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ABSTRACT

This paper is the first-year report of a three-year project in Edina, Minnesota, developing a system for measuring differences among classroom environments and organizational patterns. Dimensions measured include teacher preferences for classroom structure, student perceptions of learning environments and classmate behavior, student attitudes, classroom activities, teacher student interaction, and parent attitudes toward learning environments. The study compares four alternative, elementary classroom organizational patterns: semidepartmentalized, multiaged, nongraded team, open alternative, and self-contained classroom. One purpose of this evaluation is to assist program developers by providing them with descriptive data about classroom environmental characteristics. The long-range goal of the three-year study is to establish a basis for future assessment of the correlates of student achievement in alternative learning environments. (Author/DS)

The Ecology of Learning: A Comparison of Alternative Elementary School Learning Environments*

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INTRODUCTION

The Edina, Minnesota Public Schools are currently involved in a three-year (Title IV-C) project intended to develop psychometrically sound, administratively simple, and useful procedures for measuring differences among learning environments (e.g., self-contained, departmentalized, team, open). The two goals of the project are to provide: 1) objective evidence of differences among alternative classroom environments so that parents and students can make enlightened choices and, 2) data for teachers to use in planning and refining their classroom environments to optimize conditions for all students.

The first year of the project called for the development of measurement techniques to chart such classroom environmental characteristics as organizational patterns, activities, interpersonal interactions, student attitudes, and achievement patterns. In addition, efficient information processing and feedback systems were developed to provide teachers with information for use in their program planning. Plans for years two and three call for the application and refinement of the measurement procedures and feedback systems as well as an analyses of the differences between and among environments. The purpose of this paper is to give a concise summary of the progress made during the first year.

The project grew out of the evaluation of an open alternative which began operation in the 1973-74 school year (Stiggins, 1975). Instruments and procedures were selected or developed to measure the achievement of open school

objectives. Teachers and parent volunteers found the data useful to them in a formative sense, as the learning environment was being developed. In addition, it appeared that the measurement package might be used to differentiate among the various learning environments available within the school. Therefore, the present three-year project was begun.

Description of Alternatives

The four alternative classroom organizational patterns compared are described below.

1) Semi-Departmentalized -- Students in this organizational pattern, spend half of the day with a "Block Teacher" studying reading, language arts, and social studies, and the other half of the day with specialized teachers of math, science, physical education, music, and library skills. (N = 156; Grades 4, 5, and 6; 6 teachers)
2) Multi-aged, non graded team -- In this alternative, students spend the entire school day in a setting with approximately 90 other students covering two grade levels and under the supervision of a team of two or three teachers. (N = 156; Grades 4, 5, and 6; 5 teachers)
3) Open Alternative School -- This is a non-graded (K-6) environment in which approximately 80 students together with their parents, two teachers, and two paraprofessionals organize, plan, and execute instruction. Students remain in the multi-room environment for the entire school day. (N = 72; Grades K-6; 2 teachers)
4) Self-Contained Classroom -- A group of approximately 30 students spend the entire day with the same teacher in the same classroom. (N = 114; Grade 3; 4 teachers)

Purpose of the Evaluation

The primary purpose of the evaluation was to determine whether different classroom organizational patterns lead to measureable differences in actual learning environments. A second purpose was to assist the program developers in the development of their environments by providing them with descriptive data about environmental characteristics on a regular basis. This called for the examination of environmental trends over time. The long range purpose for the evaluation was to establish a basis for future assessment of the correlates of student achievement in alternative learning environments.

Evaluation Strategy

As indicated above, the evaluation was designed to lead to both formative and summative judgments, based on the same data. At the end of each of three data-collection cycles, "profiles" of each learning environment were prepared for the teachers involved. These were transmitted in a conference with a project staff member, in which teachers were asked to compare their actual profiles, their "ideal" profile; and to consider strategies for making the two profiles congruent. (The characteristics of an "ideal" learning environment are viewed as a matter of individual opinion. Therefore the project staff maintains a position of neutrality in this area).

The final feedback included profiles from all three cycles, providing a kind of time-series summary for each environment. Data averaged over the three cycles provided a basis for summary comparison of the environments on each dimension measured.

Method

Description of Measures Used in Evaluation

A wide variety of learning environment and student characteristics were measured in each of the four settings. These are:

1. Teacher perceptions of how children learn, and preferences for teaching strategies, assessed by questionnaire;
2. Teacher descriptions of their own classroom organizations, assessed by questionnaire;
3. Student attitudes toward school and school subjects, toward teachers, classmates, and selves, assessed by semantic differential attitude survey;
4. Student perceptions of their learning environment, in terms of organization and interpersonal relations, measured with the Learning Environment Inventory (LEI);
5. Student perceptions of the behavior of themselves and their fellow students, measured by LEI;
6. Observations of classroom activities and grouping patterns to document physical environment.
7. Parent attitudes toward and participation in their children's learning environment, measured by means of a parent questionnaire.

Copies of each of these instruments with scoring procedures, are contained in the Appendix. Also appended are the first data gathered on the psychometric characteristics of some of the instruments. Since the major purpose of this paper is to discuss the Year One activities of instrument development and initial application, each of the measurement strategies is discussed in some detail below.

The general teacher questionnaire (Appendix A) relied on a (strongly agree - strongly disagree) scaling procedure to generate an index of the amount of freedom each teacher feels students should have in a learning environment. In addition, the teachers were asked to provide concise descriptions of their classrooms focusing on planning procedures, instructional groupings, types of activities, student and parent feedback procedures, and parent participation.

Student attitudes toward various elements of their school experiences, such as school and school subjects, their teachers, classmates, and themselves, were assessed by means of a simple set of semantic differential rating scales that reflect the importance and enjoyment attached to each element rated. (Appendix B and C)

Student perceptions of the various organizational and interpersonal aspects of their classrooms were assessed by means of an adaptation of the Walberg and Anderson Learning Environment Inventory (Anderson, 1970). Organizational subscales were: democracy, goal direction, diversity, physical setting, and organization. The interpersonal subscales included favoritism, friction, formality, cohesiveness, and competitiveness. These combinations of subscales were used to generate class environmental profiles (described in detail in Appendix D).

Student perceptions of characteristics of their classmates were gathered through the administration of a Self Direction and Independence Scale and added subscales of the LEI. Students were asked to indicate the extent to which their classmates were enthusiastic, satisfied, self-directed, respectful, adaptable, and responsible. These factors were also used to generate a class

profile (described in Appendix E).

Unannounced observations of classroom activities and groupings were carried out frequently at randomly scheduled times to ensure accurate representation of each class. Elements recorded during the observations included the activity in which each student was involved (active learning, passive learning, doing, play, other) and the context within which the activity was being done (alone, student to student, small group with and without an adult, tutorial, and large group). Teacher feedback reported proportions of students involved in each activity and context. A sample observation form is included in Appendix F).

Parent attitudes toward their child's school experiences were assessed by an end-of-year parent survey (Appendix G) designed to document the adequacy of those experiences and the perceived impact of the experiences on students.

Baseline data on student achievement patterns in math and reading were generated using a published criterion referenced measurement program that assesses specific behavioral objectives appropriate for the primary and elementary grade levels. Similar data gathered during years two and three will provide data on achievement patterns.

The Formative Evaluation: Data Collection and Reporting

With the exception of achievement, teacher attitudes, and parent attitudes, each of the variables listed above was measured three times (at the beginning, middle, and the end of the year) in each of the four classroom settings. Class "profiles" provided summary data to teachers after each observation cycle. Further, these procedures allowed for the comparative presentation of data over the three observations cycles so that teachers could track changes in perceptions and patterns. Teachers were given feedback in conference format to help them interpret the data.

To instill some investment in the results, at the beginning of the year and after each feedback session, teachers were asked to set specific goals for the next assessment cycle. This provided a means by which they could measure success in changing or maintaining the environment and student attitudes that they desired.

Judgments about the value of these data for teachers must be made very cautiously because of the very small number of teachers participating. The teachers involved did continue to cooperate enthusiastically, and to show genuine interest in the feedback materials.

The Summative Evaluation: Differences Among Learning Environments

The analyses performed at the end of the first year included both descriptive and inferential components. Data on teacher preferences and class descriptions, parent attitudes, and classroom activities and interactions were analyzed descriptively. Information about learning environment characteristics and student attitudes were compared across organizational patterns and grade levels by means of a multivariate analyses of variance. This analysis is described in greater detail below.

First, a cautionary note about the interpretation of the results of these analyses. There are some important limitations in the evaluation design resulting from the inability to control some key factors. Consequently, no definitive conclusions can be drawn in this paper.

The first limitation has to do with a self-selection factor. Students (and their parents) selected the environment they studied in. Consequently, there may be an interaction between selection and treatment. Second, the evaluation design relies to a very great extent on an interaction between observation and

the instructional treatment by using feedback of results to assist in making adjustment in the learning environments. Frankly, because the self-contained classrooms existed only at the third grade classrooms were therefore omitted from the multivariate analysis. Though steps are taken in the analysis to prevent misinterpretation as a result of these factors, they cannot be totally controlled. As a result of these limitations,any differences between organizational patterns in terms of environmental characteristics will be purely correlational.

Another set of limitations in the data frequently accompanies evaluation designs carried out in functioning educational settings. Due to the possible effects of teachers, students in various combinations, teachers in combination with students, and a whole host of contextual variables, the results of this study cannot be generalized beyond the setting (school and year) in which the study took place.

In addition to these statistical and research design limitations, initial data on the psychometric characteristics suggest that a great deal of instrument refinement and redevelopment is needed before summative conclusions can be drawn. This would be a totally unacceptable state of affairs in the third year of the project. However, since this report described the exploratory work of the first year, inadequacies in the data can be tolerated.

The analyses used to explore differences among the various organizational patterns included two independent variables: classroom organizational pattern and grade level. Grade level was included to determine if the age of the student interacted in any significant way with classroom setting in terms of environmental perceptions and attitudes. Since three of the organizational

patterns (Open, Semi-departmentalized, and Team) all included fourth, fifth, and sixth graders, these were the data used in the analyses.

Separate analyses were carried out for each of twelve sets of data by organizational pattern and grade. First, there were four profiles, each containing multiple dependent measures. These are listed below. Second, each of these profiles was generated during each of the three cycles. A separate MANOVA was executed for each cycle.

PROFILE	DEPENDENT VARIABLES
Organizational Environment	Democracy LEI Scale Goal Direction LEI Scale Diversity LEI Scale Organization LEI Scale Physical Setting LEI Scale
Interpersonal Environment	Favoritism LEI Scale Function LEI Scale Formality LEI Scale Competitiveness LEI Scale Cohesiveness LEI Scale
Student Characteristics	Satisfaction LEI Scale Enthusiasm LEI Scale Self-direction SDIS Scale Respect SDIS Scale Adaptability SDIS Scale Responsibility SDIS Scale
Student Attitudes	Arithmetic: Fun and Important Ratings Reading: Fun and Important Ratings School: Fun and Important Ratings Myself: Fun and Important Ratings My Teachers: Fun and Important Ratings My Classmates: Fun and Important Ratings

As a result of the number and complexity of the analyses, interpretations of only the most clear cut results are provided. In any case where there were statistically significant multivariate interactions between organizational pattern and grade, interpretations of main effects were not attempted. However, significant main effects for grade and/or organizational pattern were scanned and interpretations attempted.

RESULTS

Because of the amount of data gathered and the complexity of the analyses, this section will simply give some brief examples of the results that reflect the flavor of the data.

Teachers were fairly similar in the amount of freedom they thought elementary school students should have in their learning environments. However, the Open School teachers typically perceived the need for slightly more freedom. Teachers' descriptions of their own classroom organizational procedures suggested some differences. For example, Team and Open School teachers typically allowed more student participation in planning. And, parents played a more prominent role in the Open School than in the other environments.

Parents perceptions of the appropriateness of their role in school decisions making roles were constant across organizational patterns. Most parents were very satisfied with the role they were playing.

Actual classroom observations of classroom activities suggest that there are some real differences in the nature of activities and student groupings. These are reported in Figures 1 and 2. Team and Open settings tended to contain less passive learning, and Open tended to include more social interaction. Team and Open also tended to include less large group work, and Open tended to include more social interaction. Team and Open also tended to include less large group work, and Open tended to involve more work with adults (mostly parents).

The results of the comparisons of learning environment perceptions, perceptions of classmates and student attitudes, are summarized in Table 1. It is apparent that there tended to be some consistency across cycles for the variables that differentiated the organizational patterns. In general, the Open School tended

FIGURE #1

OBSERVATION OF
INSTRUCTIONAL GROUPINGS
Activities - Averaged
Over 3 Cycles

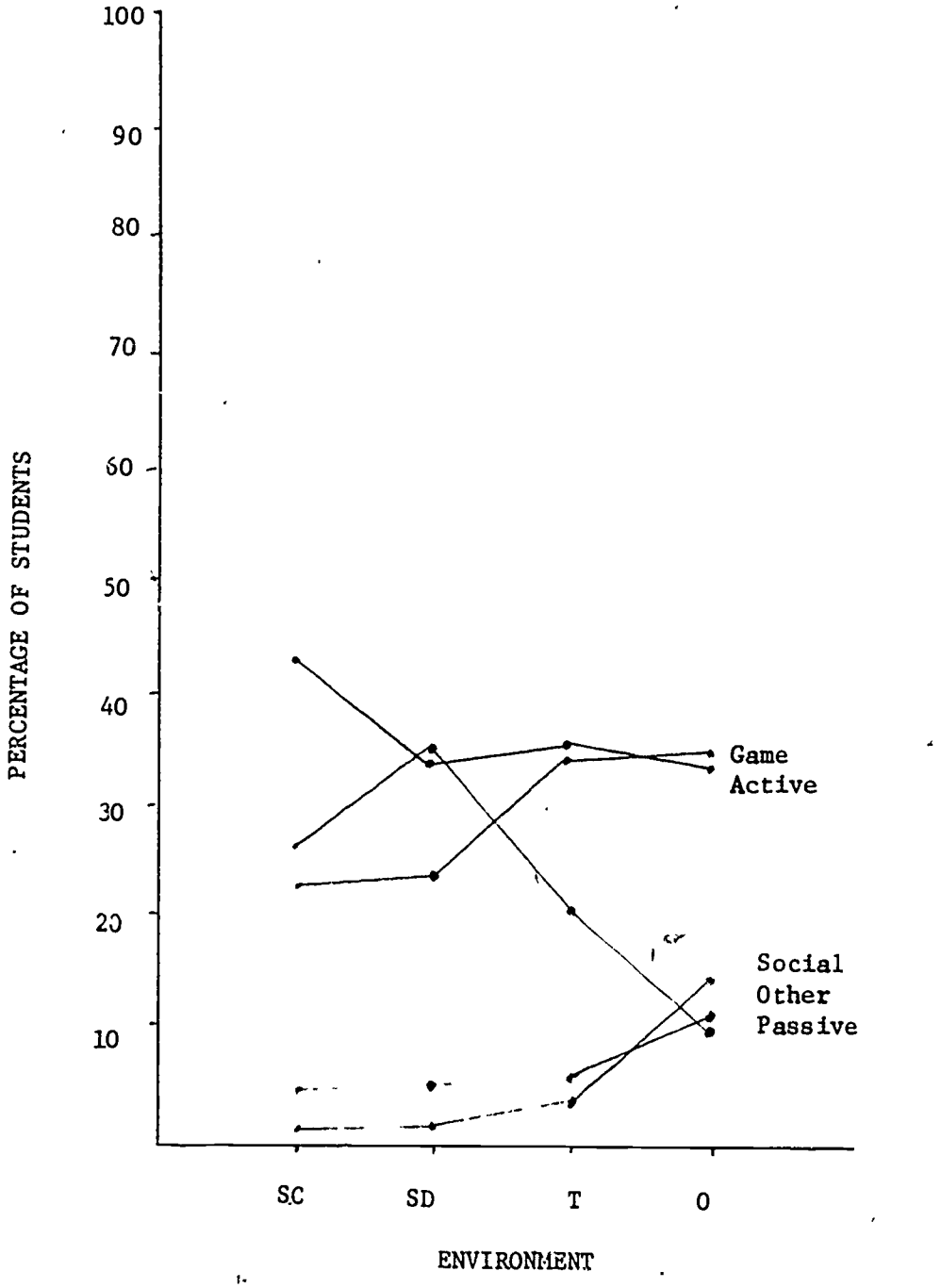

FIGURE #2

OBSERVATION OF
INSTRUCTIONAL GROUPINGS
Context - Averaged
Over 3 Cycles

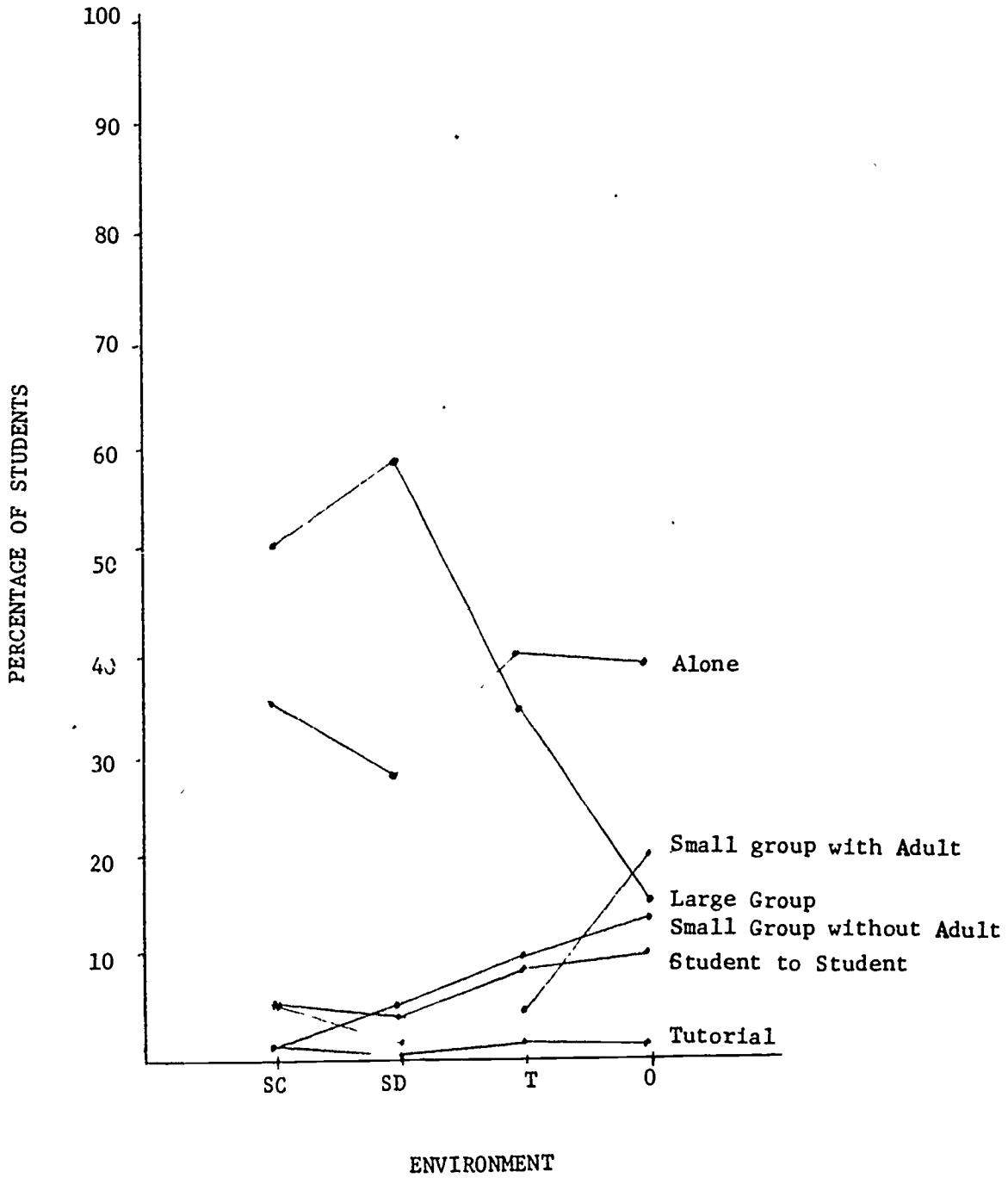

TABLE I

Summary of the Effects of Grade and Classroom Organizational Pattern of Learning Environment Characteristics

Environment Profile; Cycle	Significant Effect (Multivariate F)	Variable(s) That Differentiated (Significant Univariate F)	Nature of the Differences
Organizational: Beginning of the year	Environment by Grade Interaction		Complexity of Multivariate Interaction makes interpretation impossible.
	Environment	Physical Environment	Open school and self-contained classes saw their classroom as brighter and more comfortable.
		Goal Direction	Open school students saw their environment as being more goal directed than others.
Organizational: Middle of the year	Grade	Democracy	Older students saw more democracy in decision making.
Organizational: End of the year	Environment	Physical Environment	Open school and self-contained classes typically seen as brighter and more comfortable.
		Goal Direction	Open school typically more goal directed.
	Grade	Democracy	Older students saw more democracy in decision-making.
Interpersonal: Beginning of the year	Environment	Favoritism	Much less favoritism in the open school.
	Grade	Formality	Older students tend to perceive more formality.
Interpersonal: Middle of the year	Environment	Cohesiveness	Open school and self-contained classes reported more cohesiveness than others.
	Grade	Friction	Older students perceived more friction.

Table I (Continued)

Interpersonal: End of the Year	Environment	Cohesiveness	Open school and self-contained classes tended to report more cohesiveness
		Favoritism	Open school students report less favoritism than do students in other environments.
	Grade	Friction	Older students perceived more friction.
Student Characteristics: Beginning of the year	Environment	Satisfaction	Open school students typically more satisfied.
		Responsibility	Open school and semi-departmentalized student reported as being more responsible by classmates than self-contained and team.
Student Characteristics: Middle and End of the year	Environment by Grade Interaction		Complexity of multivariate interaction makes interpretation impossible.
Student Attitudes: Beginning of the year	Environment	Enjoyment of Arithmetic	Semi-Departmentalized had much more favorable attitude.
		Enjoyment of School	Very positive attitude for all but most positive for open school.
	Grade	Importance of teacher	Older students perceive more important role for teacher.
		Enjoyment of classmates	Older students enjoy classmates more.
Student Attitudes: Middle of year	Environment	Enjoyment of Arithmetic	Open school tended to report less enjoyment of Math.
	Grade	Enjoyment of Arithmetic	Older students tended to enjoy Arithmetic less.
		Importance of Reading	Older students tended to see Reading as more important.
		Enjoyment of Classmates	Older students enjoy classmates more.
Student Attitudes: End of the Year	Environment by Grade Interaction		Complexity of Multivariate Interaction makes interpretation impossible.

to stand apart from the others. The reliability of the profile differences will have to be tested in years two and three, however, before any definitive conclusions can be drawn.

CONCLUSIONS

The Edina School District is committed to offering choices of various kinds to students and their parents. The impetus for the development of particular alternatives may come from parents, from teachers or from school administration. In any case, development toward the desired environment takes place slowly over time, and requires feedback of information to the developers of that environment during the formative period. One goal of this project is to develop and use instruments and information-processing techniques which will be most helpful to the developers (teachers) in forming the various dimensions of their alternative learning environments. During year one, some initial measurement procedures were developed and information management systems were constructed and tried.

Many innovations in classroom organization are based upon tradition or educational theory with very little empirical evidence as to their impact upon the student. It is reasonable to ask what difference the organizational pattern of the classroom makes in the life and learning of the student. Short-term research studies have focused upon differences in achievement and attitude of open schools students vs. traditional students. (For a summary of such research, see Doob, 1974. Also see Wright, 1975.) Results have been inconclusive, and the comparisons have generally been made between only two alternatives. By applying

the same measures to various environments over the same period of time with a fairly homogeneous student body, more conclusive evidences of differences among environments may be found. The second goal of this project is to use the techniques used in summative evaluation of the four learning environments to describe the measurable differences among these environments so that students and parents might make informed choices. Year one data suggests that there may indeed be some important differences. Subsequent data will be gathered to test the reliability of those differences.

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Doob, H., Summary of Research on Open Education. Arlington, Va.; Educational Research Service, Inc., 1974.

Stiggins, R. J., Evaluation report of an open school educational alternative. Paper presented at American Educational Research Association Annual Meeting, Washington, D.C., April, 1975.

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APPENDIX A-1

GENERAL TEACHER QUESTIONNAIRE

NAME _____

INSTRUCTIONS: The following questions are about children in general. Even though children do differ from each other, please answer these questions with the "typical" child in mind.

The answering catagories are :
SA = Strongly agree
A = Agree
U = Undecided
D = Disagree
SD = Strongly disagree

Please circle your response.

1.	In general, school children should be allowed a lot of freedom as they carry out their learning activities.	SA	A	U	D	SD
2.	A child should obtain the consent of the teacher before moving about in the classroom.	SA	A	U	D	SD
3.	Children are not mature enough to make their own decisions about their learning activities.	SA	A	U	D	SD
4.	Children get distracted when other activities are going on around them.	SA	A	U	D	SD
5.	Most children are capable of being resourceful when left on their own.	SA	A	U	D	SD
6.	Children are unlikely to learn enough if they are frequently moving about.	SA	A	U	D	SD
7.	Children should normally be encouraged to get information from each other instead of asking the teacher.	SA	A	U	D	SD
8.	Children can learn from small group discussion withoutthe help of an adult.	SA	A	U	D	SD
9.	It is good for children to have activities scheduled for them.	SA	A	U	D	SD
10.	Children generally have little difficulty learning from their peers.	SA	A	U	D	SD

APPENDIX A-2

TEACHER CLASSROOM DESCRIPTIONS

INSTRUCTIONS: Try to answer these questions in terms of a "typical" student on a "typical" day (!)

Planning. Estimate the proportion of his/her activities planned by:

School District (Curriculum guides, etc.) -

Teacher of group of teachers -

Group of students -

Individual student -

Instructional groupings. Estimate the proportion of time the student spends in:

Large groups (over 10) -

Small groups (3-9) -

Tutorial -

Independent study -

Types of activities. Estimate the porportion of time the child spends in:

Listening to instruction -

Reading -

Writing -

Discussions -

Working with concrete objects -

Organizational routines -

Other (specify) -

Reporting to parents.

Frequency -

Type -

Parent participation. Frequency and types of participation:

Special events, projects, trips you would like to mention:

Any other aspects of your learning environment you would like to describe:

APPENDIX H - 2

Self-Direction and Independence Scale

Standard Direction

for

Administration

(Begin to pass out forms:)

Today I would like to have you tell me some things about school and your class. The paper being handed out contains some things that students do in school. I would like you to be very honest and tell me how many of your classmates do them. You should try to remember that this is not a test, so there are no wrong answers. There are only honest answers.

Now look at the top of the paper. (HOLD ONE UP). Please write your name at the top (POINT TO THE PLACE). Then fill in your grade level. Now read the instructions to yourself while I read them aloud: Here is a list of things that students do in school. Some students do them and some choose not to do them. How many of your classmates do each of the things listed? If just 2 or 3 students in your class do it, circle FEW DO. If about half do it, circle SOME DO. If almost everyone does it, circle MOST DO. Be sure to read each carefully and don't skip any.

Do you understand? Are there any questions?

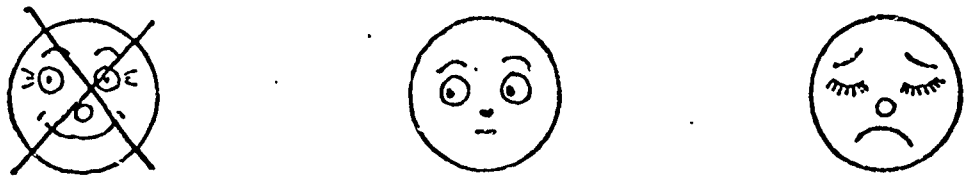
Now read #1 (PAUSE). Think for a moment about how many of your classmates usually do this and circle your answer. After you circle one, go ahead and do each sentence.

APPENDIX B Primary Attitude

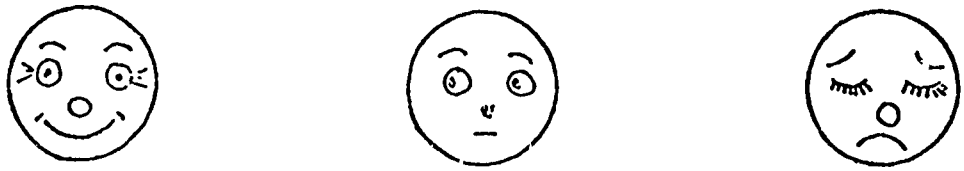
Name_____ Teacher _____

PLEASE PLACE AN "X" OVER THE FACE THAT TELLS HOW YOU FEEL ABOUT EACH THING.

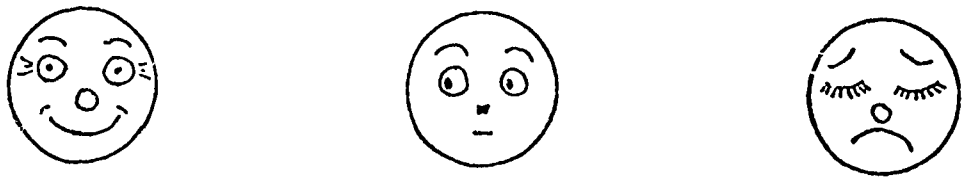
EXAMPLE: Which Face tells how you feel about summer vacation?



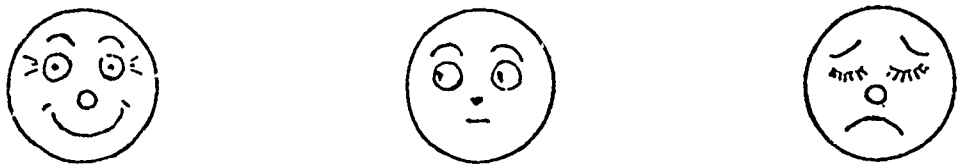
Which face tells how you feel about Arithmetic?



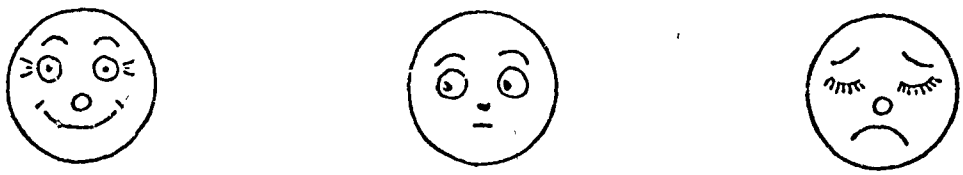
Which face tells how you feel about Reading?



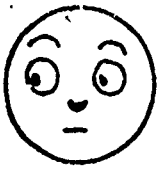
Which face tells how you feel about School?



Which face tells how you feel about Yourself?



Which face tells how you feel about your teachers?


Which face tells how you feel about your classmates?



PRIMARY ATTITUDE SCALE

Standard Directions for Administration

Today I would like you to tell me how you feel about school. The paper being handed out will help you to tell me your feelings. It has some questions written on it for you to answer. I would like you to answer each of the questions. You should remember that this is not a test. There are no wrong answers - only honest answers.

Look at the top of the paper (POINT). Write your name where it says name (POINT; YOU AND THE TEACHER CHECK TO BE SURE ALL IS O.K.) Below your name it says: Place an X over the face that tells how you feel about each thing.

Now look at the example; which face tells how you feel about summer vacation? If you like summer vacation, you would put an X on the smiling face.

Now look at the next question. Which face tells how you feel about arithmetic? If you like arithmetic, X the smiling face; if you are not sure if you like arithmetic, X the middle face; if you do <u>not</u> like arithmetic, X the frowning face. Be sure to be honest and tell what you really think.

THEN READ EACH QUESTION.....

APPENDIX C

Intermediate Attitude

NAME _____

TEACHER _____

ARITHMETIC

IMPORTANT ____ ____ ____ ____ ____ NOT IMPORTANT

FUN ____ ____ ____ ____ ____ NOT FUN

READING

IMPORTANT ____ ____ ____ ____ ____ NOT IMPORTANT

FUN ____ ____ ____ ____ ____ NOT FUN

SCHOOL

IMPORTANT ____ ____ ____ ____ ____ NOT IMPORTANT

FUN ____ ____ ____ ____ ____ NOT FUN

MYSELF

IMPORTANT ____ ____ ____ ____ ____ NOT IMPORTANT

FUN ____ ____ ____ ____ ____ NOT FUN

MY TEACHERS

IMPORTANT ____ ____ ____ ____ ____ NOT IMPORTANT

FUN ____ ____ ____ ____ ____ NOT FUN

MY CLASSMATES

IMPORTANT ____ ____ ____ ____ ____ NOT IMPORTANT

FUN ____ ____ ____ ____ ____ NOT FUN

APPENDIX J-2

INTERMEDIATE ATTITUDE SCALE

Standard Directions for Administration

Today I would like you to tell me how you feel about school. The paper being handed out will help you tell your feelings. It has certain parts of school listed down the middle and below each is a place for you to tell me if you think each is important or unimportant, and fun or not fun. You should remember that this is not a test. There are not wrong answers - only honest answers.

Now look at the top of the page (POINT). Write your name where it says name (POINT). (WRITE ARITHMETIC ON THE BOARD). Now below the word ARITHMETIC, put an X on the one of the five short lines that tells whether you think arithmetic is important or not important. If you think it is very important or not very important put an X on the short line next to the word. If you think it is kind of important or kind of unimportant, put an X on the second line. If you are undecided put an X on the middle line. Are there any questions?

Now do the same for important/not important and fun/not fun for each thing listed.

APPENDIX D-6

Title III Project

Evaluating Educational Alternatives

TEACHER FEEDBACK FORM

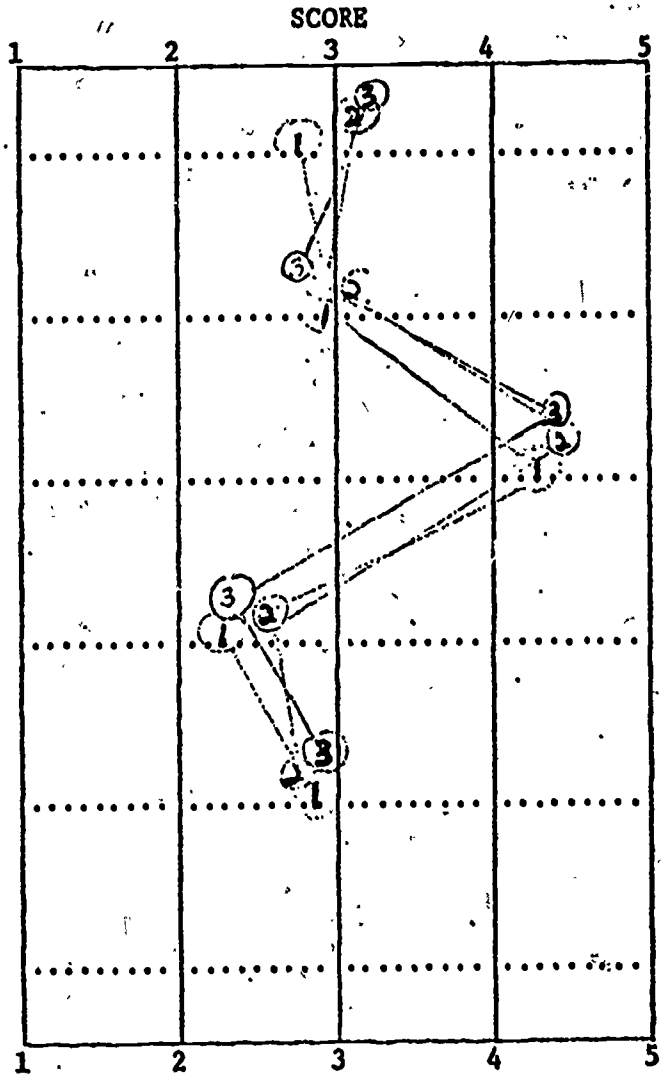
Alternative Catagory _____ Class _____

Cycle: (1) (2) (3)

Profile: INTERPERSONAL ENVIRONMENT

CLASSROOM CHARACTERISTIC

1. FAVORITISM
2. FRICTION
3. FORMALITY
4. COMPETITIVENESS
5. COHESIVENESS
6. _____



APPENDIX . B-2

Title III Project

Evaluating Educational Alternatives

TEACHER FEEDBACK FORM

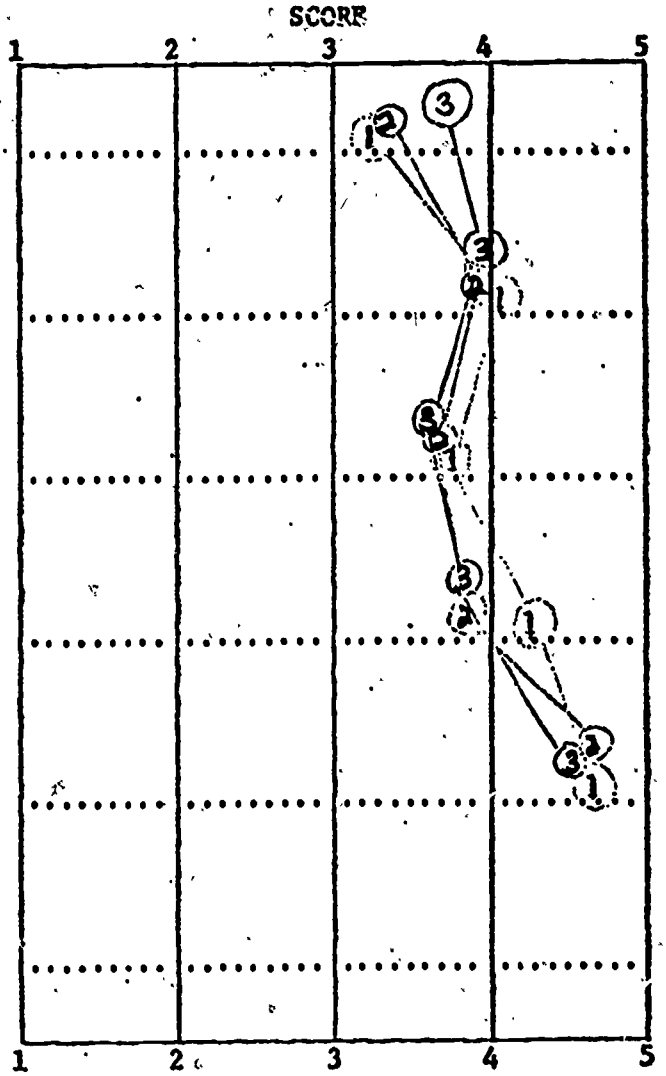
Alternative Catagory _____ Class _____

Cycle: (1) (2) (3)

Profile: ORGANIZATIONAL ENVIRONMENT

CLASSROOM CHARACTERISTIC

1. DEMOCRACY
2. ORGANIZATION
3. GOAL DIRECTION
4. PHYSICAL ENVIRONMENT
5. DIVERSITY
6.



APPENDIX D-3

TITLE III PROJECT

Evaluating Educational Alternatives

Profile Description

THE STUDENT CHARACTERISTIC PROFILE

The Student Characteristic Profile is designed to reflect a student's perception of various characteristics of her or his classmates. In short, these scales indicate if the student sees his or her classmates as being ENTHUSIASTIC, SATISFIED, SELF-DIRECTED, RESPECTFUL, ADAPTABLE, and RESPONSIBLE. These are defined and the scores are described in detail below.

The degree of ENTHUSIASM is measured in terms of student responses to such items as these: "The kids really care what happens in our class," or "Most students want this class to be a good one." There are five such items and the highest score is 5, which reflects a high level of enthusiasm.

The level of SATISFACTION, from the student point of view, is measured by asking the class members if "Students in other classes would like to be in our class," or "I feel good about what I learn in school." A maximum score of 5 reflects a high degree of satisfaction.

The four remaining student characteristic subscales are measured differently. The students were asked how many of their classmates do such things as "Finish work without being reminded by the teacher," or "Try to answer questions by themselves before asking the teacher." If most students do these and other things like them, then the class members are highly SELF-DIRECTED. If few students do them, then students are not self-directed. The scoring procedure is such that the maximum score on these last four subscales is 10 rather than 5 points. On this scale, a high score indicates high self-direction.

Other activities are listed to measure other dimensions. For example, RESPECT activities are "Cause trouble in the lunch room," "Cheat when correcting their work," and "Speak nicely to and about other classmates and adults." The highest score here reflects a high level of respect.

Items that are intended to measure ADAPTABILITY include "Work well in large and small groups," or "Leave work when asked to do so and return to it without getting mixed up." The higher the score, the more adaptable the students.

The RESPONSIBILITY subscale is characterized by these activities: "Have to be reminded to keep appointments outside the room," or "Clean up a mess and put things away when finished." A high score reflects a class which assumes responsibility, according to its members.

Remember, we are not able (nor do we want at this time) to compare groups, classes or programs on the basis of these profiles. Consequently, we are unable to place a value judgement on them reflecting what is "good" or desirable. Until we have a great deal more data and analysis in this very exploratory area, we can only advise you to reflect on your profile and make your own individual judgement regarding its value and the alterations it may suggest.

APPENDIX D-4

Title III Project

Evaluating Educational Alternatives

TEACHER FEEDBACK FORM

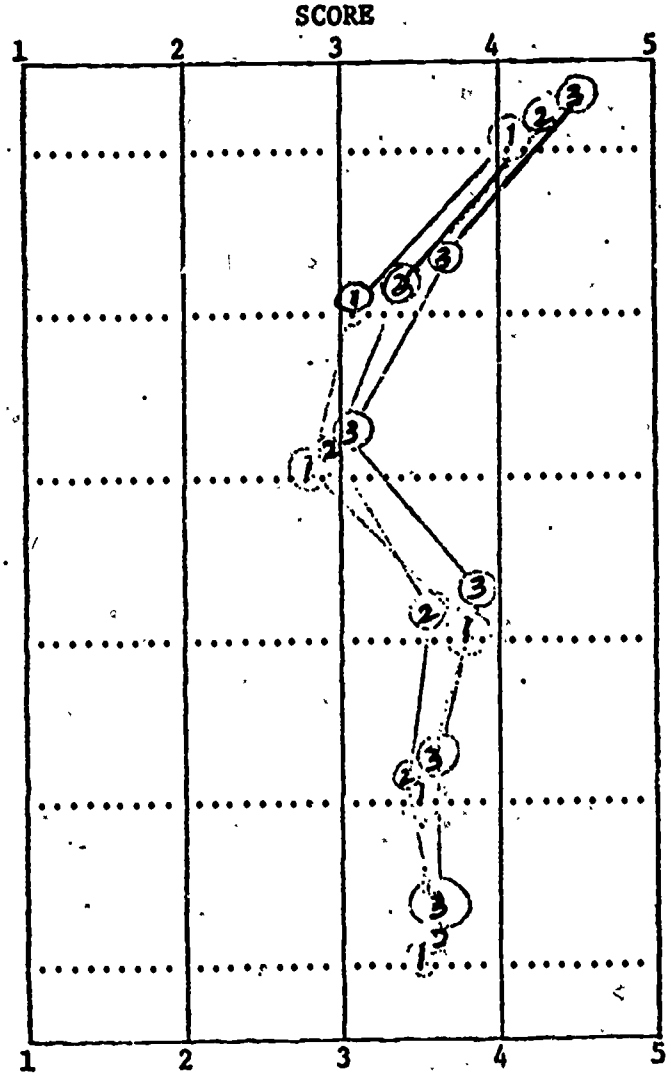
Alternative Catagory _____ Class _____

Cycle: (1) (2) (3)

Profile: STUDENT CHARACTERISTIC

CLASSROOM CHARACTERISTIC

1. ENTHUSIASM
2. SATISFACTION
3. SELF-DIRECTION
4. RESPECT
5. ADAPTABILITY
6. RESPONSIBILITY



APPENDIX D-5

TITLE III PROJECT

Evaluating Educational Alternatives

Profile Description

THE INTERPERSONAL ENVIRONMENT PROFILE

The Interpersonal Profile is designed to give an indication of the interpersonal environment of the classroom. It focuses on five dimensions of interpersonal relationships among students. Specifically, this profile gives an indication of the amount of FAVORITISM, FRICTION, FORMALITY, COMPETITION and COHESIVENESS that the students perceive. Each of these is defined more specifically below. The scores which appear on your profile are the average responses of all of the students in your class.

Examples of items on the Learning Environment Inventory which contribute to the scale score called FAVORITISM are these: "Some students are always favored," or "Younger students and older students are treated the same." There are five such items and the students respond YES or NO to each of the items. The lowest score (1) indicates that there is very little favoritism, while a high score (5) indicates the presence of favoritism in the class.

The amount of FRICTION perceived by students is reflected in items that attempt to measure the amount of interpersonal conflict: "Some students don't like other students," or "Students in this class like to help each other." Once again there are five YES or NO items like these. A high score indicates the presence of friction, while a low score indicates little friction.

A high score on the FORMALITY scale would be indicated by a YES response to an item like this: "There are many rules which every student must obey," or a NO response to this: "The class doesn't have many rules." A high score would indicate that the environment is more structured and a low score would indicate less formality.

The COMPETITION subscale is composed of five items that reflect amount of interstudent comparison that exists. For example, two competition items are these: "Most students compete to see who can do the best work." "Most students cooperate rather than compete with classmates." A low score reflects less competiton; a high score, more competition among students.

The final scale of the interpersonal profile is the COHESIVENESS subscale. This indicates the degree of interpersonal bond in the group. For example: "All students know each other well," or "Everyone knows what the others like and don't like." The higher the score, the more cohesion.

Remember, we are not able (nor do we want at this time) to compare groups, classes or programs on the basis of these profiles. Consequently, we are unable to place a value judgement on them reflecting what is "good" or desirable. Until we have a great deal more data and analysis in this very exploratory area we can only advise you to reflect on your profile and make your own individual judgement regarding its value and the alterations it may suggest.

APPENDIX D-6

Title III Project

Evaluating Educational Alternatives

TEACHER FEEDBACK FORM

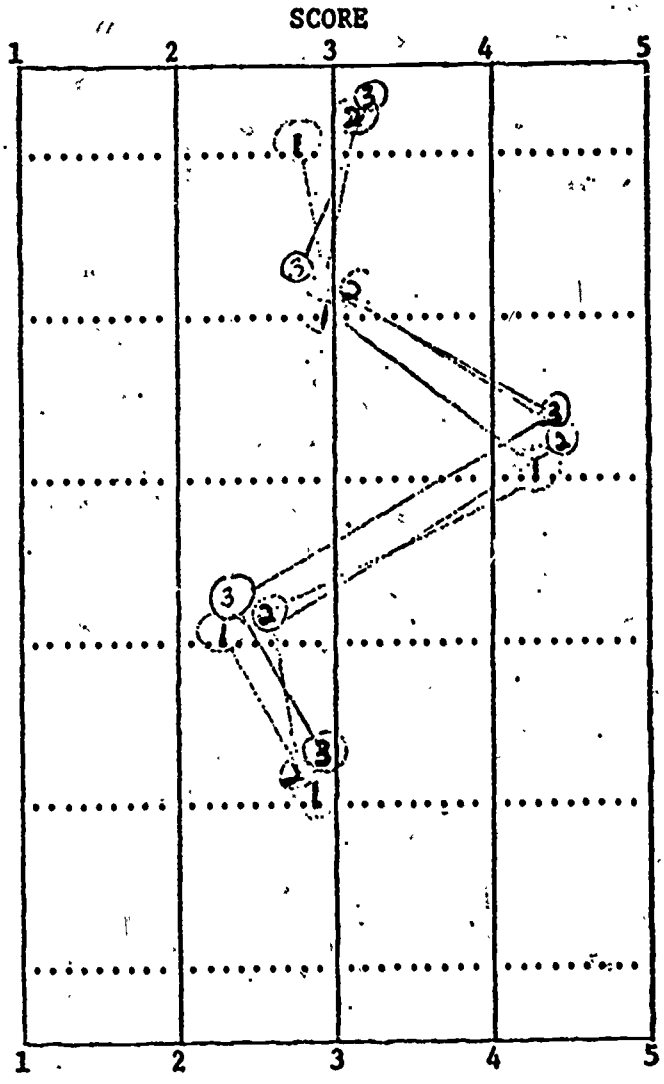
Alternative Catagory _____ Class _____

Cycle: (1) (2) (3)

Profile: INTERPERSONAL ENVIRONMENT

CLASSROOM CHARACTERISTIC

1. FAVORITISM
2. FRICTION
3. FORMALITY
4. COMPETITIVENESS
5. COHESIVENESS
6. _____



INTERNAL CONSISTENCY (COEFFICIENT ALPHA) AND TEST-RETEST RELIABILITY ESTIMATES FOR THE LEARNING ENVIRONMENT INVENTORY

SCALE	HARVARD PHYSICS PROJECT* (N=464)	TITLE III** (N=75)	TEST-RETEST PEARSON r# (N=359)
Diversity	.58	.26	.44
Cohesiveness	.78	.30	.44
Physical Environment	.65	.32	.55
Competitiveness	.78	.08	.50
Goal Direction	.86	.12	.47
Organization	.81	.01	.48
Formality	.64	.04	.35
Friction	.78	.27	.53
Favoritism	.77	.04	.59
Satisfaction	.80	-.22	.48
Enthusiasm	.83	.30	.42
Democracy	.67	.02	.34

*Four response choices provided
**Two response choices provided
#Cycle 2 with Cycle 3 scores

Table 16a

INTERNAL CONSISTENCY (COEFFICIENT ALPHA) AND TEST-RETEST RELIABILITY ESTIMATES FOR SELF-DIRECTION AND INDEPENDENCE MEASURE

SCALE	TITLE III (N=75)	TEST-RETEST PEARSON r * (N=75)
Self-Direction	.36	.83
Respect	.54	.58
Adaptability	.50	.52
Responsibility	.41	.45

*Cycle 2 with Cycle 3 scores

APPENDIX E-1

LEI

DI ____ COM ____
COH ____ GD ____
PE ____ OR ____

NAME _____

GRADE LEVEL _____

INSTRUCTIONS: Read each sentence and tell if you think it is true in your school. If it is true circle YES. If it is not true circle NO. This is not a test so tell us what you really think. Be honest. There are no wrong answers.

	CIRCLE YOUR ANSWER	
1. Students like to solve different kinds of problems.	YES	NO
2. Members of the class do favors for one another.	YES	NO
3. The rooms are bright and comfortable.	YES	NO
4. Most students compete to see who can do the best work.	YES	NO
5. Each student in class knows what he wants to learn.	YES	NO
6. The class is set up well.	YES	NO
7. The class has students with many different interests.	YES	NO
8. All students know each other well.	YES	NO
9. Students are proud to show their classroom to visitors.	YES	NO
10. Most students cooperate rather than compete with classmates.	YES	NO
11. The goals of the class are clear.	YES	NO
12. I know exactly what I'm supposed to do during the day.	YES	NO
13. Students in this class are trying to learn many different things.	YES	NO
14. Most students aren't good friends with each other.	YES	NO
15. The classroom is too crowded.	YES	NO
16. Students seldom compete with each other.	YES	NO
17. Some kids spend a lot of time not knowing what to do.	YES	NO
18. Students know exactly how much work they should do.	YES	NO
19. In this class, I can study many different subjects.	YES	NO
20. Students don't know each other very well.	YES	NO
21. There is enough room for me to work alone and in groups.	YES	NO
22. Most students want their work to be better than their friend's work.	YES	NO
23. I know what I need to learn in reading.	YES	NO
24. Many kids don't know what to do with their time.	YES	NO
25. There are lots of different books and materials in the class.	YES	NO
26. Everyone knows what the others like and don't like.	YES	NO
27. The things I want in class are easy to find.	YES	NO
28. Some students always want to do better than others.	YES	NO
29. Each student knows what math he is trying to learn.	YES	NO
30. The class is not organized well.	YES	NO

APPENDIX E-2

LEI II

FO ___ SA ___
FR ___ EN ___
FA ___ DE ___

NAME _____

GRADE _____

INSTRUCTIONS: Read each sentence and tell if you think it is true of your class. If it is, circle YES. If it is not true, circle NO. This is not a test. There are no wrong answers, so you can say what you really think. Be honest.

	Circle Your Answer	
1. There are many rules which every student must obey.	YES	NO
2. Some students don't like other students.	YES	NO
3. The teachers treat all kids the same.	YES	NO
4. Students in our class like to come to school.	YES	NO
5. The kids really care what happens in our class.	YES	NO
6. Group decisions are made by all the kids in the group.	YES	NO
7. Students know what rules are not to be broken.	YES	NO
8. Older students help younger students.	YES	NO
9. Better students get to do more things.	YES	NO
10. Students in other classes would like to be in our class.	YES	NO
11. Most students want the class to be a good one.	YES	NO
12. When we vote on things, all the kids get to vote.	YES	NO
13. The kids know very well what is expected of them.	YES	NO
14. Some students just never go along with what the others are doing.	YES	NO
15. Some students are always favored.	YES	NO
16. Many students are not happy with school.	YES	NO
17. I want my class to be a good one.	YES	NO
18. Some students try to make the other kids do what they want them to do.	YES	NO
19. Students are asked to follow rules.	YES	NO
20. Students in the class like to help each other.	YES	NO
21. The teachers like some students more than others.	YES	NO
22. I feel good about what I learn in school.	YES	NO
23. Failure of our class doesn't mean anything to anyone.	YES	NO
24. When we have to decide something in a group, we often take a vote.	YES	NO
25. The class doesn't have many rules.	YES	NO
26. There is a lot of complaining among the kids.	YES	NO
27. Younger and older students are treated the same.	YES	NO
28. Students feel good about their work in school.	YES	NO
29. The success of the class is not very important to students.	YES	NO
30. Each student in the class has one vote when we are making decisions.	YES	NO

SOIS

APPENDIX E-3

SD ____
RE ____
AD ____
RO ____

NAME _____ TEACHER _____

INSTRUCTIONS: Here is a list of things that students do in school. Some students do them and some choose not to do them. How many of your classmates do each of the things listed? If just 2 or 3 students in your class do it, circle FEW DO. If about half do it, circle SOME DO. If almost everyone does it, circle MOST DO. Be sure to read each carefully and don't skip any.

1.	Go ahead with work in math without being told to do so.	FEW DO	SOME DO	MOST DO
2.	Finish work without being reminded by the teacher.	FEW DO	SOME DO	MOST DO
3.	Push and shove when going from one place to another.	FEW DO	SOME DO	MOST DO
4.	Leave work when asked to do so and return to it witnout getting mixed up.	FEW DO	SOME DO	MOST DO
5.	Remember to bring library books and lunch money to school.	FEW DO	SOME DO	MOST DO
6.	Find other work to do, such as reading a library book, after their class work is done.	FEW DO	SOME DO	MOST DO
7.	Keep paper, pencils and books neatly in their places.	FEW DO	SOME DO	MOST DO
8.	Work well in large or small groups.	FEW DO	SOME DO	MOST DO
9.	Like to take part in new and different games and projects.	FEW DO	SOME DO	MOST DO
10.	Steal other people's things.	FEW DO	SOME DO	MOST DO
11.	Look for and find needed materials such as books without asking the teacher.	FEW DO	SOME DO	MOST DO
12.	Remember to take home things such as notes, boots, lunch pails and mittens at the end of the day.	FEW DO	SOME OO	MOST DO
13.	Cause trouble in the lunch room.	FEW DO	SOME DO	MOST DO
14.	Try to answer questions by themselves before asking the teacher.	FEW DO	SOME DO	MOST DO
15.	Have to be reminded to keep appointments outside of the room.	FEW DO	SOME DO	MOST DO
16.	Clean up a mess and put things away when finished.	FEW DO	SOME DO	MOST DO
17.	Cheat when correcting their work.	FEW DO	SOME DO	MOST DO
18.	Behave and work just as well with a volunteer, substitute teacher as with the regular teacher.	FEW DO	SOME DO	MOST DO
19.	Talk and play with more than just one or two friends.	FEW DO	SOME DO	MOST DO
20.	Speak nicely to and about other classmates and adults.	FEW DO	SOME DO	MOST DO

APPENDIX E-4

SCORING FORMULAS

YEAR I

LEARNING ENVIRONMENT INVENTORY, I

SCALE	ITEMS					SCORE
Diversity	1	7	13	19	25	YES = 1
Cohesiveness	2	8	14*	20*	26	NO = 0
Physical Environment	3	9	15*	21	27	
Competitiveness	4	10*	16*	22	28	Max = 5 Min = 0
Goal Direction	5	11	17*	23	29	*Reverse: YES = 0
Organization	6	12	18	24*	30*	NO = 1

LEARNING ENVIRONMENT INVENTORY, II

Formality	1	7	13	19	25*	SAME AS ABOVE. . . .
Friction	2	8*	14	20*	26	
Favoritism	3*	9	15	21	27*	
Satisfaction	4	10	16*	22	28	
Enthusiasm	5	11	17	23*	29*	
Democracy	6	12	18*	24	30	

SELF-DIRECTION AND INDEPENDENCE SCALE

Self-direction	1	2	6	11	14	FEW = 1 SOME = 2 MOST = 3
Respect	3*	10*	13*	17*	20	
Adaptability	4	8	9	18	19	*Reverse: FEW = 3 SOME = 2 MOST = 1
Responsibility	5	7	12	15*	16	

Max = 15
Min = 5

CLASS OBSERVATION SHEET

Class being observed _____ Observer JC #Children 70 Date 4/14

	Alone	Student with Student	Small Group W/O Adult	Small Group & Adult	Tutorial	Large Group	TOTAL
Reading Writing Discuss.	𝍸 𝍸 | (11)	||		𝍸 ||| 𝍸 ||| (12)	|		26
Waiting Listen. Passive	|||					𝍸 𝍸	13
Educ.Game Coop.Work Doing	𝍸 || (7)	𝍸 | (8)	|||| (9)				17
Free Play Social	||||						4
Deviant (Other)	𝍸 𝍸 (10)						10
TOTAL	35	8	4	12	1	10	70

COMMENTS:

APPENDIX F

APPENDIX G-1

TITLE III PARENT SURVEY

INSTRUCTIONS: Please respond separately for each child you have in the Title III program. If parents differ in response, please so indicate (M = mother; F = father) Use the back of the page for any comments you would like to make.

1. This questionnaire refers to my child in:

_____self-contained classroom
_____semi-departmentalized classroom
_____Team
_____open school

2. Please rate the experience that you and your child have had this year in school.

_____Excellent experience
_____Good experience
_____Undecided
_____Unpleasant experience
_____Very bad experience

3. Please estimate the number of times you have visited your child's learning environment this year for each of the reasons listed:

	For Conferences	For Participation in the school	Total
Mother			
Father			
Total			

4. Please rate your familiarity with your child's learning environment. (Use the symbols given above if father and mother differ.)

_____Very familiar
_____Familiar
_____Undecided
_____Unfamiliar
_____Very unfamiliar

5. How would you rate your child's learning environment? (Circle the appropriate number.)

Healthy 1	2	3	4	Unhealthy 5
Stimulating 1	2	3	4	Boring 5
Challenging 1	2	3	4	Unchallenging 5
Active 1	2	3	4	Passive 5

6. Comparing your child this Spring with last Spring, would you say he is:

a. _____More enthusiastic about school
_____About the same
_____Less enthusiastic about school

b. _____More independent
_____About the same
_____Less independent

c. _____More skilled in interpersonal relations
_____About the same
_____Less skilled in interpersonal relations

d. _____Has made more academic progress this year than last
_____Has made about the same progress as last year
_____Has made less academic progress this year than last

e. _____Has better study habits
_____About the same
_____Has poorer study habits

7. Please rate these components of your child's learning environment, using the following scale:

1 = Excellent
2 = Good
3 = Average
4 = Fair
5 = Poor

	Rating
A. Instructional materials	_____
B. Instructional strategies	_____
C. Instructional staff	_____

8. Which phrase below best characterized your involvement in decisions related to your child's school experience (Please check one)

_____I have <u>much</u> too much say in school decisions
_____I have <u>a little</u> too much say in school decisions
_____I have about the right amount to say in school decisions
_____I should have <u>a little</u> more say in school decisions
_____I should have <u>much</u> more say in school decisions

9. Are your desires being adequately represented in decisions made? (Comments especially welcome)

_____Yes _____No _____Don't know

10. Which of the following best describes how parents should be involved in making decisions affecting their child's school? (Please check only one.)

_____a. Parents should not be involved at all.
_____b. Parents should only provide advice; school staff should make the decisions.
_____c. Parents and school staff should share decision-making power.
_____d. Parents should make the decisions; school staff should only provide advice.
_____e. I have no opinion regarding this matter.

Please circle the number to indicate your responses to the following statements or questions:

11. How satisfied are you with the kind of reports given parents from your child's learning environment?

Very Satisfied	Satisfied	Neutral	Unsatisfied	Very Unsatisfied
1	2	3	4	5

12. The opportunity to choose among alternative learning environments is important to me.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

13. The educational options available to parents in this school are adequate.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

14. Do you plan to enroll your child in the same learning environment next year?

_____Yes _____No _____Undecided