indicating that distinct differences exist among classes at various levels and between those classes which are heterogeneously and homogeneously grouped.

In this study, a large number of English classes from a wide variety of schools were examined to provide a comprehensive description of classroom differences associated with tracking. To do this systematically, theoretical propositions were used to guide the formulation of research questions and as a base from which to interpret findings. In this way, an understanding of how classes may differ across track levels was provided and, in addition, an explanation of how these differences may relate to both educational and societal inequality could be made.

Recent work of both American and European scholars, (e.g., sociologists Michael F.D. Young, Pierre Bourdieu, Jean-Claude Passeron, and Basil Bernstein; economic analysts Samuel Bowles and Herbert Gintis; and curriculum theorist Michael Apple) provided the theoretical base for generating questions and interpreting findings about the relationship between tracking and educational inequity within schools. Viewing schools as societal structures which reflect the values of the larger society and

operate in ways consistent with the maintenance of the existing social order, these theorists examine the form and content of the schooling experience in a non-traditional way. They do not accept the generally held assumptions that schools are neutral, meritocratic institutions through which individuals from all social, ethnic, and economic groups can maximize their potential, achieve economic and social mobility, and in doing so fulfill the needs of the larger society. On the contrary, schools are seen as biased toward the interests of the most powerful groups in society and structured to maintain the social and economic stratification of society with features that function to inhibit social and economic mobility. Educational attainment is viewed as a reward for conformity to the values of the dominant social groups, rather than a universalistic reward for merit. Thus, these scholars propose a "reproduction" theory of schooling in which schools, imbued with a particular set of values and embodying particular political and economic interests, reproduce the heirarchical social, political, and economic structures of the larger society. Furthermore, the school is viewed as operating (contrary to the intents of most educators) as part of the societal dynamic through which the inequality in the production, distribution, and control of both economic and educational goods is maintained. From this alternative perspective, then, inequality in schools is not seen as resulting from inefficient functioning but as a reflection of the inequality in the structure and culture of the larger society.

By drawing on particular propositions of this theoretical perspective, questions about tracking in schools were raised regarding its role in this

hypothesized reproduction of societal inequality through schooling. In this view, the allocation of students to different tracks, and any different educational experiences which result, could be seen, not primarily for the purpose of better meeting individual learning needs, but as a means of sorting individuals, largely according to their social origins, and preparing them with the knowledge, values, attitudes, and behaviors appropriate to their future roles in the social and economic order. Thus, an examination of any differences in curricular content, instructional practices, and social relationships and interactions in classrooms within different tracks, through the exploration of questions grounded in this reproduction theory, provides some illumination of the ways schools may fail to provide educational equality for poor and minority students.

From British sociologist Michael F.D. Young's (1971) disscussion of the unequal distribution of power in society as a consequence of the uneven distribution of cultural knowledge among social, economic, and other groups, the question of the uneven or unequal distribution of knowledge among groups in school arises. Young posits that some groups have access to more power in society because of the different kinds of knowledge made available to them and not to others. This unequal distribution of knowledge, directly linked to the unequal distribution of power in society, is maintained by those already in power with their control of the ways in which institutions transmit knowledge. High-status knowledge, as defined by these powerful groups, is distributed disproportionately to students from privileged backgrounds.

Michael Apple, (1978), American curriculum theorist, builds on the work of Young by defining high-status knowledge and its relationship

to the maintenance of power. Using an economic metaphor, Apple proposes that high-status knowledge is linked to the reproduction of economic inequality in that it is made a scarce commodity whose distribution is limited. This scarcity and limited distribution is the source of its importance in the securing of power in society. Schools function in this process to legitimate and distribute to select groups these cultural resources which are related to unequal economic forms. Apple defines high-status knowledge in corporate societies as the technical knowledge necessary to keep these economies operating at a high level. Because the generation and preservation of this technical knowledge largely takes place in the universities, high-status knowledge in secondary schools is that which provides access to the university. Thus, highly academic knowledge becomes the scarce commodity with limited distribution in schools which provides access to future power in society.

In addition, according to Bourdieu and Passeron (1977), this high-status knowledge is used as one of the mechanisms which functions to place and retain students in different social and economic groupings. This high-status academic knowledge reflects the culture of the dominant group, and the propensity toward high achievement in schools is based on this academic criteria. As a result, high-status knowledge, biased in favor of the middle class, serves to allocate students from lower class backgrounds to lower status positions, thus reproducing the existing heirarchical society.

In these ways, then, the legitimation and distribution of high-status knowledge in the schools serves to reinforce and reproduce the inequities in the larger society. Therefore, in this study, the distribution of school knowledge to students in various tracks was examined in two

ways. Track levels in schools, reflecting to a great extent social, ethnic, and economic groupings in society, were explored to determine whether they provided differential access both to quantities and types of knowledge and to the type of instructional practices which maximize the learning of curriculum content. Therefore, the first objective of the study was to explore the following:

> How is both the quantity and quality of school knowledge distributed to different groups within schools?
>
> If there is differential distribution of knowledge, does it result in the limiting of the access to high-status knowledge to particular groups?

These questions were explored by seeking the following information from the collected data: Does the curriculum of classes at various track levels vary in the amount of time spent on instruction as opposed to other activities? Does the curriculum of classes at different track levels vary in the type of instructional content made available to students?

In addition to the amount and type of curricular content available to different groups of students, important aspects of the distribution of knowledge are the instructional techniques and behaviors employed by teachers in the classroom. In their 1971 review of research on effective teaching behaviors and instructional practices, Rosenshine and Furst identified five teaching variables which had consistently strong positive correlations with student achievement. Of these five, three were investigated in this project: teacher variability in the provision of learning opportunities, including the extent and degree of assistance and the variety of activities made available; teacher clarity in the organization

of instruction and in explanations and directions; and, teacher enthusiasm and involvement (Rosenshine & Furst, 1971). It was posited that if these three teaching behaviors were differentially distributed between tracks, it could be concluded that inequality in the distribution of school knowledge was a likely result. The second objective of the study, thus was to explore the following:

> How are effective instructional practices and teaching behaviors distributed to different groups within schools?
>
> If there is a differential distribution of effective teaching practices, does it result in the limiting of the exposure to the most effective instruction to certain groups within schools?

These questions were explored by seeking the following information from the collected data. Does teacher variability, including the variety, extent, and degree of instructional activities, materials and teacher assistance vary with the track level of classes? Does the clarity of teacher instruction vary with the track level of classes? Does teacher enthusiasm vary with the track level of classes?

In their analysis of schools as agents in the reproduction of the inequalities in the American economic system, Samuel Bowles and Herbert Gintis (1976) focus on the differential socialization of children from various social classes. By socializing children with the values and personality characteristics of the class of their origins, Bowles and Gintis assert that schools prepare students to meet the demands of the occupations they will be expected to assume within the existing class structure. This is accomplished through "the close correspondence between the social relationships which govern personal interaction in the work place and the social relationships of the educational system" (p.12). Bowles and Gintis, like the other reproduction theorists, do not contend that the educational

system operates in this manner as a result of the conscious intentions of teachers and school administrators, but rather as an effect of the close structural similarities in the social organizations of schools and the workplace. In this view, the social relationships and interactions in schools serve to reproduce the consciousness of workers by fragmenting students into stratified groups where different capabilities, attitudes, and behaviors are rewarded. These institutional relations serve to reproduce "the self-concepts, aspirations, and social class identifications of individuals to the requirements of the social division of labor" (p. 129). In doing so, the educational system produces from lower class children workers who will be subordinate to external control and alienated from the institution, but willing to conform to the needs of the workplace. Passivity and the absence of close interpersonal relationships are characteristic in such environments. In contrast, students destined for upper status positions in the economic heirarchy are more likely to experience social relationships and interactions which promote active involvement, affiliation with others, and the internalization of norms rather than coercive control.

Drawing similar conclusions from his study of educational transmission in the school, Basil Bernstein (1975) hypothesized that the basis of this transmission is in the structure of social relationships in the schools and in the variety of pupil responses to the roles school creates both within and between social classes. It is this structure of social relationships which controls curriculum, pedagogy, and evaluation in the schools. In Bernstein's view, schools become differentiated as they attempt to function instrumentally, to fulfill the needs of society by imparting

specific knowledge and skills to students. This can be a divisive influence when children are separated into groups, often reflective of social class, to aid the development of specific skills in selected students. While a student's level of involvement in school is initially determined by the family's understanding and acceptance of its means and ends, this involvement is modified and/or enhanced by the social relationships and interactions in the school. It is likely that in a differentiated (tracked) school, a lower class student with initial low involvement, placed in a homogeneous group, will become increasingly uninvolved and alienated from the school. This can result, according to Bernstein, from the heirarchical structure of relationships characterized by teacher-pupil authority relationships and an emphasis on reward and punishments.

It seemed likely, then, that classes at different track levels would be characterized by vastly different social relationships and interactions. Low track classes may help to socialize students from lower groups toward passivity, classroom relationships characterized by dominance, coercion, and distance, and alienation from the educational environment. On the contrary, relationships and interactions in high track classes may help to socialize students toward active involvement, classroom relationships that are characterized by warmth and concern, and affiliation with the learning experience. If these conditions do exist, differential socialization in the schools could, in these ways, serve to reinforce and reproduce the inequities in the larger society by limiting some students' positive participation in the educational experience. As a result, the third objective of the study was to explore the following:

Do students in different groups within schools participate in different types of social relationships in their classrooms?

If there are systematically different social relationships in classrooms, do these differences indicate that groups of students may be lead differentially to passivity and alienation from the classroom or to involvement and affiliation with the learning experience?

These questions were explored by seeking answers to the following in the data. How do student-teacher relationships and teacher affect vary between classes at different track levels? How do student-student relationships and student affect vary between classes at various track levels? Do the type of learning interactions (active or passive student involvement) vary with the track level of classes?

## PROCEDURES

### Sample and data collected

The study was an analysis of data collected for a current national research project, A Study of Schooling in the United States.[1] The Study of Schooling sample included grades 1 through 12 in schools selected by "triples." A triple consisted of a senior high school, a feeder junior high or middle school, and a feeder elementary school. Triples were selected to provide a variety of schools with different combinations of the following characteristics: school size, economic level, racial composition, location (urban-suburban-rural), and regionality of the country. Thirteen triples were selected. All together 8,624 parents, 1,350 teachers, and 17,163 students in 38 elementary and secondary schools from seven states located in the Northwest, Southwest, Southeast, and Midwest sections of the nation participated in A Study of Schooling.

Classes to be studied in each school were randomly selected and all students within sampled classes were surveyed. Generally, the size of each sample is large enough to warrant investigation of the data for patterns, trends, and relationships.

The data analyzed for this project were collected during Spring and Fall, 1977. On-site structured questionnaire, interview, and observation methodologies used for data collection were piloted in a smaller study during Fall, 1975. Students, teachers, administrators, and parents answered survey questions; teachers and students were observed in classrooms; and teachers were interviewed and asked to prepare a comprehensive package of curriculum materials (topics, skills, textbooks, materials, tests) used in their classes.

The project focused on the analysis of Study of Schooling data relating to the English/language arts classes in the 25 secondary schools in the sample. All together, data were collected from 84 senior high school and 72 junior high or middle school English/language arts classes. Of these classes, 33 were identified as high achievement level classes, 47 as average achievement level classes, 30 as low achievement level classes, and 46 as classes heterogeneous in achievement level.

Variable Measures

Guided by the research questions, the study focused on the exploration and analysis of a complex set of variables which characterize the classroom experience of students in different track levels of secondary English/language arts classes. Teacher, student, and observer perceptions were included in these explorations and analyses of curricular content,

instructional practices, and social relationships and classroom interaction variables.

I. Tracking Variable - track level - a rating of each sampled class by a school counselor or administrator

II. Curricular Content Variables
   A. Time spent on instruction --
      1. Proportion of observed time spent on instruction, routine tasks, behavior, or social activities
      2. Teachers' perception of percentage of class time spent on instruction, routine, and behavioral activities
      3. Students' perception of the way in which most class time is spent (instruction, routine, and behavioral activities)
   B. Type of instructional content --
      1. Teacher emphasis on college preparatory or basic literacy topics and skills
      2. Teacher emphasis on high or low level cognitive skills
      3. Teacher emphasis on independent or compliant behaviors as instructional content

III. Instructional Practices Variables
   A. Teacher variability --
      1. Teacher willingness to try a variety of approaches
      2. Teacher provision of a variety of learning materials
      3. Student perceptions of the variety of learning materials used
      4. Teacher provision of a variety of learning activities
      5. Student perceptions of the variety of learning activities engaged in
   B. Teacher clarity --
      1. Student perceptions of the clarity of the organization of instruction
      2. Student perceptions of the clarity of explanations and directions
   C. Teacher enthusiasm -- Student perceptions of teacher enthusiasm

IV. Social Relationships and Interaction Variables
   A. Teacher-student relationships and teacher affect --
      1. Student perceptions of teacher concern, teacher punitiveness, teacher favoritism, and teacher authoritarianism
      2. Observer perceptions of positive and/or negative teacher affect including teacher acknowledgement, encouragement, praise, demeaning and punishment
   B. Student-student relationships and student affect --
      1. Student perceptions of peer esteem, classroom dissonance, classroom competitiveness, classroom cliqueness, student apathy
      2. Observer perceptions of positive and/or negative student affect, including student refusal to respond, high or low interest level, and general affect

C. Type of student involvement --
   1. Percentages of observed interactions dominated by teachers and students
   2. Proportion of observed divergent to convergent questions
   3. Relative percentages of observed teacher lecturing and questioning
   4. Teacher perception of the frequenc of active or passive learning activities engaged in the classroom
   5. Student perception of the frequency of active or passive learning activities engaged in the classroom

Analysis

Guided by the research questions, the study focused on the exploration and analysis of this complex set of variables which characterize the classroom experience of students. Teacher, student, and observer perceptions were included in the analyses of curricular content, instructional practices, and social relationships/classroom interaction variables. The differences between track levels on each variable were examined at the senior high and junior high/middle school levels separately.

Throughout the reporting of findings in this paper it is important to keep in mind the nature of the total sample from which the English classes studied were drawn. The schools in the sample were selected from several major regions of the United States and differ in size, economic status, ethnicity, and location in terms of urban, rural, or suburban. No attempt, however, was made to secure a statistically random sample of schools. For this reason, no definitive conclusions generalizable to a larger population of tracked classes can be drawn from the set of findings emerging from this study. Rather, insight can be provided from this work about processes occuring within different track levels at those schools studied. And, of course, questions can be raised about the implications of these findings for schooling on a wider scale. Accordingly, the primary statistics reported here are descriptive - measures of central

tendency, frequency distributions, and intercorrelations among variables.

At some points in the discussion, however, inferrential statistics are given - probabilities of correlations and significance of mean differences - to provide some indication of how the differences among groups might be interpreted were the sample of classes a statistically random one.

In the computation of Pearson correlations and analysis of variance statistics, heterogeneous classes were eliminated from the analyses. The major focus of this inquiry was to examine differences between the three levels of tracked classes. Heterogeneous groups do not represent a fourth level of tracking, but rather result from an entirely different approach to grouping students for instruction. So, while characteristics of heterogeneous groups are presented throughout this study for comparative purposes, the analysis of potentially significant relationships and differences between groups considers only the three levels of tracked classes. Therefore, these analyses include 59 tracked classes at the high school level and 43 tracked classes at the junior high middle school.

The unit of analysis selected for this study is the classroom. Many of the variables are clearly class measures (e.g. the proportion of observed time spent on instruction and teachers' reports of the variety of materials used with a specific class). Other measures - student perceptions of their learning environments, for example - are not so easily categorized. They may be viewed either individually as a measures of characteristics of perceivers in the classroom context or collectively - averaged within classes - as measures of systemic properties of classes

themselves. Because this inquiry was focused primarily on features of classrooms and groups, rather than on the students within them as individuals, the second approach seemed most appropriate in this case. Thus, the average of individual perceptions within classes was used as a measure of properties of those classrooms. This approach necessitated the aggregation of student data at the class level and the reporting of these data in terms of class means.

The analyses presented in the paper represent only the first look at a large body of data. Further analyses will include multivariate analyses of variance of a large number of variables in each of the three areas discussed in this paper -- curricular content, instructional practices, and social relationships in the classroom. The variables presented here are only examples of the type of variables to be considered. Additionally, data about math classes at the twenty five secondary schools will be included in future analyses.

The findings and their interpretation presented in this paper, therefore, should be considered preliminary in the sense that they will be augmented by these further analyses. While the relationship of the findings to the cultural reproduction theory of schooling can certainly be speculated about at this point, conclusions should be considered tentative and subject to refinement at the conclusion of all the planned analyses.

## RESULTS

### Curricular Conten'

Time on Instruction The relative amount of class time spent on instruction or learning activities was gauged with data from three different sources - teachers, students and observers. Furthermore, additional information about the time students spent learning English was gained from teachers' stated expectations for students' homework time.

Teachers were asked to indicate the approximate percentage of class time spent on instructional activity. Their responses are listed in Table I.

Table I

Mean Percentage of Class Time Teachers Reported Spent on Instruction by Track

| Track Level | High School Classes | | | | Junior High / Middle School Classes | | | |
|---|---|---|---|---|---|---|---|---|
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Time on Instruction | 83% | 78% | 66% | 73% | 79% | 75% | 74% | 74% |

At both schooling levels and in all groups of classes, teachers reported that the largest percentage of class time is spent on instruction. Within the senior high level, clear differences in these percentages are evident with low, average, and high track classes spending increasing percentages of time on instruction. At the junior high/middle school level, while teachers of high track classes reported spending a larger percentage of their time on instruction than do other teachers, the difference is not as large as at the senior high school level. Additionally,

at the junior high level, teachers of average, low, and heterogeneous classes reported nearly identical percentages of time spent in this way. Although at both levels the correlations between track and teachers' perceptions of time on instruction are low -- .21 (NS) at the high school level and .13 (NS) at the junior high -- the differences between the means of the groups of high school classes are statistically significant (F prob. $\leq$ .05).

Students were asked to rate the time spent on learning in the classroom with their response to the following item:

In this class, how much time is usually taken by the following 3 things?

Mark the circle under the word "Most" for the thing that takes the most time.

Mark the circle under the words "Next Most" for the thing that takes the next most time.

Mark the circle under the word "Least" for the thing that takes the least amount of time.

| | Least | Next Most | Most |
|---|---|---|---|
| (1) Daily routines (passing out materials, taking attendance, making announcements) | ○ | ○ | ○ |
| (2) Learning | ○ | ○ | ○ |
| (3) Getting students to behave | ○ | ○ | ○ |

Responses were coded as Most = 3, Next Most = 2, and Least = 1. Mean responses to this item, displayed in Table 2, can be interpreted using the following ranges:

| Range of Mean Scores | Category of Response |
|---|---|
| 2.50-3.00 | Most |
| 1.50-2.49 | Next Most |
| 1.00-1.49 | Least |

Table 3

Observer Perceptions of the Percentage of Interactions in Instruction By Track

| | Track Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | High School Classes | | | | Junior High/ Middle School Classes | | | |
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Percentage of Instructional Interactions | 77% | 71% | 67% | 77% | 82% | 80% | 76% | 71% |

Like teachers and students, observers in all groups perceived that most class time is spent on instruction. Within schooling levels, the observer data forms similar patterns of differences as well. High track classes have larger percentages of instructional interactions than do low track classes. The percentages in the average tracks fall between these two groups. Heterogeneous classes rank differently at each schooling level - sharing the highest percentage of instructional interactions at the senior high level and having the lowest percentage at the junior high/ middle school level. While the trends are noticible at both levels, correlations between the percentage of instructional interactions and track level are low .20 (NS) at the high schools and .15 (NS) among junior high school classes.

Taken together, these data provide a distinct impression that more time is spent on instruction, relative to time spent in on routines, behavior, or in social activities, in high than in low track classes at both schooling levels. Although the differences in quantity of classroom instruction time do not seem to be terribly large, the same pattern of differences appears in the data from all three sources.

Teachers also reported their expectations for the amount of time students should spend on homework. Teachers were given five response options to this question which were coded in the following way: none = 1, about half an hour = 2, about one hour = 3, about 2 hours = 4, and more than two hours = 5. Mean scores for groups of classes, included in Table 4, can be interpreted in terms of the following ranges:

| Range of Mean Scores | Time on Homework |
|---|---|
| 4.50 - 5.00 | more than two hours |
| 3.50 - 4.49 | about two hours |
| 2.50 - 3.49 | about one hour |
| 1.50 - 2.49 | about half an hour |
| 1.00 - 1.49 | none |

Table 4

Teachers' Expectation for Homework Time By Track

| | Track Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | High School Classes | | | | Junior High/ Middle School Classes | | | |
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Homework Time | 2.61 | 2.31 | 1.33 | 2.05 | 2.36 | 2.31 | 1.63 | 1.67 |

While clear-cut differences are found in teachers' homework time expectations for students in different track levels at both the senior and junior highs, this differentiation is larger among high school classes. At the senior high level the mean homework expectations for high track classes fall into the "about an hour" range, while the low track score is in the "none" category. Heterogeneous groups and the average track are expected, on the average, to spend about a half an hour on homework. In contrast, all groups at the junior high/middle school level are expected,

on the average, to spend about a half hour on homework. Even so, considerable differences exist between groups of classes at this level, with the same pattern of responses occurring here as among senior high classes. The highest teacher expectations were for high track classes, the lowest for low track classes, with expectations for average track and heterogeneous classes between those for high and low tracks. At both levels correlations are moderate, .48 ($p < .001$) among high school classes and .47 ($p < .001$) among junior high classes.

For two kinds of learning time, then, unmistakable differences occur among classes within schools. Not only did the low track classes have less instructional time in their English classes, the teachers of these classes had lower expectations for the time students should spend on homework. It seems clear that there existed, among the sample of classes, conspicious differences in the quantity of learning time provided to students at different track levels. This differentiation appears to be somewhat more pronounced at the senior high than at the junior high/middle school level.

Content Of Instruction

The type of instructional content presented by teachers in the English/language arts classes in the sample, was assessed with data from two sources. The topics and skills lists submitted by teachers as a part of the curriculum materials task and teachers' answers to the following interview question - "If you had to rank order them from most important on down, what are the five most critical things you want the students in your _____period/grade class (subject:_____) to learn this year? By learn, we mean everything that the student should have

upon leaving the class that (s)he didn't upon entering. (List no more than five.)" - provided these data.

Three aspects of the content of instruction were selected for analysis: (a) the topics of instruction listed, (b) the cognitive levels of skills and learning activities identified, and (c) the non-cognitive behaviors listed or mentioned by teachers as content of instruction. These three areas were approached in the analysis by classifying each teacher's response in each area on a continuum between two distinct types of classes.

Topics of Instruction - In the area of the topics of instruction presented, it was expected that the lists of topics mentioned by teachers would range from a "pure" college preparatory type -- consisting only of topics which have traditionally been used in this context -- to a "pure" basic literacy or life orientation type -- consisting solely of topics related to functional literacy and daily life experiences. These two ideal types were conceptualized as being comprised of the following kinds of instructional topics:

college preparatory type

a) standard works of literature - (either classic or modern) - historical survey, study of genres, study of literary elements
b) expository writing (essays, themes, research writing), writing in particular styles or genres
c) grammar analysis - concepts beyond the simple sentence
d) skills required for SAT exams - advanced vocabulary and comprehension
e) language study - historical analysis, semantics, linguistics as content

basic literacy or life skills type

a) reading skills - use of workbooks, reading texts, adolescent literature
b) basic writing skills - simple narrative writing, writing a complete sentence
c) work or life related literacy skills - filling out forms, interviewing, etc.
d) language mechanics and standard usage emphasis
e) listening skills

With these two ideal types representing the extremes, each teacher's listing of instructional content was rated using the following scale:

5 - only college prep topics mentioned
4 - college prep topics dominate
3 - equal emphasis on college prep and basic literacy or life orientation topics
2 - basic literacy or life orientation topics dominate
1 - only basic literacy or life orientation topics mentioned

Although the ratings represent discrete points on a scale, mean scores form a continuum; their values can be interpreted in terms of the following ranges.

| Ranges of Mean Scores | Type of Material |
|---|---|
| 4.50 - 5.00 | only college prep topics mentioned |
| 4.00 - 4.49 | college prep topics dominate--tends toward only college prep |
| 3.50 - 3.99 | college prep topics dominate--tends toward equal emphasis |
| 3.00 - 3.49 | equal emphasis--tends toward college prep |
| 2.50 - 2.99 | equal emphasis--tends toward basic literacy |
| 2.00 - 2.49 | basic literacy dominates--tends toward equal emphasis |
| 1.50 - 1.99 | basic literacy topics dominate--tends toward only basic literacy |
| 1.00 - 1.49 | only basic literacy topics mentioned |

The overall means and standard deviations presented in Table 5 show both the central tendency and variability among classes at the two levels of schooling.

Table 5

Mean Ratings of Instructional Topics

| | High School Classes | Jr. High/ Middle School Classes |
|---|---|---|
| $\bar{X}$ | 3.33 | 2.42 |
| SD | 1.20 | 1.12 |
| N | 81 | 71 |

The overall means for classes at both levels fall into the "equal emphasis on both college preparatory and basic literacy topics range." However, the mean at the high school tends toward a college preparatory emphasis and at the junior high/middle schools tends toward a basic literacy focus. The variation among classes at both levels is similar--a standard deviation of 1.20 for the high school classes and 1.12 for the junior high/middle school classes.

When classes are grouped by track level an interesting distribution of ratings of topics presented results. Tables 6 and 7 contain the distribution and mean ratings by track level at the senior high and junior high levels.

Table 6

Distribution of Ratings and Mean Ratings of Instructional Topics by Track Level n High School Classes

| Rating of Instructional Topics | Track Level: Hi | Av | Lo | Hetero | Total |
|---|---|---|---|---|---|
| 5 | (7) 41% | (5) 16% | | (2) 9% | (14) 17% |
| 4 | (8) 47% | (11) 35% | (1) 9% | (5) 23% | (25) 31% |
| 3 | (2) 12% | (9) 29% | (2) 18% | (12) 55% | (25) 31% |
| 2 | | (4) 13% | (3) 27% | (1) 5% | (8) 10% |
| 1 | | (2) 6% | (5) 45% | (2) 9% | (9) 11% |
| Total | (17) 100% | (31) 100% | (11) 100% | (22) 100% | (81) 100% |
| | $\bar{X}$ 4.29 SD .69 | $\bar{X}$ 3.42 SD 1.12 | $\bar{X}$ 1.90 SD 1.04 | $\bar{X}$ 3.18 SD 1.00 | $\bar{X}$ 3.33 SD 1.20 |

Table 7

Distribution of Ratings and Mean Ratings of Instructional Topics by Track Level in Junior High/Middle School Classes

| | | Track Level | | | | |
|---|---|---|---|---|---|---|
| | | Hi | Av | Lo | Hetero | Total |
| Rating of Instructional Topics | 5 | (1)<br>6% | (0.0)<br>0.0% | (0.0)<br>0.0% | (0.0)<br>0.0% | (1)<br>1% |
| | 4 | (7)<br>44% | (3)<br>19% | (0.0)<br>0.0% | (3)<br>14% | (13)<br>18% |
| | 3 | (5)<br>31% | (7)<br>44% | (0.0)<br>0.0% | (8)<br>38% | (20)<br>29% |
| | 2 | (1)<br>6% | (3)<br>19% | (5)<br>28% | (9)<br>43% | (18)<br>25% |
| | 1 | (2)<br>13% | (3)<br>19% | (13)<br>72% | (1)<br>5% | (19)<br>27% |
| Total | | (16)<br>100% | (16)<br>100% | (18)<br>100% | (21)<br>100% | (71)<br>100% |
| | | $\bar{X}$ 3.25<br>SD 1.13 | $\bar{X}$ 2.63<br>1.02 | $\bar{X}$ 1.28<br>.46 | $\bar{X}$ 2.62<br>.80 | $\bar{X}$ 2.42<br>SD 1.12 |

It is clear from these tables that differences exist among track levels in the type of instructional topics included as class content. At the senior high school level none of the high classes were dominated by basic literacy or life orientation topics and only 12 percent gave an emphasis to these topics equal to that of college preparatory topics. In the average track classes the distribution is similar to that of the total group of high school classes with 77 percent of them including both types of topics--a slightly greater percentage than for the total sample.

The distribution for low track classes is skewed in the direction of basic literacy topics. Only one low class (9 percent of the sample) revealed a clear emphasis on college preparatory topics, while in 72 percent of these classes basic literacy topics either dominated the teachers lists or were the only topics mentioned. The heterogeneously grouped classes for the most part (83 percent) included both types of topics with the majority of classes (55 percent) giving them equal emphasis. The mean ratings of the classes at different track levels reflect these differences.

If we look at the differences in mean ratings among those classes which are tracked (excluding the heterogeneous groups) we see that classes at different track levels are significantly different in the type of instructional materials presented (F prob. $<$ .001) with high track classes emphasizing college preparatory topics and low track classes dominated by basic literacy or life oriented topics. Average classes appear to give both types an equal emphasis. The correlation between track and rating is high and positive ($r = .63$, $p < .001$.) at this level.

Similar patterns are evident at the junior high/middle school level although at each track level and in heterogeneous groups there is a greater emphasis on basic literacy topics than in the corresponding track at the high school level. While none of the high track classes at the high school level emphasized basic literacy topics 19 percent of these classes at the junior high/middle school level emphasized these topics. Similarly, a higher percentage of average and low track classes emphasized basic literacy topics at this level. In fact, among junior high/middle school classes, the teachers' lists from all low track classes were dominated by or only mentioned these topics. Similar to high school heterogeneous

classes, non-tracked classes at the junior high/middle school level tended to include both types of topics (95 percent). While the largest percentage of heterogeneous classes at the high schools gave both types of topics equal emphasis (55 percent), the largest percentage at the junior highs were dominated by basic literacy topics (43 percent). Again, as with the high school classes, the mean ratings of the classes at different track levels reflect these differences.

As with the high school level the differences between the classes at the three track levels are significant (F prob. $<$ .001). While the high track classes, on the average, gave the two types of topics equal emphasis but tended toward a college preparatory emphasis and the average track classes gave the two types of topics equal emphasis but tended toward a basic literacy emphasis, teachers of low track classes on the average only listed basic literacy or life oriented topics. Again, at this level, the correlation between rating of instructional topics and track level is high and positive ($r$ = .75, $p < .001$).

Cognitive Level of Skills and Instructional Activities - Similar analyses were conducted regarding the cognitive levels of the skills and learning activities listed by teachers. In this area classes were expected to fall on a continuum between a type which would consist entirely of instruction requiring only low level cognitive processes and a type in which higher level cognitive skills were required for most or all learning activities. These two ideal types were conceptualized as follows:

cognitive levels approached--emphasis on higher or lower level skills

higher level type
evaluation--judgment making
criticism--interpretation (symbolism, etc.)--drawing inferences
appreciation
generalization--synthesis

lower level type
rote learning---knowledge acquisition
comprehension

Application skills were considered to be at an intermediate level and not exclusive to either of these "ideal" types. With these two types representing the extremes, each teacher's responses were rated on the following scale:

COGNITIVE LEVELS APPROACHED
- 5 - clear emphasis on higher level skills
- 4 - frequent mention of higher level skills
- 3 - higher level skills seldom appear
- 2 - rote learning/comprehension/application listed
- 1 - only rote learning/comprehension mentioned

Again, while the ratings represent discrete points on a scale, mean ratings can be interpreted in terms of the rollowing ranges.

| Ranges of Mean Scores | Cognitive Levels |
|---|---|
| 4.50 - 5.00 | clear emphasis on higher level skills |
| 4.00 - 4.49 | frequent mention of higher level skills - tends toward a clear emphasis |
| 3.50 - 3.99 | frequent mention of higher level skills |
| 2.50 - 3.49 | higher level skills seldom mentioned |
| 2.00 - 2.49 | rote learning/comprehenion/application |
| 1.50 - 1.99 | rote learning/comprehension/application tends toward rote learning and comprehension only |
| 1.00 - 1.49 | only rote learning and comprehension |

The overall means and standard deviations presented in Table 8 show both the average response and variation among classes at the two levels of schooling.

Table 8

Mean Ratings of Cognitive Levels

| | High School Classes | Junior High/ Middle School Classes |
|---|---|---|
| $\bar{X}$ | 3.21 | 2.51 |
| SD | .94 | 1.04 |
| N | 81 | 68 |

The overall means for classes at both levels fall into the "higher level skills seldom mentioned" range. However, while the mean at the high school level is close to the "frequently mentioned" range, the junior high/middle school mean is only slightly above the "rote learning/comprehension/application" range. The variation among classes at both levels is similar - a standard deviation of .94 at the high school level and 1.04 among the junior high/middle school classes.

Within the two levels of schooling, clear differences can be seen in the cognitive levels approached by activities listed by teachers for classes at different track levels. The distributions and mean ratings for classes at different track levels and those which are heterogeneously grouped are presented in Tables 9 and 10.

Table 9

Distribution of Ratings of
Cognitive Levels Approached by Track
High School Classes

| Rating of Cognitive Levels Approached | Track Level: Hi | Av | Lo | Hetero | Total |
|---|---|---|---|---|---|
| 5 | (6) 35% | (2) 6% | | | (8) 10% |
| 4 | (5) 29% | (11) 35% | (1) 9% | (4) 18% | (21) 26% |
| 3 | (5) 29% | (14) 45% | (2) 18% | (12) 55% | (33) 41% |
| 2 | (1) 6% | (3) 10% | (8) 73% | (6) 27% | (18) 22% |
| 1 | | (1) 3% | | | (1) 1% |
| Total | (17) 100% | (31) 100% | (11) 100% | (22) 100% | (81) 100% |
| | $\bar{X}$ 3.94 SD .97 | $\bar{X}$ 3.32 SD .88 | $\bar{X}$ 2.36 SD .67 | $\bar{X}$ 2.90 SD .68 | $\bar{X}$ 3.21 SD .94 |

Table 10

Distribution of Ratings of Cognitive Levels Approached By Track Junior High/Middle School Classes

| Rating of Cognitive Levels Approached | Track Level: Hi | Av | Lo | Hetero | Total |
|---|---|---|---|---|---|
| 5 | (0) 0% | (0) 0% | (0) 0% | (0) 0% | (0) 0% |
| 4 | (5) 33% | (4) 27% | (0) 0% | (3) 15% | (12) 18% |
| 3 | (6) 40% | (6) 40% | (4) 22% | (11) 55% | (27) 40% |
| 2 | (4) 28% | (3) 20% | (0) 0% | (6) 30% | (13) 19% |
| 1 | (0) 0% | (2) 13% | (14) 78% | (0) 0% | (16) 24% |
| Total | (15) 100% | (15) 100% | (18) 100% | (20) 100% | (68) 100% |
| | $\bar{X}$ 3.07 SD .80 | $\bar{X}$ 2.80 SD 1.01 | $\bar{X}$ 1.44 SD .86 | $\bar{X}$ 2.85 SD .67 | $\bar{X}$ 2.51 SD 1.04 |

As with the instructional topics presented, there are clear-cut differences in the cognitive levels required by instructional activities in classes at different track levels at both senior and junior high/middle school levels.

At the senior high school level only for one high track class (6 percent of the sample) did the teacher not include some mention of activities or skills requiring higher level processes (ratings 1 or 2). In contrast, teachers of eight low track classes (73 percent) gave this type of listing.

At the same time, 64 percent of the teachers of high track classes either clearly emphasized or frequently mentioned activities or skills requiring these high level processes. This was only true, however, for 9 percent (1) of the teachers of low track classes. The widest range occurred in the group of average track classes with the largest percentage of these classes having higher level skills seldom mentioned. While the range was smaller for the heterogeneous group, the largest percentage of these classes were assigned a rating of 3 as well. The mean ratings of classes at different track levels reflect these differences.

Looking at the differences in mean ratings for tracked classes only, we can see that there are significant differences between the means (F prob. $< .001$). The mean of high track classes falls within the "frequent mention of higher level skills" range, those of average and heterogeneous classes in the "seldom mentioned" range and that of low classes in the "rote learning, comprehension, application" range. The correlation between these ratings and track level is moderate and positive ($r$ .52, $p < .001$).

While the ratings overall are lower, the patterns are very similar at the junior high/middle school level with distinct differences occurring among track levels. Among high track classes, 73 percent of the teachers listed some activities and skills requiring higher level cognitive processes (ratings 3 or 4), while only 22 percent of the teachers of low track classes did so. Again, the widest range of ratings occurred among average track classes with the largest percentage of both average track and heterogeneous classes being assigned 3 ratings. The mean ratings of classes at different track levels reflect these differences.

The differences between these mean track ratings are statistically

significant (F prob. $<$ .001). While the means for high and average track classes fall in the "higher level skills seldom mentioned" range, the low track mean can be interpreted as meaning that only rote learning and comprehension type activities were mentioned by teachers. The correlation between cognitive level ratings and track level of classes at the junior high/middle school level is high and positive ($r = .65$, $p < .001$).

General behaviors as content. In addition to listing subject matter content and skills in the Curriculum Materials Task and in interviews, some of the teachers specified general behaviors as part of the curricular content of the classes for which they were sampled. These responses were distinguished by their lack of a specific relationship to the subject matter of the class. They generally were of two types: desired student behaviors in the area of personal deportment and behaviors considered part of the learning process or classroom procedures.

For this analysis, these non-subject specific statements of desired learnings were classified into three categories: 1) statements that indicated the teacher was seeking student autonomy and independence, 2) statements that indicated that the teacher encouraged student conformity to teacher authority and established classroom routines, and 3) statements (or multiple statments) that indicated both types of behaviors were encouraged or statements difficult to interpret as distinctly belonging either of the above two categories. The following chart lists the kinds of behaviors mentioned by teachers that were classified as either independent or conforming behaviors.

independence
critical thinking
individual projects or assignments
active involvement of students
self-direction
creativity

conformity
getting along with others
working quietly
improving study habits
punctuality--both in attendance and handing in assignments
cooperation
conforming to rules and expectations

Among the senior high classes studied, 37 teachers (45 percent) mentioned these non-cognitive behaviors as instructional goals or content, and 26 teachers (35 percent) of junior high/ middle school classes included these types of learnings. Throughout this discussion it should be borne in mind that only about half of the high school classes and about a third of the junior high/middle school classes are included in the analyses of this variable.

The comments of each of these teachers were rated according to the following scheme:

5 - emphasis on student independence
3 - equal emphasis on independence and conformity or ambiguous statements
1 - emphasis on student conformity

As with the other curricular content measures, mean ratings on this variable are useful in describing the central tendency of groups and the differences between them. The following ranges are useful in interpreting these mean teacher/class ratings.

| Range of Mean Scores | Type of Behavior Emphasized |
|---|---|
| 4.00 - 5.00 | emphasis on student independence |
| 2.00 - 3.99 | equal emphasis or ambiguous statements |
| 1.00 - 1.99 | emphasis on student conformity |

Mean ratings at the two levels of schooling are presented in Table 11.

Table 11

Mean Ratings of Classes on
Type of Behaviors Emphasized

| | High School Classes | Jr. High/Middle School Classes |
|---|---|---|
| $\bar{X}$ | 3.50 | 2.31 |
| SD | 1.68 | 1.23 |
| N | 36 | 26 |

Overall, the average high school teacher/class ratings falls near the top of the equal emphasis range while the mean junior high rating is close to the bottom of the same category.

Once more, however, within level differences clearly relate to the track level of the sampled classes. Tables 12 and 13 include these track level differences in mean ratings and distributions.

Table 12

Ratings of Classes on General Behaviors
as Curricular Content By Track

High School Classes (N = 36)

| | | Track Level | | | | |
|---|---|---|---|---|---|---|
| | | Hi | Av | Lo | Hetero | Total |
| Rating | 5 | (7)<br>70% | (6)<br>60% | (1)<br>17% | (4)<br>40% | (18)<br>50% |
| | 3 | (2)<br>20% | (2)<br>20% | (1)<br>17% | (4)<br>40% | (9)<br>25% |
| | 1 | (1)<br>10% | (2)<br>20% | (4)<br>67% | (2)<br>20% | (9)<br>25% |
| | $\bar{X}$ | 4.20 | 3.80 | 2.00 | 3.40 | 3.50 |
| | SD | 1.40 | 1.69 | 1.67 | 1.58 | 1.68 |
| | N | (10) | (10) | (6) | (10) | (36) |

Table 13

Ratings of Classes on General Behaviors as Curricular Content By Track

Jr. High/Middle School Classes (N = 26)

Track Level

| Rating | Hi | Av | Lo | Hetero | Total |
|---|---|---|---|---|---|
| 5 | (3)<br>60% | (0)<br>0 | (0)<br>0 | (1)<br>17% | (4)<br>15% |
| 3 | (1)<br>20% | (5)<br>83% | (1)<br>11% | (2)<br>33% | (9)<br>35% |
| 1 | (1)<br>20% | (1)<br>17% | (8)<br>89% | (3)<br>50% | (13)<br>50% |
| $\bar{X}$ | 3.80 | 2.67 | 1.22 | 2.33 | 2.31 |
| SD | 1.79 | .82 | .67 | 1.63 | 1.23 |
| N | 5 | 6 | 9 | 6 | 26 |

At the high school level 7 of the 10 teachers of high track classes who listed general behaviors clearly emphasized student independence while only 1 of 6 (17 percent) of the low track classes did so. In contrast, only 1 (10 percent) of the high track teachers mentioned conforming behaviors exclusively, compared with 4 of the 6 (67 percent) of the low track teachers. Only 20 percent of both average track and heterogeneous classes teachers clearly emphasized conforming behaviors as curricular content. Differences in track level means are significant (F p ). $< .05$) with the high track mean falling in the "clear emphasis on independence behaviors" range, the average track at the top of the "equal emphasis" range, and the low track mean at the bottom end of the "equal emphasis" range. The correlation between rating of classes on this variable and track level is positive and moderate $r = .47$ ($p < .05$).

The within level distribution of ratings is similar at the junior high/middle school level. 60 percent of the high track teachers who mentioned general behaviors clearly emphasized independence. In contrast, none of the teachers of low track classes emphasized this type of behavior. On the other hand, while only 1 (20 percent) of the high track teachers listed only conforming behaviors, 89 percent of the teachers of low track classes did so. The majority (83 percent) of average track teachers emphasized both types of behaviors equally. 50 percent of the teachers of heterogeneous classes at this level, unlike those at the high school level, emphasized conforming behaviors. Differences between track means are significant at this level also (F prob. $<$ .01) and the correlation between ratings and track level is strong and positive - $r = .68$, $p < .01$.

These three aspects of curricular content - topics of instruction, cognitive levels of skills and activities, and non-cognitive behaviors as content - all varied significantly with the track level of English classes at both the senior high and junior high/middle school levels. Students in high track classes were likely to be taught instructional topics that are of the traditional college preparation type - standard works of literature, expository writing, research skills, and language analysis. These students, too, were likely to participate in learning activities that require high level cognitive processes. Additionally, when teachers of high track classes intended to teach non-subject-related behaviors, they most often emphasized behaviors which require student autonomy and independence. The low track classes stand in striking contrast to the high track in all three areas. Students in low track classes were most likely to be exposed to topics which emphasize basic literacy skills or life or work oriented instruction, such as filling out forms.

These students were most likely to be engaged in instructional activities which require only lower level cognitive processes - rote learning, comprehension - and application. They were not likely to be required to evaluate or think critically. Additionally, teachers of low track classes who had general behaviors as learning goals for their students most often emphasized student conformity - punctuality, working quietly, and following rules or outlined class procedures.

In all three of these aspects of curricular content, then, pronounced differentiation occurred among the tracked classes at both levels of schooling. This finding, combined with the results for time on instruction leads to the conclusion that important differences occurred in both the quantity and quality of instructional content.

Instructional Practices

Teacher Variability. Several measures were used to assess the extent and types of teacher assistance available to students and the variety of learning experiences provided in the classroom. Student data were used to ascertain teacher willingness to try a variety of instructional approaches. Both teacher and student data were used to estimate the variety of learning materials and activities teachers made available to students in the classroom.

Students indicated their level of agreement or disagreement with the following statement: "This teacher is willing to try different ways of doing things." Four response options were provided which were coded as follows: strongly agree = 4, mildly agree = 3, mildly disagree = 2, and strongly disagree = 1. Class means on this statement - and other statements of this type used as variables in this study - can be interpreted in terms of the following ranges:

| Range of Means | Level of Agreement |
|---|---|
| 3.50 - 4.00 | strongly agree |
| 3.00 - 3.49 | mildly agree - tends toward strongly agree |
| 2.50 - 2.99 | mildly agree - tends toward neutrality |
| 2.00 - 2.49 | mildly disagree - tends toward neutrality |
| 1.50 - 1.99 | mildly disagree - tends toward strongly disagree |
| 1.00 - 1.49 | strongly disagree |

Mean responses to this statement are included in Table 14.

Table 14

Mean Levels of Student Agreement with the Statement, "This teacher is willing to try different ways of doing things." By Track

| | Track Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | High School Classes | | | | Jr. High/Middle School Classes | | | |
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Level of Agreement | 2.90 | 2.79 | 2.96 | 2.84 | 2.92 | 3.07 | 2.90 | 2.92 |

Students, on the average, in all groups of classes at both schooling levels expressed similar levels of agreement with this statement. Mean scores for all groups fall in the "mildly agree - tends toward neutrality" range. No meaningful or significant correlations between responses to this statement and track level appear in the data.

Teachers were asked to indicate the frequency with which they used the following materials in their class: textbooks; other books; work sheets; films, filmstrips, or slides; learning kits; games or simulations; newspapers

or magazines; tape recordings or records; television; and teaching machines or equipment for computer assisted instruction. Teachers indicated that they used each material "never", "not very often", "often", or "always or most of the time". The variety of materials available to students in each class was determined by counting the number of materials to which teachers responded "not very often", "often", or "always or most of the time". The sum of the materials receiving any one of these responses became a measure of the number of different kinds of materials made available to students in the classroom - albeit with differing frequencies. The variety of materials made available to students is clearly one indicator of teacher variability. The mean "variety of materials" scores - the number of materials teachers reported they ever used - of the groups of classes are included in Table 15.

Table 15

Mean Variety of Materials Reported
By Teachers By Track

| | Track Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | High School Classes | | | | Jr. High/Middle School Classes | | | |
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Variety of Materials | 6.11 | 6.24 | 7.17 | 6.55 | 7.29 | 7.83 | 8.65 | 7.42 |

While the range of scores among the groups is not terrible large, some differences can be observed. On the average, senior high school teachers indicated that they use fewer kinds of materials than did junior high/middle school teachers. Within both levels, high track teachers reported less variety than did low track teachers. While the relationship between track level and variety of materials is weak, r = -.20 (NS), at the senior high level, the association between the two variables is much stronger at the junior high/

middle school level, $r = -.28$, $p < .05$.

Students reported the materials they use in class in a somewhat different way. To the same list of materials, students indicated whether or not each type of material was used in their class with "yes" or "no" responses. To determine student perceptions of the variety of materials use, each material to which 25 percent of the students in the class responded "yes" was counted. The number of materials receiving at least this percentage of "yes" responses in a class became, then, a measure of students' perceptions of the variety of materials used in that class. The mean student variety of materials scores are included in Table 16.

Table 16

Mean Variety of Materials Reported
By Students By Track

| | Track Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | High School Classes | | | | Jr. High/Middle School Classes | | | |
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Variety of Materials | 3.83 | 4.17 | 5.66 | 4.09 | 4.79 | 5.08 | 7.19 | 5.13 |

While the two measures are not entirely comparable, the immediate impression is that students perceive considerable less variety of materials in their classrooms than teachers report they use. The patterns of differences among groups of classes are similar, however, in both sets of data. Junior high/middle school students reported greater variety than did senior high students. Within schooling levels, low track students reported considerable greater variety than did students in high track classes. The correlation between track level and student perception of variety of materials is $-.37$ ($p < .01$) at the senior high level and $-.55$ ($p < .001$) among junior high/middle school classes.

Taken together, the data from teacher and student reports of materials use provide a distinct picture of the differences in variety of materials use in the different groups of classes. It is clear, among the classes studied, that teacher variability in materials use is greater in low than in high track classes at both levels of schooling. This differentiation, however, is much more pronounced at the junior than senior high school level.

The variety of learning activities provided students, another indicator of teacher variability, was measured in much the same way as was variety in materials use. Teachers indicated how often they had students engage in each of the following activities:

Listen to me when I talk or demonstrate how to do something...
Go on field trips.....
Do research and write reports, stories, or poems.....
Listen to student reports.....
Listen to speakers who come to class.....
Have class discussions.....
Build or draw things.....
Write answers to questions.....
Take tests or quizzes.....
Make films or recordings.....
Act things out.....
Read for fun or interest.....

The number of activities teachers reported that they ever had students do was used as a variety of activities score. The mean scores for variety of activities from this teacher data are included in Table 17.

Table 17

Mean Variety of Activities
Reported By Teachers By Track

| | Track Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | High School Classes | | | | Jr. High/Middle School Classes | | | |
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Variety of Activities | 8.28 | 8.83 | 8.08 | 9.32 | 9.29 | 9.67 | 9.47 | 10.00 |

At both levels, it is immediately clear that teachers of heterogeneous classes reported having students do a wider variety of activities than did the teachers of tracked classes. Overall, however, junior high/middle school teachers reported a slightly greater variety of activities than did senior high school teachers. Among the tracked classes at both levels similar patterns of differences occur, with average track teachers having the highest variety scores with high and low track classes having somewhat less. No significant differences, however, occur between the means of the three tracks at either level of schooling.

Students reported the activities done in their classes with a "yes" or "no" response to each of the same activities listed above. As with students' perceptions of materials, variety of learning activities in the student view was computed by counting the number of activities to which 25 percent or more of the class responded "yes". This count became a variety of activities score. Mean student variety of activities scores are displayed in Table 18.

Table 18

Mean Variety of Activities Reported
By Students By Track

| | Track Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | High School Classes | | | | Jr. High/Middle School Classes | | | |
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Variety of Activities | 6.89 | 7.93 | 8.42 | 7.59 | 8.93 | 9.08 | 8.94 | 8.96 |

As with the variety of materials measures, the two indicators of variety of activities are not entirely comparable. Still, it is interesting to note that students appear to perceive somewhat less variety of activities than

teachers reported. At the junior high/middle school all groups of students reported nearly identical numbers of activities, slightly more than reported by the groups at the senior highs. At the high school level a moderate correlation between track level and variety of activities is found ($r = -.40$, $p < .01$) with low track classes having the highest level of variety and high track classes having the lowest.

Differentiation among track levels in the variety of activities provided students is not as clear-cut as in the variety of materials. In fact, no important differentiation in variety of activities occurs at the junior high school level. And, at the high school level, only student data indicates that any meaningful distinctions occur. We cannot conclude, as a result, that important differences in this aspect of teacher variability occur in classes at different track levels.

Looking at these five measures of teacher variability together, it seems unlikely that there was an uneven distribution of teacher variability in an overall sense among track levels. While it seems clear that teachers used a greater variety of materials with low track classes, it appears that in the provision of a variety of learning activities and in "trying different ways of doing things" that teachers at different track levels were much the same.

Teacher Clarity. Two learning environment scales - comprised of sets of statements concerning a single aspect of class climate[2] - were used to measure students perceptions of the clarity of their teachers verbal instructions and the organization of learning in the classroom. (See Appendix for a listing of the learning environment scales and the items included in each).

Additionally two single student items were used - "This teacher tells us ahead of time what we are going to be learning about" and "Everyone in this class knows what we may or may not do" - as measures of teacher clarity. Responses to both the scales and single items consist of students' level of agreement with the statements. (See page 43 for a listing of the response options and ranges of mean scores for these items). The mean responses classes at different track levels to these four measures are presented in Table 19.

Table 19

Student Perceptions
of Teacher Clarity By Track

| | Track Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | High School Classes | | | | Jr. High/Middle School Classes | | | |
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Teacher Clarity (Scale) | 3.15 | 3.10 | 3.20 | 3.13 | 3.16 | 3.17 | 2.97 | 3.02 |
| Organization (Scale) | 3.06 | 2.85 | 2.86 | 2.94 | 3.06 | 3.00 | 2.76 | 2.88 |
| "Tells us ahead of time" | 3.28 | 3.01 | 2.96 | 3.13 | 3.29 | 3.17 | 3.02 | 2.82 |
| "Everyone knows what we may or may not do" | 3.24 | 2.99 | 3.00 | 3.01 | 3.11 | 3.02 | 2.87 | 2.99 |

On all four of the measures, classes in all groups agreed that their teachers were clear. Furthermore, only small differences in levels of agreement occured regarding the clarity of teachers' verbal messages as measured by the Teacher Clarity scale among groups of classes. Correlations between track level and Teacher Clarity are -.03 (NS) at the senior high level and .24 (NS) at the junior high/middle school level. There is, however, slightly greater differentiation at the junior high level with low track classes reporting less teacher clarity.

The clarity of instructional expectations and arrangements for learning as measured by the Organization scale shows greater differences among the groups of classes at both levels. High track classes reported greater levels of clarity in this area than did low track classes. The scores of average track and heterogeneous groups fell between the high and low track levels. The correlations between track level and scores on the Organization scale are .25 (NS) at the high schools and .48 ($p < .001$) at the junior highs. Again, greater differentiation between tracks occurred at the junior high school level.

The same pattern can be observed in the responses to the item "This teacher tells us ahead of time what we are going to be learning about". At both schooling levels high track classes, on the average, expressed stronger levels of agreement with this statement than did low track classes, with average track classes falling in the middle. At the high school level heterogeneous classes expressed levels of agreement between high and low track classes, while at the junior high/middle school level heterogeneous classes expressed the lowest levels of agreement of any of the groups. Correlations between the level of tracked classes and this item are .31 ($p < .05$) among the high school groups and .29 ($p < .05$) at the junior high/middle schools.

Slightly more differentiation occurred in the responses to the item, "Everyone in this class knows what we may or may not do". The patterns, nonetheless, are similar to those found in the responses to the other measures. High track classes agreed the most strongly with this item at both levels. Considerable less agreement was expressed by students in low track classes. At the high school level, average, low, and heterogeneous

groups have nearly identical mean scores on this item. At the junior high/middle school level the low track classes agreed the least with this item, with average track and heterogeneous groups falling in the middle. Correlations between track level and agreement with this item are .40 ($p < .01$) at the high school level and .38 ($P < .01$) at the junior high/middle schools.

To summarize, distinct differences occured between classes at different track levels in the clarity of teachers' instruction as perceived by students. While, on the average, all groups of classes agreed that their teachers were clear on all four measures, high track classes reported significantly more clarity than low track classes in the organization of instruction, the purpose of instruction, and the behavioral expectations of their teachers. All groups reported similar perceptions of teacher clarity in verbal instructions. More differentiation between groups is discernable among junior high/middle school classes in the clarity of organization of instruction.

Teacher Enthusiasm. The items which comprised the Teacher Enthusiasm scale (see Appendix) were used to ascertain students perceptions of how much teachers seemed to enjoy teaching their classes. An examination of Table 20 shows a clear differentiation in perceived teacher enthusiasm among groups of classes at different track levels at both the senior and junior high levels.

Table 20

Perceived Teacher Enthusiasm By Track Level

| | Track Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | High School Classes | | | | Jr. High/Middle School Classes | | | |
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Teacher Enthusiasm | 3.54 | 3.39 | 3.30 | 3.38 | 3.39 | 3.36 | 3.08 | 3.27 |

Even though all groups of classes, on the average, agreed that their teachers were enthusiastic, the strongest levels of agreement were found in high track classes and the mildest levels in low track classes. Heterogeneous and average classes had agreement levels between those of high and low track classes. The relationships between level of tracked classes and perceived Enthusiasm is .27 ($p < .05$) at the senior high level and .43 ($p < .01$) among junior high/middle school classes. While the strongest agreement with the Teacher Enthusiasm items was expressed by senior high track classes, the greatest differentiation between groups occurred at the junior high level. Clearly, in the view of students, high track classes are characterized by higher levels of teacher enthusiasm than are low track classes.

Looking at the data regarding the distribution of these three teaching practices, clear differentiation among track levels occurred in two areas - teacher clarity and teacher enthusiasm. High track classes perceived their teachers as more clear and more enthusiastic than did low track classes. On the other hand, no distinct differentiation can be concluded from the data on teacher variability.

Social Relationships and Classroom Interaction

Teacher-Student Relationships and Teacher Affect. The classroom learning environment scales included four measures of how students perceived their teachers' relationships with them. These four scales--Teacher Concern, Teacher Punitiveness, Teacher Authoritarianism and Teacher Favoritism--were comprised of statements about teachers to which students indicated their level of agreement or disagreement (See Appendix for a list of the items which make up these scales). Additionally, observer data on the affective quality of teachers' interactions with students and on teachers' emphasis on

student behavior in the classroom was used to shed light on teacher-student classroom relationships as well.

Mean scores on each of the four learning environment scales of classes at different track levels and in heterogeneous groups at the two secondary levels are given in Table 21.

Table 21

Student Perceptions of Teacher Affect
Mean Learning Environment Scale Scores by Track

| | Track Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | High School Classes | | | | Jr. High/Middle School Classes | | | |
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Teacher Concern | 3.33 | 3.25 | 3.19 | 3.16 | 3.11 | 3.17 | 2.95 | 3.02 |
| Teacher Pun. | 1.36 | 1.42 | 1.62 | 1.39 | 1.57 | 1.56 | 1.85 | 1.63 |
| Teacher Authority | 1.85 | 1.89 | 2.04 | 1.93 | 2.07 | 2.03 | 2.35 | 2.17 |
| Teacher Favor. | 2.24 | 2.16 | 2.16 | 2.11 | 2.23 | 2.24 | 2.37 | 2.41 |

An examination of this table shows that all track levels and the groups of heterogeneously grouped classes agreed, on the average, that their teachers are concerned. There are differences, however, within this general agreement. High school English classes agreed more strongly that their teachers are concerned than did classes at the junior high/middle school level. Within each level, high track classes agreed more strongly than did low track classes. The low track classes at the junior high level expressed the lowest level of agreement with the Teacher Concern statements. While these trends do exist in the data, differences between the groups of classes on this scale are not large. Correlations between these scale scores and track level are low .13 (NS) among the high school

classes and .17 (NS) at the junior high/middle school level.

For two of the scales--Teacher Punitiveness and Teacher Authoritarianism--this overall pattern of responses is reversed. Generally, junior high/middle school classes perceived their teachers to be more punitive and authoritarian than did high school classes. Within each level, high track classes saw their teachers as less punitive and authoritarian than did low track classes. These differences are especially pronounced in the students' perceptions of punitiveness on the part of teachers. At both levels, low track classes reported significantly higher levels of agreement on this scale than did any other group.

The correlations between these scale scores and track level of classes are -.18 (NS) at the high school level and -.33 ($p < .05$) at the junior high level for Teacher Authoritarianism and -.32 ($p < .01$) at the high school level and -.42 ($p < .01$) at the junior high level for Teacher Punitiveness. It is clear that, in students' eyes, teachers were more authoritarian and punitive in low than in high track classes with the greatest differences occuring at the junior high school level.

The same patterns did not appear in the responses to the Teacher Favoritism items. Generally differences among schooling levels and groups of classes within levels on this set of items are quite small. While all groups of classes mildly disagreed with these items, junior high/middle school classes reported disagreement less strongly than did high school classes. Within these two levels, however, classes at the three track levels had similar perceptions. Heterogeneous classes, on the other hand, were at the extreme at both levels with the highest level of disagreement at the high schools and the lowest at the junior high/middle schools.

No significant relationship is found between scores on this scale and track level at the high schools (r = .05) or at the junior highs (r = -.18).

Generally, then, we can draw the following conclusions about differences in the perceptions of students in classes at different track levels regarding their teachers' relationships with them. No consistent pattern of responses is discernable in students perceptions of teacher favoritism and only very small differences occur among groups of classes. Students in high tracks at both the high schools and junior high/middle schools, however, viewed their teachers as slightly more concerned, considerably less punitive, and somewhat less authoritarian than did students in low track classes. Students in average track and heterogeneous classes tended to respond between the two extreme groups. From these data we can conclude that, according to students, teacher-student relationships in the high track classes studied were more likely to be characterized by concern and less likely to be characterized by coercion, authority, and an emphasis on punishment than were teacher-student relationships in the low track classes. These differences seem slightly more pronounced at the junior high/middle school level than among senior high school classes.

Classroom observers noted the affective tone of each teacher initiated interaction during the classroom observation periods. Positive affect was noted whenever teachers used humor, positive touching, or an overt expression of enthusiasm. Negative affect was recorded when the teacher was demeaning, punishing, angry or overtly negative in interactions with students. The percentages of total class interactions in which teachers displayed positive and negative affect are displayed in Table 22.

Table 22

Observed Teacher Affect
By Track

| | High School Classes | | | | Jr. High/Middle School Classes | | | |
|---|---|---|---|---|---|---|---|---|
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Positive | .74% | .87% | .82% | 1.18% | 1.27% | 1.32% | .68% | 1.58% |
| Negative | .60% | .64% | .85% | 1.19% | .81% | .69% | .44% | .71% |

Although it is immediately clear that little teacher affect of either type was found by the observers in any group, some differences do occur among groups. Among tracked classes at the high school level, teachers exhibited slightly more affect of both types in low than in high track classes. The pattern is reversed, however, at the junior high/middle school level. Both more positive and more negative teacher affect occurred in high than in low tracks. At both levels of schooling, the highest percentage of positive teacher affect occurred within the group of heterogeneous classes. This was also true of negative affect at the high school level. It appears that, rather than being characterized by either positive or negative teacher affect alone, tracks differed in the amount of affect of both types which occurred. No statistically significant relationships, however, are found between teacher affect and track level of classes.

Another indicator of the type of teacher-student relationships that exist in classrooms is the degree to which teachers emphasize student behavior and discipline. Classroom observer data was used to determine the percentage of total observed class interactions involving a teacher which were concerned with student behavior. These percentages in groups of classes at various track levels are displayed in Table 23.

Table 23

Percentage of Observed Classroom Interactions Concerned With Student Behavior By Track

| | Track Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | High School Classes | | | | Jr. High/Middle School Classes | | | |
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Percentage of Interactions | 1.33% | 1.75% | 2.58% | 2.32% | 1.96% | 2.78% | 2.11% | 3.38% |

The most interesting finding is that, as with teacher affect of both types, so few interactions concerning student behavior were observed in any group of classes. The highest percentages at both levels were in the group of heterogeneous classes, but even so, only about 2 percent of the total observed interactions in these classes at the high school level and slightly more than 3 percent in this group at the junior high level were focused on student behavior. At the high school level, however, nearly twice the percentage of these interactions were observed in low than in high track classes, a statistically significant difference (F prob. $< .01$). No significant differences between track means occur at the junior high/middle school level.

In summary, although students perceived teacher-student relationships and teacher affect differently at different track levels, only in the percentage of time spent on behavior at the high school level did observers note clear differences in this area. No important differences were observed in the two types of teacher affect or either schooling level or in the proportion of time spent on behavior among groups of junior high/middle school classes.

Peer relationships and student affect. Another set of variables measured students' relationships with each other in the classroom and the affective quality of student interactions. Several of the learning environment scales asked students about this aspect of their classroom experience. Students reported their level of agreement with statements regarding the existance of dissonance in the classroom, the amount of student compliance, and the degree of student apathy. Students also reported their perceptions of peer esteem, student competitiveness, and student cliqueness with their responses to the items that make up these scales. (See Appendix for a listing of the scales and items). Student perceptions of their relationships with their peers were also measured by two single items in the Student Survey. The classroom observers collected data about the affective quality of student initiated interactions in the classroom as well.

In Table 24 the mean responses of classes at different track levels and of homogeneous classes to the six learning environment scales and the two single items are displayed.

Table 24

Student Perceptions of Peer Relationships and Student Affect in the Classroom
Mean Learning Environment Scales Scores By Track

| | Track Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | High School Classes | | | | Jr. High/Middle School Classes | | | |
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hétero |
| Classroom Dissonance | 1.72 | 1.80 | 2.22 | 1.85 | 2.08 | 2.28 | 2.43 | 2.56 |
| Student Compliance | 3.36 | 3.24 | 3.23 | 3.30 | 3.40 | 3.30 | 3.07 | 3.22 |
| Student Apathy | 1.67 | 1.95 | 2.07 | 1.91 | 1.87 | 1.95 | 2.24 | 2.07 |
| Peer Esteem | 3.13 | 2.94 | 2.96 | 3.00 | 3.07 | 2.92 | 2.90 | 3.05 |
| Student Competiveness | 2.43 | 2.17 | 2.33 | 2.16 | 2.44 | 2.42 | 2.60 | 2.36 |
| Classroom Cliqueness | 2.60 | 2.68 | 2.70 | 2.64 | 2.69 | 2.74 | 2.64 | 2.92 |
| "Students in this class are unfriendly to me" | 1.40 | 1.52 | 1.76 | 1.44 | 1 53 | 1.70 | 2.05 | 1.71 |
| "I feel left out of class activities" | 1.48 | 1.59 | 1.69 | 1.59 | 1.56 | 1.66 | 2.04 | 1.69 |

Although, on the average, all groups of classes except heterogeneous junior high level classes mildly disagreed with the Classroom Dissonance items, within this general disagreement there are some meaningful differences. High school classes perceived themselves as less dissonant than did junior high/middle school classes. At each level of schooling, however, students in high tracks reported their classes to be considerably less dissonant than did students in low tracks. Scores of average track and heterogeneous classes fall between those of the high and low tracks with the exception of the high mean score of the group of heterogeneous junior high/middle school classes. Moderate relationships between Class Dissonance and track level are found at both schooling levels. Correlation coefficients are -.43 ($p < .001$) at the high school level and -.35 ($p < .01$) among tracked classes at the junior highs.

Similar patterns are found in the responses to the Student Apathy items. All groups tended to mildly disagree with this set of items. At the same time, junior high/middle school classes saw themselves as less apathetic than did high school classes. Within each level, however, important differences occurred among classes at different track levels. On the average, students in low tracks perceived considerably more apathy than did students in high tracks. The perceptions of the average and heterogeneous groups once more fell in the middle. The correlations are moderate and significant at both levels of schooling between track level and Student Apathy -- -.42 ($p < .001$) at the high schools and -.48 ($p < .001$) at the junior highs.

This within level pattern is reversed in the student responses to the items which comprise the Student Compliance and Peer Esteem scales.

All groups tended to mildly agree with these series of statements with no meaningful overall differences between junior and senior high groups. High tracks classes at both levels expressed substantially higher levels of agreement with these items than did low track classes. Again, the scores of average and heterogeneous classes fell in the middle. The relationship between track level and Student Compliance is considerably stronger among the junior high classes - $r = .56$ ($p < .001$) -- than among classes at the senior high level - $r = .23$ (NS). In contrast, for Peer Esteem the relationship is slightly stronger at the high school level. Both relationships, however, were significant -- $r = .35$ ($p < .01$) at the high school level and .29 ($p < .05$) at the junior high/middle school level.

No distinctive pattern of differences are found in the students' responses to the items comprising the Student Competitiveness and Student Cliqueness scales although a few scores stand out. Low track classes at the junior high/middle school level perceived the greatest amount of competitiveness in their classes, considerably more than did any other group. This was the only group, in fact, whose mean score placed them in the mildly agree range on this set of statements. Average and heterogeneous classes at the senior high level reported the lowest levels of competitiveness. While all groups, on the average, at both levels mildly agreed with the set of cliqueness related statements, only the heterogeneous classes at the junior high/middle school level had a significantly different and higher level of agreement with this set of statements. No significant relationships exist between track level and these two variables at either level of schooling. Correlations are .15 (NS) at the high school level and -.27 (NS) at the junior high school level for Student Competitiveness. Similarly, for Classroom

Cliqueness correlations are -.10 (NS) among the high school classes and .07 (NS) among the classes at the junior high school level.

From these scales, then, some general impressions emerge about how students perceived peer relationships and student affect in classes at different track levels. Students in high tracks perceived their classes as less dissonant than did low track classes. They viewed their fellow students as less apathetic, more compliant, and having higher levels of esteem for each other than did low track classes. Heterogeneous and average track classes tended to fall between the high and low tracks in these kinds of perceptions. Low track classes at the junior high/middle school level saw their classrooms as more competitive than did the other groups. Tracked classes did not differ meaningfully in student perceptions of cliqueness.

The responses to two additional items in the Student Survey provide insight into how students perceived the peer relationships in their classrooms. Students reported their level of agreement or disagreement with the statements "Students in this class are unfriendly to me" and "I feel left out of class activities". Responses to these two statements are very similar. Overall, all groups of classes mildly disagreed with both statements, with senior high school classes disagreeing more strongly than junior high/middle school classes. Even so, differences in responses exist among the groups of classes at different track levels. At both the junior and senior high levels, students in high track classes reported much stronger levels of disagreement than did students in low track classes.

And, as with many of the learning environment scales examined thus far, scores of heterogeneous and average track classes fall between those of high and low tracks on these two items. Relationships between track

level and responses to each of these two statements are considerably stronger at the junior high level than among senior high classes. Correlations between track and the response to "Students in this class are unfriendly to me" are .21 (NS) at the high school level and .58 ($p < .001$) at the junior high level. For the level of agreement with the statement "I feel left out of class activities" and track level correlations are .33 ($p < .01$) at the high school level and .62 ($p < .001$) among junior high/middle school classes.

It seems clear that distinct differences do exist in student perceptions of the type of peer relationships and student affect in classes at different track levels. In addition to lower levels of agreement with sets of statements measuring compliance and peer esteem and higher levels of agreement with statements measuring dissonance and apathy, students in low track classes were more likely to report unfriendliness in their classmates and a feeling of being left out of class activities. On several of these measures considerably more differentiation between groups occurs among classes at the junior high/middle schools than at the high school level.

Classroom observers recorded the affective tone of student initiated verbal interactions with adults. Like the teacher interactions, student interactions were classified as either positive or negative if overt expressions of either type were made. Positive affect was noted whenever humor, positive touching or an expression of enthusiasm occurred. Interactions were coded as negative if they were demeaning, punishing or included an expression of negative feeling. Table 25 includes the mean percentages of total class interactions at each track level that included positive and negative student affect.

Type of student involvement. Several kinds of measures were used to explore the type of learning interactions students engaged in at different track levels. Student, teacher, and observer data were used to assess whether track levels could be characterized by either passive or active student involvement in learning activities. The data collected by classroom observers provides several pieces of information concerning the types of learning interactions which occur in classrooms. Explored for this study were the extent to which classroom learning interactions were initiated by teachers and students, relative percentages of teacher lecturing and teacher questions in classroom learning, and the relative occurrences of open-ended and direct questions in instruction.

The percentages of total observed classroom interactions which were teacher and student initiated and focused on instruction are included in

Table 26.

Table 26

Percentages of Observed Instructional Interactions Initiated By Teachers and Students By Track

| | Track Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | High School Classes | | | | Jr. High/Middle School Classes | | | |
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Adult Initiated Interactions | 48.15% | 41.94% | 37.31% | 42.71% | 45.15% | 48.01% | 41.70% | 40.86% |
| Student Initiated Interactions | 7.54% | 7.74% | 7.25% | 6.27% | 4.31% | 6.03% | 5.01% | 7.59% |
| Total Instructional Interactions | 55.69% | 49.68% | 44.56% | 48.98% | 49.46% | 54.04% | 46.71% | 48.45% |
| | Relative Percentages | | | | | | | |
| % Adult Initiated | 86% | 84% | 84% | 87% | 91% | 89% | 89% | 84% |
| % Student Initiated | 14% | 16% | 16% | 13% | 9% | 11% | 11% | 16% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |

Only in the percentages of adult initiated interactions do distinct differences occur among the groups of classes at the two schooling levels. A relatively low but statistically significant correlation between adult initiated instructional interactions and track level exists among the groups of tracked high school classes ($r = .27$, $p < .05$). At the junior high level no meaningful relationships between the variables or significant differences between means are found. These same patterns are found in the totaled adult and student interactions. The percentages of student initiated interactions are almost identical among the groups of high school classes, while at the junior high level, somewhat larger differences exist. Heterogeneous classes, on the average, have a noticibly higher percentage of student initiated interactions at this level. The relative percentages of adult and student initiated interactions are nearly identical among all groups of classes at the high school level and among the tracked classes at the junior high/middle schools. Only the percentage of student initiated interactions among the junior high/middle school group of heterogeneous classes shows a meaningful within level difference.

From these data we can easily conclude that students are not usually the initiators of learning interactions with adults in the classroom. In no group of classes did student initiated interactions exceed 16 percent of the instructional interactions. At all track levels, students, for the most part, appear to be passive in this aspect of learning - verbal interactions. No important differentiation can be discerned among track levels on this variable.

This impression of overall student passivity is supported by the relative percentages of teacher lecturing to teacher questioning in classroom instruction. The percentages in Table 27 indicate the much larger

proportion of total observed interactions that were lecturing compared to questioning.

Table 27

Observed Percentages of Instructional Lecturing and Questioning By Teachers at Different Track Levels

| | Track Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | High School Classes | | | | Jr. High/Middle School Classes | | | |
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Adult Lecturing | 30.64% | 26.38% | 16.64% | 26.45 | 26.46% | 26.96% | 22.74% | 19.11% |
| Adult Questioning | 7.39% | 4.60% | 5.99% | 6.28% | 7.37% | 7.52% | 7.88% | 6.80% |
| Total Lecturing & Questioning | 38.03% | 30.98% | 22.63% | 32.73% | 33.83% | 34.48% | 30.62% | 25.91% |
| | Relative Percentages | | | | | | | |
| % Lecture | 81% | 84% | 74% | 81% | 78% | 78% | 74% | 74% |
| % Questions | 19% | 16% | 26% | 19% | 22% | 22% | 26% | 26% |

While there are distinct differences in the percentage of total class interactions that were teacher lecturing with considerably lower levels among low track classes at both levels, the most noticible finding here is the much higher incidence of teacher lecturing compared to teacher questioning in all groups of classes. Although a higher percentage of the total observed interactions are questions in high track classes at the high school level and few differences among groups occur at the junior high/middle school level, the relative percentages show that, in each group, teachers lectured three times as frequently as they questioned students. Interestingly, however, low track classes at both levels have the highest relative percentage of teacher questioning to lecturing. While the differences at the junior

high level are slight, they are more pronounced among the groups of senior high school classes. On the basis of these data, however, it seems unwarranted to conclude that the involvement in learning is more active at one track level than another.

The proportion of direct to open-ended questions asked of students in the context of instruction provides another indication of whether the involvement of students in classroom learning tends to be active or passive. In Table 28 the percentages of total class interactions which were direct and open-ended questions and the percentage of all questions which were open-ended are presented.

Table 28

Percentage of Direct
and Open Ended Questions By Track Level

| Track Level | High School Classes | | | | Jr. High/Middle School Classes | | | |
|---|---|---|---|---|---|---|---|---|
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Direct Questions | 5.90% | 3.66% | 5.28% | 5.48% | 6.41% | 6.87% | 7.33% | 6.31% |
| Open-Ended Questions | 1.48% | .94% | .71% | .80% | .95% | .65% | .55% | .49% |
| Total Questions | 7.39% | 4.60% | 5.99% | 6.28% | 7.37% | 7.52% | 7.88% | 6.80% |
| % of all Questions which are Open-Ended | 20% | 20% | 12% | 13% | 13% | 9% | 7% | 7% |

There were considerably higher percentages of direct than open-ended questions observed in all groups of classes. Despite this commonality, there were differences between track levels in the percentages of open-ended questions. Although open-ended questions represented only a small percentage

of total interactions, they were observed with nearly twice the frequency in high track classes when compared to low track classes. Furthermore, the percentages of total instructional questions that were open-ended are considerably larger in high than in low track classes. The low percentages of open-ended questions in heterogeneous classes should be noted as well. No statistically significant correlations between types of questions and track levels or mean differences between groups are found in these data. Again, the most noticible finding is that the less active questions comprise 80 percent or more of all teacher instructional questions in all groups of classes.

Both teacher and student data can be used to measure the occurrence of active and passive learning activities in the classroom. Of those activities to which both teachers and students responded, the following were presumed to require more active engagement on the part of students than the others: go on field trips; do research and write reports, stories, and poems; have class discussions, build or draw things; make films or recordings; and act things out. The remaining activities -- listen to me when I talk or demonstrate how to do something; listen to student reports; listen to speakers who come to class; write answers to questions; take tests or quizzes; and read for fun or interest - were seen as requiring a more passive engagement of students. Teachers reported the frequency with which they had students do activities by selecting one of four response options which were coded as follows: never = 1, not very often = 2, often = 3, always or most of the time = 4. Mean scores for groups of ac ivities and groups of ceachers can be interpreted in terms of the following ranges.

| Range of Mean Scores | Frequency of Activity |
|---|---|
| 3.50 - 4.00 | always or most of the time |
| 2.50 - 3.49 | often |
| 1.50 - 2.49 | not very often |
| 1.00 - 1.49 | never |

The seven more active activities listed above were combined to form an Active Activities scale. Similarly, the five more passive activities were combined to form a Passive Activities scale. A teacher's scale scores are the average of his or her responses to each group of activities. Mean scale scores for groups of teachers are included in Table 29.

Table 29

Mean Scale Scores on Teachers Use of Active and Passive Learning Activities By Track

| | Track Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | High School Classes | | | | Jr. High/Middle School Classes | | | |
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Active Activities | 1.98 | 2.02 | 1.75 | 2.12 | 2.15 | 2.19 | 1.92 | 2.19 |
| Passive Activities | 2.56 | 2.65 | 2.37 | 2.55 | 2.70 | 2.76 | 2.63 | 2.72 |

In all groups of classes passive activities were more frequently reported as used by teachers than were active activities. In all groups active activities, on the average, were reported as used "not very often". On the other hand, in all groups except low track high school classes, scores for passive activities fell into the "often" range. Within every group, passive activities as a group were reported as more frequently used than the active ones. Comparing track levels, the differences between groups are quite small at both levels, however, teachers of high and average classes

report greater frequency of use of both types of activities, with average track teachers indicating the greatest use of both types. Heterogeneous classes appear to do both types of activities with greater frequency than any of the groups of tracked classes. No significant correlations or differences in mean scores occur between these variables and track level. Again, we see the same pattern of predominately passive involvement of students in all types of classes.

Student data, too, can be used to compare the relative occurrence of passive and active learning activities in classrooms. From the students' "yes" or "no" responses to each activity listed, an average "yes" response was calculated for each class on each of the two sets of activities - active and passive. The percentage in Table 30 represent the average percentage of students in classes of each type who responded "yes" to each kind of activity.

Table 30

Average Percentage of "yes" Responses
to Active and Passive Activities
By Track Level

| | Track Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | High School Classes | | | | Jr. High/Middle School Classes | | | |
| | Hi | Av | Lo | Hetero | Hi | Av | Lo | Hetero |
| Active Activities | 33% | 36% | 32% | 37% | 44% | 43% | 40% | 40% |
| Passive Activities | 64% | 69% | 70% | 66% | 81% | 79% | 71% | 74% |

Again, the most pronounced finding is that, in every group of classes, noticibly higher percentages of students report that they do passive than active activities. Active activities received similar percentages of "yes"

responses in the four groups at each schooling level, with higher percentages of "yeses" at the junior high/middle school level. Passive activities, on the average, received higher percentages of "yes" responses at this level as well. Within levels, students in low track senior high classes reported considerably more passive activities done than did students in high track classes. The correlation between the doing of passive activities and track level is -.27 ($p < .05$) This pattern is reversed at the junior high/middle school level with more high track students reporting having done passive activities. The correlation at this level is stronger than at the senior high level - $r = .45$ ($p < .001$).

This student data supports the teachers' reports that passive activities are done with considerably greater frequency in all groups than are active learning activities. Unlike the teachers' reports, however, the student data indicates that at the high school level low track students are more likely to engage in passive learning experiences than are low track students. At the junior high level, in contrast, greater percentages of high track than low track students say they have passive learning activities.

These data, taken together, do not permit an impression of clear differentiation between track levels in the types of learning activities students engage in.

This set of variables - observer perceptions of teacher-student learning interactions and teacher and student perceptions of their involvement in different types of learning activities - lead to the conclusion that track levels do not seem to differ a great deal in the type of learning interactions students are involved in. Passive involvement seems predominant in all groups of classes studied and the differences between track levels on

this passive-active dimension appear small.

In summary then, distinct differences can be seen in the kinds of social relationships and interactions which characterize classes at different track levels at both levels of schooling. Students in the high track classes studied viewed their teachers as more concerned, less punitive, and less authoritarian than did low track students. High track students judged their classes as less dissonant and their fellow students as having more regard for each other, more willing to participate, and as less apathetic than did students in low track classes. Furthermore, high track students disagreed more strongly that students in class were unfriendly and that they felt left out of class activities. The percentage of observed instructional questions that were open-ended rather than direct was greater among high than low track classes. Observers noted higher levels of positive student affect in high track than in low track classes. Additionally, at the high school level observers recorded significantly less time spent on student behavior and discipline in high than in low track classes. At this level, as well, fewer students in high tracks reported that they engage in passive learning activities than low track students.

On the other hand, several of these relationship/interaction variables show little differentiation among track levels. Observer data shows no meaningful differences in teacher affect of either type, in negative affect among students, in the proportion of student initiated instructional interactions with teachers, and in the relative percentages of teacher lecturing and questioning.

Moreover, teacher reports of the frequencies of both passive and active learning activities are similar at all track levels. Finally, at the junior

high/middle school level, observers recorded no important differences in the proportion of observed time spent on student behavior and discipline.

DISCUSSION

What then, does this set of findings reveal when considered from the perspective of the cultural reproduction theorists? Do the differences observed in the 156 English classes in this study implicate the processes in those classes as within school sources of educational inequity? Keeping in mind the well established fact that low track classes are disproportionately populated with poor and minority students, do the three aspects of school curriculum approached by this study seem to indicate that the best educational experiences - and those which permit access to higher education - are reserved for those who are already privileged?

Considering each objective of the study separately, some speculations can be made about the relationship of these findings to the view of schooling and curriculum as mechanisms in the reproduction of social and economic inequities.

First, we can consider whether there appears to be a differential distribution of knowledge among groups of students in schools. The data from the English classes studied show that in several respects knowledge was distributed differentially within schools. Classes at different track levels were found to differ in the type of content presented, the cognitive levels of thinking required by instructional activities, and in the kinds of general behaviors taught. Additionally, the quantity of learning time differed among track levels.

As Apple, Young, and Bordieu suggest, this distribution appeared to be such that high status knowledge - that which provides access to the

university and increased opportunities for economic and social power - was unequally distributed. Low track classes - in which we can expect to find disproportionately high percentages of poor and minority students - appeared to have very little access to this elite academic knowledge. High track classes, likely to have disproportionately low percentages of poor and minority students, in contrast, seemed to be characterized by high status learning. The data from this study show that traditional college preparatory topics, high level cognitive thinking, and the encouragement of students toward autonomy were found primarily in high track classes. Students in low-track classes, on the other hand, rarely encountered these types of learnings. The knowledge provided to students in this class was typically basic literacy material or topics oriented to everyday life and work, usually requiring only low level cognitive processes. The behaviors included as course content were those that encouraged student conformity to rules and expectations.

Furthermore, even the quantity of learning time was noticibly different among the groups of classes. High track classes spent more time in instructional activity in class and were expected by their teachers to spend more time learning at home. Thus, the data from this study tend to support the view of the cultural reproduction scholars that both the quality and quantity of academic knowledge is distributed in a way that is biased toward the interests of powerful groups. Children of those already in power appear to have greater access to the knowledge which will help to ensure their access to future economic and social priviledge.

Second, we can examine whether instructional practices identified in the literature as highly associated with student achievement are disproportion-

ately allocated to students. The findings from the data indicate that this may be the case. "Teacher variability" - one of the three identified effective practices - appeared to be fairly evenly distributed among tracks of English classes. The other two, "teacher clarity" and "teacher enthusiasm" seem to be found in greater proportions in high than in low track classes. These "effective" practices seem to be distributed among classes in a way that limits access of those in the bottom groups to teaching practices associated with achievement. These findings, too, are consistent with the tenets of the cultural reproduction theory. If students in low tracks have consistently less exposure to effective teaching practices, it seems likely that their access to achievement is not equal to those students in classrooms where these practices are more often found. However, caution must be exercised at this point. The variables considered here - teacher variability, teacher clarity, and teacher enthusiasm - are only a small part of the constellation of teacher behaviors which may influence student achievement. Our knowledge of teaching effectiveness at this point does not permit a definitive statement about what group of teacher behaviors is consistently linked with learning. While the three included in this study have been found to be highly associated with learning, the presumption of a causal relationship is premature.

Third, while the process of tracking itself seems to support Bowles and Gintis' assertion that students in schools are fragmented into groups reflective of their social backgrounds, the differences in social relationships and interactions among these groups must be examined to determine if the kind of differential socialization they posit does occur. The results of this study both are consistent with and call into question the propositions

regarding the close correspondence between the social relationships of school and those in the various workplaces students at different levels will be expected to enter. The data supports the notions of both Bowles and Gintes and Bernstein in that relationships in classes where poor and minority students are most likely to be found were more characterized, at least in students' eyes, by alienation, distance, and authority than were high track classes. For the most part, however, classroom observers did not detect differences in classroom interactions that would account for these differences in perceptions. It may be, of course, that the factors causing different types of relationships are extremely subtle or that the perceptions are the result of the cummulative effects of very small differences over time or are, perhaps, related to events not considered in this study. At any rate, the data cannot confirm that these perceptions of different social relationships among track levels are supported in any consistent way by observed differences in teacher or student behavior. Little of the teacher, student, or observer data support the proposition that students in lower groups are more socialized than others to passive involvement. While the curricular content data do show that teachers of low track classes were more likely to emphasize conforming behavior rather than autonomy and self-direction, the actual learning activities engaged in and the instructional interactions at all track levels were characterized, for the most part, by student passivity. No differences in this regard, were found among the track levels in this study. We cannot conclude, then, from these data that in all aspects of social relationship and interactions students at the low end of the school hierarchy were permited less active and less positive participation. Nevertheless, we can say that in no aspect studied did low

track students appear to have more positive or involving interactions than did students in high track classes.

Thus, in the three curricular areas considered in this study, the findings, for the most part, are consistent with the views of the theorists who articulate the cultural reproduction notion of schooling. Of course, the findings of this study are preliminary and based on too few variables to confirm or disconfirm this theoretical position in any substantial way. The processes occurring in classrooms are highly complex and little understood. The largely unidirectional stance of the cultural reproduction hypothesis may not adequately explain these complexities. It seems likely that students affect the conditions of schooling to some degree and perhaps modify the institutional forces working to shape their educational experiences. This is not to say that the end result is <u>not</u> the reproduction of social, educational, and economic inequalities in society. But, it does point to the need for more sophisticated empirical work in this area.

The conclusions drawn from the findings of this study of secondary English classes are highly tentative. It is hoped that the phases of this work yet to be completed including data about 131 mathematics classes, a wider array of variables, and multivariate analytical techniques will provide more insight into these complex processes and how differences in them in classes at different track levels may serve as within school sources of educational inequality.

NOTES

1. A Study of Schooling has been conducted under the auspices of the Institute for Development of Educational Activities, Inc. (an affiliate of the Charles F. Kettering Foundation). Ten private philanthropic foundations and two major federal agencies have been involved in funding this project: The Danforth, International Paper Company, Jennings, Kettering, Mott, Rockefeller, and Spencer Foundations; the JDR 3rd Fund, the Needmore Fund, and Pedamorphosis, Inc.; the National Institute of Education and the U.S. Office of Education. Additionally, the tracking substudy has been supported, in part, by a special grant from the Carnegie Corporation. John D. Goodlad is principal Investigator of A Study of Schooling. A brief overview of the Study of Schooling, including a preliminary discussion of findings, can be found in a series of four articles published in the Kappan (November and December 1979, January and February 1980 issues).

2. The class climate instrument contains 113 items and 18 learning environment subscales. The subscales were arrived at after extensive factor and cluster analyses were performed (See Sirotnik, Nides, and Engstrom, 1980 for a detailed description of the psychometrics).

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## APPENDIX
## CLASSROOM LEARNING ENVIRONMENT
## SECONDARY STUDENTS

Teacher Concern (8)

1. The teacher makes this class enjoyable for me.
4. The teacher listens to me.
13. The teacher lets me express my feelings.
14. I like the teacher in this class.
-17. I wish I had a different teacher for this class.
21. I feel the teacher is honest with me.
22. This teacher is friendly.
24. The teacher is fair to me.

Teacher Punitiveness (6)

2. The teacher makes fun of some students.
6. This teacher hurts my feelings.
7. I'm afraid of this teacher.
9. The teacher punishes me unfairly.
11. The teacher makes fun of me.
16. The teacher gets mad when I ask a question.

Teacher Authoritarianism (8)

19. This teacher is too strict.
45. This teacher treats us like children.
49. This teacher will never admit when he/she is wrong.
56. We don't feel like we have any freedom in this class.
64. This teacher acts like he/she is better than we are.
69. This teacher "talks down" to us.
75. This teacher never changes his/her mind about anything.
82. I don't feel like I have any freedom in this class.

Teacher Favoritism (3)

47. The teacher likes some students in this class better than others.
-50. The teacher has no favorites in this class.
77. The teacher treats smart students in this class better than others.

Teacher Enthusiasm (3)

38. This teacher seems to like being a teacher.
51. This teacher seems to enjoy what he/she is teaching
-60. The teacher seems bored in this classroom.

Peer Esteem (7)

3. I help my classmates with their work.
6. If I am absent, my classmates help me to catch up on what I missed.
10. I like my classmates.
12. I like working with other students in this class.
15. In this class, people care about me.
18. If I had trouble with my work, most of my classmates would help me.
20. My classmates like me.

Student Decision-Making (8)

32. We are free to talk in this class about anything we want.
35. Students help make the rules for this class.
37. We are free to work with anyone we want to in this class.
40. We can decide what we want to learn in this class.
74. Students help decide what we do in this class.
80. Different students can do different things in this class.
91. Sometimes I can study or do things I am interested in even if they are different from what other students are studying or doing.
97. I help decide what I do in this class.

Classroom Dissonance (3)

41. The students in this class fight with each other.
54. The students in this class argue with each other.
107. Students in this class yell at each other.

Student Competitiveness (4)

48. There is a lot of competition in this class.
65. In this class, students compete with each other for good grades.
86. When I'm in this class, I feel I have to do better than other students.
90. Students in this class feel they have to do better than each other.

Student Cliqueness (3)

36. Some groups of students refuse to mix with the rest of the class.
68. Certain students stick together in small groups.
105. When we work in small groups, many students work only with their close friends.

Teacher Clarity (4)

62. The teacher uses words I can understand.
63. The teacher gives clear directi. s.
95. The students understand what the teacher is talking about.
109. I understand what the teacher is talking about.

Student Satisfaction (4)

96. Students feel good about what happens in class.
101. I don't like coming to this class.
108. After class, I usually have a sense of satisfaction.
112. I feel good about what happens in this class.

Student Compliance (4)

53. I usually do my homework.
87. I usually do the work assigned in this class.
94. The students in this class usually do the work assigned.
104. I usually do everything my teacher tells me to do.

Student Apathy (4)

29. Failing in this class would not bother most of the students.
33. Most of the students pay attention to the teacher.
34. Students don't care about what goes on in this class.
67. I don't care about what goes on in this class.

Classroom Physical Appearance (2)

70. The room is bright and comfortable.
111. I like the way this classroom looks.

Instructional Practices: Knowledge of Results (4)

30. The teacher tells us how to correct the mistakes in our work.
42. The teacher tells me how to correct the mistakes in my work.
43. This teacher lets us know when we have not learned something well.
61. We know when we have learned things correctly.

Instructional Practices: Task Difficulty (4)

44. I do not have enough time to do my work for this class.
66. Some of the things the teacher wants us to learn are just to hard.
73. I have trouble reading the books and other materials in this class.
92. The teacher gives me too much work to do in this class.

Instructional Practices: Organization (11)

28. We know exactly what we have to get done in this class.
52. We know why the things we are learning in this class are important.
57. The grades or marks I get in this class help me to learn better.
-58. We don't know what the teacher is trying to get us to learn in this class.
-72. Many students don't know what they're supposed to be doing during class.
-76. This class is disorganized.
-78. The grades or marks I get in this class have nothing to do with what I really know.
-79. We have to learn things without knowing why.
93. Students know the goals of this class.
106. Things are well planned in this class.
113. Our teacher gives us good reasons for learning in this class.

## ITEMS NOT INCLUDED IN SCALES

| A priori Dimension | | |
|---|---|---|
| Peer Esteem | 5. | Students in this class are unfriendly to me. |
| Student Hurt (T. Punitive) | 23. | I feel left out of class activities. |
| Rules and Regulations | 25. | In this class, there is a strict set of rules for students to follow. |
| Goals and Objectives | 26. | This teacher tells us ahead of time what we are going to be learning about. |
| Physical Environment | 27. | This classroom is too crowded. |
| Teacher Task Behavior | 31. | This teacher makes sure I finish my work. |
| Individualization | 39. | I have to do the work the teacher assigns, even if I already know how to do it. |
| Rules and Regulations | 46. | Everyone in this class knows what we may or may not do. |
| Teacher Flexibility | 55. | The teacher is willing to try different ways of doing things. |
| Student Decision-Making | 59. | I would like to be able to make more decisions about what goes on in this class. |
| Materials | 71. | The books and other learning materials we use in this class are not very interesting. |
| Appropriate Practice | 81. | We do things over and over until we learn them. |
| Grading | 83. | The grades or marks I get in this class are fair. |
| Materials | 84. | I can always find books or materials in this class that are interesting to me. |
| Appropriate Practice | 85. | We get to practice what we learn in this class. |
| Appropriate Practice | 88. | We forget things we've been taught in this class because we don't practice them enough. |
| Teacher Task Behavior | 89. | There is always work to do in this class. |
| Materials | 98. | There are not enough books or materials for everyone in this class to use. |

ITEMS NOT INCLUDED IN SCALES - CONT'D.

| A Priori Dimension | | |
|---|---|---|
| Teacher Task Behavior | 99. | Our teacher makes sure we finish our work. |
| Appropriate Practice | 100. | I get to practice what I learn in this class. |
| Rules and Regulations | 102. | We don't have too many rules in this class. |
| Time (pacing/speed) | 103. | There are times when I have nothing to to in this class, and there are times when I have too much to do. |
| Individualization | 110. | We all have to finish our work in the same amount of time. |