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**ABSTRACT**

This report supplements two earlier 1973 reports by the authors concerning process product relationships in the first year of the Texas Teacher Effectiveness Project. The present report supplements the linear correlations given in the earlier reports by presenting nonlinear relationships in these data. Many such relationships indicate that optimal teaching in low socioeconomic status schools differs in many ways from optimal teaching in high socioeconomic status schools. A narrative section of 13 pages is followed by: Table 1, Process Variables Correlating Positively in Title I Schools But Negatively in Non-Title I Schools with Product Criteria; Table 2, Process Variables Uncorrelated with Product Criteria in Title I Schools But Negatively Correlated in Non-Title I Schools; Table 3, Process Variables Correlating Negatively in Title I Schools But Positively in Non-Title I Schools with Product Criteria; Table 4, Process Variables Uncorrelated with Product Criteria in Title I Schools But Correlated Positively in Non-Title I Schools; and Table 5 Process-Product Relationships in Title I and Non-Title I Schools. (Authors)

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Appendix to First Year Data of Texas Teacher Effectiveness Project:

Complex Relationships between Teacher Process Variables and Student Outcome Measures

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Appendix to First Year Data of Texas Teacher Effectiveness Project:Complex Relationships between Teacher Process Variables and Student Outcome Measures

The present report contains data to supplement those contained in two earlier reports (Brophy and Evertson, 1973; Evertson and Brophy, 1973) which contain zero order correlation coefficients relating teacher process variables (both high and low inference) to student residual gain scores on the word knowledge, word discrimination, reading, arithmetic computation, and arithmetic reasoning subtests of the Metropolitan Achievement Tests. The data were taken in the classrooms of a pool of 31 second and third grade teachers specially selected because they had shown consistency across four years in the relative amounts of student learning gains that they produced on the Metropolitan tests (see Brophy and Evertson, 1973, for details). Correlation coefficients relating each process variable to each product outcome variable were presented for the total group of teachers (maximum N equal 31), for teachers working in Title I schools (maximum N equal 13), and for teachers working in non-Title I schools (maximum N equal 18). Although most N's were at or near the maximum, some were considerably lower because the process variable involved was not observed and thus could not be coded in several classrooms.

One of the major findings running throughout the data of the two previous reports was that variables which correlated with student learning gain in Title I schools often did not correlate with learning gain in non-Title I schools, and vice versa. These data, along with the work of Soar and his colleagues (Soar, 1972), which showed that certain process-product relationships are significant but nonlinear, led us to supplement our original correlational analyses with the present set of analyses planned to identify process-product relationships in our own data which are more complex than simple zero order correlations. Using a

program developed by Dr. Donald Veldman of the Research and Development Center for Teacher Education, these analyses used a series of regression models to successively test three null hypotheses regarding the relationships between the process variable and product criterion in both the Title I and non-Title I distributions:

- 1) Different quadratic slopes. A significant probability value here indicates that one or both of the process-product relationships (that is, the relationship within the Title I schools and/or the relationship within the non-Title I schools) is curvilinear, and, in addition, that the curves for the two distributions are significantly different from each other. This is the most complex kind of relationship tested. If this test does not prove statistically significant, as is typically the case, the following test is performed.
- 2) Common quadratic slopes. A significant probability value here indicates that the process-product relationship is curvilinear in both the Title I and the non-Title I distributions, and, in addition, that the curves representing the relationship in each of these two distributions do not differ significantly from each other. This may mean that the two distributions have essentially the same curve, or it may mean that the distributions have the same shaped curve, but with the curve rotated somewhat in one of the distributions so that it has the same shape as the other curve but does not completely overlap it. Such an effect would also register later as a significant linear slopes difference. If neither of these first two statistical tests is statistically significant, the implication is that no quadratic relationship exists between the process variable and the product criterion.

In this case, the next statistical test is performed.

- 3) Different linear slopes. A significant probability value for this test indicates that the process-product relationship is linear in both distributions, but the regression lines differ significantly from each other. This may mean a positive relationship in one group and a negative relationship in the other, or a strong positive or negative relationship in one group and little or no relationship in the other. These data usually could be inferred from the contrasting correlation coefficients presented in the previous two reports, but they are included in the present report so that interested readers will know which of these contrasting correlation coefficients did and which did not involve a significantly different linear relationship between the Title I and non-Title I distributions. These inferences cannot always be made safely from the data in the previous two reports, because many apparently strong correlations are not statistically significant when a very small number of teachers were included on the measure involved.

Organization of the Present Report. To avoid needless and lengthy repetition concerning the background of the study and the zero order correlations among process and product variables in the sample as a whole and in the Title I and non-Title I schools, much of this information has been omitted from the present report. Thus, the present report is written as a supplement to the previous two, and readers should consult these previous reports before reading the present one if they have not already done so. The relationships to be described should be readily understandable whether or not one has read the previous reports, but in drawing implications from them, one needs to view them in the broader context of the findings of the study as a whole, and for this one needs the previous

reports as background information.

To simplify the presentation, linear relationships have been grouped according to their form rather than according to the variables involved. For example, many of the relationships showing significantly different linear slopes for the two distributions involve a positive correlation between the process variable and the product criterion in the Title I distribution and a negative correlation in the non-Title I distribution. For convenience, and to eliminate unnecessarily repetitious verbal description of the nature of such relationships, all process-product relationships of this type are presented together. Similarly, relationships involving no relationship in the Title I schools but a significant negative relationship in the non-Title I schools are presented together, and so on. The linear relationships to be described will be grouped in this way. The nonlinear relationships, which are often difficult to describe and interpret, will be presented in visual form in Table 5. Discussion of these data will be delayed until replication data from the second year of the study are available.

To save space in the tables, the product criteria will be identified with initials only: WK = word knowledge, WD = word discrimination, R = reading, AC = arithmetic computation, and AR = arithmetic reasoning. Also, decimal points have been omitted from the correlation coefficients.

Process Variables Correlating Positively in Title I Schools and Negatively in Non-Title I Schools. Tables 1-4 contain information about variables showing contrasting linear slopes in the two distributions. Process variables which were positively correlated with student learning gains in Title I schools but negatively correlated in non-Title I schools are shown in Table 1. Usually one or both of the zero order correlations reached statistical significance, but not always.

In cases where neither zero order correlation was statistically significant, the direction of correlation was still opposite in the two groups and sufficiently strong to produce a significant effect in the test for contrasting linear slopes.

The Table 1 data elaborate points already made in the previous papers: Students in Title I schools did better with well-planned, teacher-dominated instruction, while students in non-Title I schools did better with student-centered, indirect instruction; maintenance of control and general management were important in both groups but especially important in the Title I schools; students in the non-Title I schools needed to be challenged with difficult questions and could be adequately and even optimally handled with brief feedback, while students in Title I schools needed to be "overtaught," requiring longer feedback and more individual attention. Calling on volunteers apparently was a successful strategy in non-Title I schools, presumably because the students were highly motivated, while teachers in Title I schools often had to preselect the respondent rather than call on a volunteer in order to insure wide participation.

Table 2 shows variables which usually were uncorrelated with product criteria in the Title I schools but were negatively correlated in the non-Title I schools. Many of these relationships are unsurprising, although some deserve comment. Note that the percentage of correct answers is negatively correlated with student learning gains in the non-Title I schools, again pointing up the need for teachers to challenge these children with difficult material rather than to over dwell to the point of needless drill. The negative correlations between the frequency with which teachers thanked children for carrying out management

requests was unexpected, although the contrast between Title I and non-Title I schools on this variable bears out St. John's (1971) findings that child orientation is more important for teachers working with disadvantaged children. In any case, in non-Title I schools this expression of politeness and courtesy was negatively associated with student learning gains.

The group difference on the measure of repeating the question versus rephrasing the question or asking a new question probably reflects a difference in the difficulty level of questions asked at the two kinds of schools. Repeating the question was uncorrelated with student learning gains in the Title I schools, where more of the questions were probably at an easier or more basic level, but it had a strong negative correlation in the non-Title I schools. Most probably, repetition of a question that was not answered the first time by a student in a non-Title I school was tantamount to pointless pumping of the student, so that provision of help in the form of rephrasing the question or asking a new question was more appropriate than simply repeating the original question.

The data for criticism following failure to respond and behavioral criticism following student-initiated comments (criticizing the student for having called out a comment without raising his hand) probably are related to the point made above. Again, most probably the majority of times when a student in a non-Title I school did not answer, he did not know the answer and could not respond, so that criticism was unfair and unjust. Similarly, most probably the majority of student-initiated comments made in these schools were relevant to the topic, so that criticism was probably inappropriate in most cases, although a short reminder concerning the rules about calling out comments might have been appropriate. In contrast, failures to respond among Title I students probably were more often

inappropriate or irrelevant. Even where they were relevant, classroom management was a greater problem in the Title I schools, so that criticism might have been more appropriate if the teacher were dealing with a continuing problem of students' failure to raise their hands and wait their turn rather than just calling out answers at will.

The data regarding teacher failure to give feedback after the student responded to an opinion question are puzzling, in that negative relationships were expected in the Title I schools, where the students are generally less likely to know whether or not their response is appropriate or correct than are students in non-Title I schools. However, failure to give feedback was highly negatively correlated with learning gains in the non-Title I schools but was uncorrelated with learning gains in the Title I schools.

The negative correlation between praise of student-initiated comments and student learning gains in the non-Title I schools, although surprising, is but one of a large number of similar findings regarding praise in this study. Despite the near-unanimous stress on the importance of praising students, the present investigation regularly found teacher praise to be either uncorrelated or negatively correlated with measures of student learning gains. See Brophy and Evertson (1973) for a more complete discussion of this topic.

Table 3 contains variables which correlated negatively with learning gains in Title I schools, but positively in non-Title I schools. These are related to many of the data in Table 1, and again stress the importance of management and of providing individualized feedback and good instruction to students in Title I schools. Thus, Title I teachers could not merely wait for attention and expect to get it; they had to use more active methods. Further, they could not delay explanations; the children in these schools needed immediate explanations in order to proceed with their work. They could not just call on volunteers,

since this would have restricted the discussion to a relatively small number of children who were highly motivated and competent. Also, they had to "over-teach." Too much questioning, relative to explanation and demonstration, was maladaptive in Title I schools, and relatively high frequencies of wrong answers were negatively correlated with student learning gains in these schools, even though they were positively correlated with learning gains in the non-Title I schools.

The reading group data show the importance of the teacher in a Title I school staying with a student who has made a mistake, providing him with help by rephrasing the question or giving a clue rather than simply repeating the question, giving the answer, or moving on to someone else. This is part of a larger pattern shown on a great number of measures from our study suggesting that it is of primary importance for teachers in Title I schools to get a response from the student with whom they are dealing at the time; whereas, in non-Title I schools, it is primarily important that the teacher get the answer to the question she has asked, but not particularly important that she get the answer from the student who was asked the question originally.

In other words, students in non-Title I schools apparently learn just as well whether they answer questions themselves or whether they observe and listen while someone else answers. However, sustained interaction with the teachers in which they themselves respond appears to be an important experience for the students in Title I schools.

The final variable, indicating a negative relationship between integrating relevant student-initiated comments into the discussion and student learning gains in Title I schools, contradicts directly much of the typical advice given to teachers, particularly the stress on the use of student ideas. Our data suggest that, while such advice may be useful for teachers in non-Title I schools, in

Title I schools the importance of maintaining classroom control supercedes the importance of variables such as use of student ideas. Apparently, teachers in the Title I schools were continually bombarded with student-initiated comments, and teaching the students to raise their hands first and get teacher recognition before calling out a comment was one of the major control problems facing them. Consequently, integration of student-initiated comments, even relevant ones, was negatively correlated with learning gains in these schools.

Table 4 contains variables that were uncorrelated with student learning gains in Title I schools but which were positively correlated with learning gains in non-Title I schools. Most of these involve provision of process feedback, and the contrasting pattern between the two types of schools probably reflects both the kinds of activities going on in the schools and the capacity of the students to benefit from extended explanations. Students in the non-Title I schools probably were more likely to benefit from such extended process explanations, and they were dealing with more difficult and higher level material which lent itself to more frequent and more appropriate use of such explanations. Hence the difference in correlations. The data on criticism after wrong answers again points up the importance of challenging the students in non-Title I schools but providing emotional support and warmth for students in the Title I schools. Even though teacher praise did not have the expected positive correlations with learning gains, teacher criticism did have the expected negative correlations. Apparently, the students did not need or want positive teacher reactions in the form of praise, but at the same time they were negatively affected by overreactive and inappropriate criticism from the teacher. In general, a nonevaluative, stick-to-the-business-of-learning approach seemed to be the optimal one.

These linear patterns in Tables 1-4 are also shown in Table 5, along with

data from all of the other process variables. The preceding discussion covered only those process variables which showed contrasting linear relationships to product criteria in the two distributions. These relationships are relatively straightforward and easy to discuss, compared to most of the nonlinear relationships shown in Table 5 below. Table 5 contains process-product relationship data for Title I and non-Title I schools for every process variable included in the study. These data are from the three successive regression analyses described above, and are presented for inspection by our research colleagues. Comments and suggestions concerning them (or any other aspect of the study) are welcomed. For the present, the data are presented without comment or interpretation. This is because: the data concern a large number of process variables, but only 31 teachers were studied, so that  $p$ -values are only suggestive; the relationships are sometimes difficult to interpret meaningfully; the entire study is being replicated. Thus, interpretation of these nonlinear relationships will be withheld pending the results of the replication study.

Table 5 has been prepared so as to convey a maximum of information in a minimum of space. Consequently, several conventions have been adopted to conserve space. The following information about the table must be clearly understood if the table is to be read accurately:

- 1) Abbreviations have been used for the five Metropolitan Achievement Tests (WK = word knowledge; WD = word discrimination; R = reading; AC = arithmetic computation; AR = arithmetic reasoning).
- 2) Decimal points have been omitted from all correlation coefficients.
- 3) Variable numbers refer to the tables in the two previous reports (Brophy and Evertson, 1973; Evertson and Brophy, 1973). Thus, Variable 3.6 refers to the sixth variable in Table 3 of the Evertson and Brophy paper (Variables 1.1 through 4.38 are high-inference variables from the

- Evertson and Brophy paper; Variables A1 through R141 are low-inference variables from the Brophy and Everston paper -- M = morning; A = afternoon; R = reading group).
- 4) The three statistical tests used were in sequential order of precedence (different quadratic slopes test first, common quadratic slopes test second, different linear slopes test third). If more than one of these tests were significant at the  $p = .10$  level or lower, data from the first significant test are given in the table because they represent the best fits for regression lines in the two distributions (Title I and non-Title I schools).
  - 5) A cross containing four quadrants for statistical information appears for each possible process-product relationship. Data for Title I schools appear in the two left quadrants, and data for non-Title I schools in the two right quadrants. Data for linear relationships appear in the two upper quadrants, and data for non-linear relationships in the two lower quadrants. The number below the cross is the squared Multiple R indicating the percentage of variance in the product scores accounted for by the process variable.
  - 6) Data were entered in the table as follows:
    - a) Where statistical tests could not be run because of low N, or where N fell below 6 in one of the groups, the letters ND (No Data) appear.
    - b) Where statistical tests were run but no relationship reached the .10 level of significance, the quadrants are empty, although the squared Multiple R appears below.
    - c) Where a nonlinear test reached the .10 level of significance, curves showing the nature of the relationship in each of the two distributions

are shown in the two lower quadrants. Here there are no correlations coefficients in the upper quadrants, because these are based on linear regression slopes and the test indicates that curvilinear slopes provide a better fit. Thus, the curves shown reflect the process-product relationships most accurately, and they take precedence over the zero order Pearson  $r$ 's presented in the two earlier papers.

- d) Where neither curvilinear test reached the .10 significance level but the linear test did, the quadrants show both lines indicating the nature of the relationship (lower quadrants) and the corresponding Pearson  $r$ 's (upper quadrants), as well as the squared Multiple  $R$ .
- e) Sometimes none of the four tests reached the .10 level of significance but one or both of the Pearson  $r$ 's did. In these instances, the Pearson  $r$ 's appear in the upper quadrants but no lines appear in the lower quadrants.

In sum, Table 5 contains the most precise information available on process-product relationships involving process variables included in the first year of our research. Where a relationship significant at the .10 level or below appeared, it is shown in the table. Otherwise, the data for a given relationship contain either: only the squared multiple  $R$ , where  $N$  was large enough to allow analysis but no significant relationships appeared; or "ND," indicating that  $N$  was too low to allow analysis or interpretation.

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Table 1. Process Variables Correlating Positively in Title I Schools, but Negatively in Non-Title I Schools with Product Criteria.

Variable Number	Process Variable	Criterion	r's for Title I	r's for non-Title I
1.1	Chaotic, Unplanned, Poorly Scheduled	AC	46	-48*
1.2	% of Time Spent in Reading Groups	WD	54*	-37
1.3	% of Time Spent in Reading Groups	R	39	-40*
1.4	% of Time Spent in Reading Groups	AC	52*	-42*
1.5	% Preselects Respondent before Question - A.M.	AC	45	-35
1.6	% Answers Called Out by Students - A.M.	R	55	-39
1.7	% Answers Called Out by a Second Student after the First Student Failed to Answer - A.M.	R	36	-50**
1.8	% Relevant Student-Initiated Questions Given Long Feedback - A.M.	WK	54	-56**
1.9	% Student-Initiated Contacts Given Long Feedback-A.M.	WD	41	-47**
1.10	% Correct Answers in Reading Group	R	35	-39
1.11	% Asks New Question after Correct Answer-Reading Group	R	35	-48*
1.12	% Asks New Question after Correct Answer-Reading Group	AC	59**	-28
1.13	% Asks New Question after Part-Correct Answer - Reading Group	R	33	-58**
1.14	% Asks New Question (across all responses) - Reading Group	R	34	-52**
1.15	% Asks New Question (across all responses) - Reading Group	AC	59**	-31
1.16	% Relevant Student-Initiated Questions Not Accepted - Reading Group	AC	61*	-65**
1.17	Teacher-Initiated Work Contacts with Long Feedback - Reading Group	R	47	-56**

\*p < .10

\*\*p < .05

Table 2. Process Variables Uncorrelated with Product Criteria in Title I Schools but Negatively Correlated in Non-Title I Schools.

Variable			r's for	r's for
Order	Process Variable	Criterion	Title I	non-Title I
2.1	boring, Repetitive, Monotonous Assignments	WK	27	-45*
2.2	Gives correct Answers - A.M.	AC	-14	-82**
2.3	Student-Initiated Contacts Involving Personal Concerns rather than Work - A.M.	R	-24	-65**
2.4	Teacher Thanks Student Following Management Request- P.M.	WK	52*	-45*
2.5	Teacher Thanks Student Following Management Request- A.M.	R	15	-70**
2.6	Repeat/Repeat+Rephrase+New Question - A.M.	WK	-14	-77**
2.7	Repeat/Repeat+Rephrase+New Question - A.M.	AR	21	-67**
2.8	Choice Question/Process+Product+Choice Question-P.M.	P	10	-45
2.9	Repeats Question after Part-Correct Answer - P.M.	P	-34	-66**
2.10	Repeats Question after Part-Correct Answer - P.M.	AC	-57*	-67**
2.11	Criticizes Following Failure to Respond - P.M.	AC	33	-63**
2.12	Praise of Relevant Student-Initiated Comment -P.M.	AC	-63	-83**
2.13	Relevant Student-Initiated Comments Accepted - P.M.	AR	-51	-51**
2.14	Behavioral Criticism after Relevant Student-Initiated Comment - P.M.	WK	16	-45*
2.15	Behavioral Criticism after Relevant Student-Initiated Comment - P.M.	P	30	-63**
2.16	Behavioral Criticism after Relevant Student-Initiated Comment - P.M.	AC	29	-70**
2.17	Behavioral Criticism after Irrelevant Student-Initiated Comments - P.M.	"	67	-62**
2.18	Behavioral Criticism after Irrelevant Student-Initiated Comments - P.M.	AC	19	-66**

Variable number	Process Variable	Criterion	r's for Title I	r's for non-Title I
2.19	Behavioral Criticism after Relevant Student- Initiated Comment - Reading Group	WK	-46	-46*
2.20	Behavioral Criticism after Relevant Student- Initiated Comment - Reading Group	AC	47	-50*
2.21	Behavior Criticism after Relevant Student- Initiated Comment - Reading Group	AR	-67	-56
2.22	No Feedback after Opinion Questions - Reading Group	WK	-08	-61*
2.23	No Feedback after Opinion Questions - Reading Group	AC	44	-78**
2.24	Criticism in Student-Initiated Work Contacts	R	33	-53*
2.25	Criticism in Student-Initiated Work Contacts	AC	-24	-66*

\*p < .10

\*\*p < .05

Table 3. Process Variables Correlating Negatively In Title I Schools but Positively in Non-Title I Schools with Product Criteria.

Variable Number	Process Variable	Criterion	r's for Title I	r's for non-Title I
3.1	Says Nothing, Waits as Method of Getting Attention	R	-27	45*
3.2	Delays, Explains Later If Child Doesn't Understand	WK	-66**	52**
3.3	Delays, Explains Later If Child Doesn't Understand	AC	-42	35
3.4	% Calls on Volunteers - A.M.	R	-62**	44*
3.5	% Calls on Volunteers - A.M.	AC	-55**	58**
3.6	New Question after Correct Answer - A.M.	WK	-58**	32
3.7	% Relevant Student-Initiated Comments Integrated into the Discussion - A.M.	AC	-79*	22
3.8	Brief/Brief+Long Feedback - A.M.	R	-51*	38
3.9	Brief/Brief+Long Feedback - A.M.	AC	-44	45*
3.10	Choice Questions/Product+Process+Choice - Reading Group	AC	-81**	35
3.11	% Wrong Answers - Reading Group	WK	-39	44*
3.12	% Wrong Answers - Reading Group	AC	-60**	36
3.13	% Wrong Answers - Reading Group	AR	-82**	46*
3.14	Process Feedback to Part-Correct Answers-Reading Group	R	-44	45*
3.15	Calls on Another Child after Wrong Answer - Reading Group	R	-41	39
3.16	Gives Answer after Failure - Reading Group	WK	-41	40
3.17	Calls on Another Child after Failure - Reading Group	WK	-24	55*
3.18	Calls on Another Child after Failure - Reading Group	R	-51*	51**

\*p < .10

\*\*p < .05

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
9	High Student Withdrawal, Passivity, or Aimless or Repetitive Behavior	02	01	04	01	
10	Clarity: Students Show Clear Understanding of Teacher Presentations	04	03	06	04	02
11	Enthusiasm: Teacher Shows Enthusiasm, Excitement, Enjoyment	00	11	00	00	01
12	Convergent Questioning: Most Questions Have Clear-Cut Correct Answers	06	04	00		
	A. Methods of Handling Catch-up Work					
	No Remediation; Child Skips Missed Work	ND ND ND	ND ND ND	ND ND ND	ND ND ND	ND ND ND
	Child Must Make Up Work but Is Not Given Help	ND ND ND	ND ND ND	ND ND ND	ND ND ND	ND ND ND
	Teacher Explains Work and Has Child Do Part of It.	07	03	03	04	ND ND ND
	Another Child is Assigned to Help	01	00	02	02	ND ND ND

Table 4. Process Variables Uncorrelated with Product Criteria in Title I Schools but Correlated Positively in Non-Title I Schools.

Variable Number	Process Variable	Criterion	<u>r</u> 's for Title I	<u>r</u> 's for non-Title I
4.1	Criticism Following Wrong Answers - A.M.	WK	-23	43*
4.2	Process Feedback Following Wrong Answers - A.M.	WK	-39	43*
4.3	Process Feedback Following Wrong Answers - A.M.	R	03	48*
4.4	Process Feedback (across all responses) - A.M.	WK	-19	43*
4.5	Process Feedback (across all responses) - A.M.	R	08	55**
4.6	Process Feedback (across all responses) - A.M.	AP	-32	50**
4.7	Process Feedback Following Correct Answers - P.M.	R	-19	50**

\*p < .10

\*\*p < .05

Table 5. Process-Product Relationships in Title I and Non-Title I Schools.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
1	High Level of Student Attention	$\frac{04}{04}$	$\frac{04}{04}$	$\frac{20}{10^*} \mid \frac{27}{10^*}$	$\frac{07}{07}$	$\frac{00}{00}$
2	Teacher Often Addresses Questions or Problems to the Whole Class	$\frac{05}{05}$	$\frac{29}{13^*} \mid \frac{31}{13^*}$	$\frac{01}{01}$	$\frac{01}{01}$	$\frac{00}{00}$
3	Teacher is Task Oriented, Doesn't Waste Time	$\frac{07}{07}$	$\frac{47}{09^*} \mid \frac{12}{09^*}$	$\frac{17}{10^*} \mid \frac{24}{10^*}$	$\frac{02}{02}$	$\frac{01}{01}$
4	Frequent Pupil-to-Pupil Interaction (Class Relevant)	$\frac{00}{00}$	$\frac{05}{05}$	$\frac{01}{01}$	$\frac{59^{**}}{13^*} \mid \frac{05}{13^*}$	$\frac{05}{05}$
5	% of Time Teacher Lectures or Demonstrates	$\frac{36}{13^{**}} \mid \frac{33}{13^{**}}$	$\frac{22}{16^{**}} \mid \frac{41}{16^{**}}$	$\frac{04}{04}$	$\frac{02}{02}$	$\frac{01}{01}$
6	Negative Affect: Criticism, Hostility	$\frac{01}{01}$	$\frac{05}{05}$	$\frac{05}{05}$	$\frac{00}{00}$	$\frac{00}{00}$
7	Positive Affect: Praise Support	$\frac{01}{01}$	$\frac{01}{01}$	$\frac{01}{01}$	$\frac{05}{05}$	$\frac{00}{00}$
8	Requires High Level of Generalization, Inference, or Explanation	$\frac{05}{05}$	$\frac{05}{05}$	$\frac{04}{04}$	$\frac{00}{00}$	$\frac{00}{00}$

Table 5, Continued.

Order	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
5	Children Put in Closer Group					
	Temporarily					
6	Other					
7	B. Rules Regarding Physical Movement					
	Must Always Get Permission to Leave Seat					
	One at a Time Without Permission					
	As Many as 4 or 5 without Permission					
	Can Go Quietly to Specified Places without Permission at any Time					
	No Restrictions					
	Some Children Allowed Free Movement but not Others					

Table 5, Continued.

num	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
13	Only Monitors Allowed Free Movement	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
14	Other	-43   -49 24*	-45   -27 12*	07	07	ND   -37 ND
15	C. Punishments Used by Teacher Stay after School	01	00	78**   11 09*	03	02
16	Spanking	04	01	01	00	ND ND
17	Writing Sentences on Board	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
18	Isolation within the Classroom	01	18*	02	17**	12*
19	Removal from the Classroom	00	01	00	01	00
20	Note to Parents	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND

Table 5, Continued.

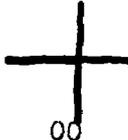
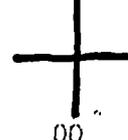
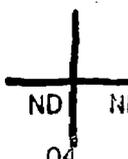
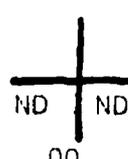
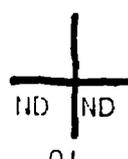
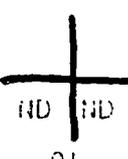
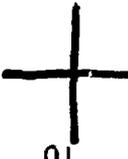
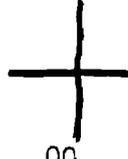
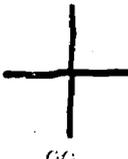
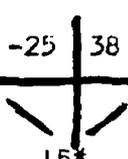
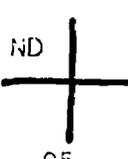
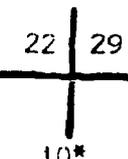
Per	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
1	Send to Principal					
2	Extra Reading, Math, Etc. Work					
3	Peer Pressure (e.g. "You lost the race for your group.")					
4	Scolding					
5	Discussion of Incident (No Scolding)					
6	Other					
7	D. Rewards Used by Teacher Classmates Clap or Cheer					
8	Special Privileges					

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
29	Waiver or Reduction of Assignments	ND ND ND	ND ND ND	ND ND ND	ND ND ND	ND ND ND
30	Symbols (Stars, Smiling Faces, etc.)	00	00	02	00	20*
31	Token Redeemable for other Rewards	ND ND ND	ND ND ND	ND ND ND	ND ND ND	ND ND ND
32	Concrete (Candy, Money, Prizes)	00	03	04	02	01
33	Jobs (Monitor, Helper, Eraser Cleaner)	ND ND ND	ND ND ND	ND ND ND	ND ND ND	ND ND ND
34	Public Recognition (Gets to Read or Work Problem on Board)	03	01	07	01	03
35	Other	02	02	06	01	00
36	E. Appropriateness of Assignments Too Short or Easy	05	03	00	27 -35 10*	01

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
37	Boring, Repetitive, Monotonous	27   -45* 20**	00	15*	17*	00
38	Too Hard: Students Can't Get Started or Continually Need Help	01	02	04	00	00
39	Continues Activity Too Long, until It Gets Boring	08	05	06	01	00
40	No Inappropriate Assignments	09	05	20   40 16**	28   44* 12*	00
F. Distractions: What Do Students Do When not Working?						
41	Use Washroom	00	01	00	00	05
42	Repeatedly Get Supplies for Free Time Activities	00	-59**   11 03	00	00	02
43	Watch Reading Group or other Activity	24*	00	-27   -35 12*	-31   -40* 17**	11
44	Talk	01	01	00	02	00

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
45	Play	00	05	00	18*	02** 13
46	Daydream	03	06	06	-48* 11	02
47	Ask for Help or Look More Closely at Work on Board	00	00	20*	05	00
48	Disrupt other Students	00	01	01	00	00
49	Other	15*	03	-23 -40	34*	04
50	G. Student Attitudes toward the Teacher when having Trouble Students Concentrate or Seek Help	02	01	00	01	00
51	When having Trouble, Students Merely Copy from Neighbor	-68** -10	-68** -10	05	01	00
52	Students Work as Well When not Watched as When Watched	01	01	27**	02	05

Table 5, Continued.

Item	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
53	Students "Get Up" When Un- washed	00	04	00	00	00
54	Students Seem Amused by Teacher	00	00	00	01	00
55	Students Seem to Fear Teacher	01	19   43* 05	67**   05 05	04	01
56	Students Seem to Respect Teacher	02	02	00	01	01
57	Free Time Materials Available (Not Necessarily Used) Books	-10   -45* 19*	01	-28   -54** 29*	-38   -30 10*	-55   -40* 10*
58	Learning Centers (Any)	01	04	04	00	01
59	Listening Centers	00	00	00	15*	00
60	Visual (Picture Files, Film- strips)	74**   -12 01	02	00	01	01

Table 5, Continued.

Center	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
61	Science Demonstrations or Experiments	02	19*	01	00	00
62	Other Learning Centers	03	00	00	02	04
63	Coloring Pictures	00	05	01	01	00
64	Painting, Art Activities	04	09	33 -33 16*	01	00
65	Games, (Any)	00	20*	00	00	01
66	Instructional Games	-51* -01 03	06	01	01	01
67	Non-Instructional Games	02	05	02	16*	00
68	Aquarium, other Looking Exhibits	00	00	02	22*	00

Table 5, Continued.

Var	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
69	1. Free Time Materials Observed in Use					
	Jacks	01	04	01	07	01
70	Learning Centers (Any)	04	01	08	17*	01
71	Listening Centers	01	00	60** 02	05	01
72	Visual (Picture Files, Filmstrips)	58** 33	08	07	02	01
		16**				
73	Science Demonstrations or Experiments	22*	22**	08	01	01
74	Other Learning Centers	04	00	00	02	01
75	Coloring Pictures	02	01	01	01	00
76	Painting, Art Activities	01	27**	20*	00	01

Table 5, Continued.

Code	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
77	Games (Any)	00	02	00	00	01
78	Instructional Games	00	02	02	15**	01
79	Non-Instructional Games	00	03	00	00	29*
80	Aquariums, Other Looking Exhibits	01	70** -10 19**	01	02	0
81	Use of Peer Tutoring	01	01	00	01	02
82	Assigns Homework besides Seatwork	-26 38 15*	02	-04 40* 12*	03	01
83	Teacher Sometimes Underreacts to Control Problems, so Serious Problems go Unresolved	02	-52* 21 15*	01	00	00
	Typical Affectionateness Level	07	02	29*	04	01

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
2	Most Intense Affection Expression Observed	-52   44 25**	00	05	08	97**
3	Most Intense Negative Affect Observed	03	03	13	-28   42 15*	02
4	Solidarity with Class: Teacher Identifies, Promotes "We" Feeling	33*	03	37*	00	-83**   20
5	Patient and Supportive When Correcting	04	00	13	00	00
6	Students Allowed Choice in Assignments	00	00	15	04	08
7	Accepts Student Ideas and/or Integrates them into Discussion	31**	28**	14	21*	-54**   -73
	Admits Own Mistakes; Laughs at Self or Uses Occasion to Teach or Motivate	00	78**   -30 22**	01	07	04
	Usually Bends Close, Gets Down to Child's Level	25   47* 14*	08	15	00	02

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
10	Sees to Seats to Check Work; Doesn't Stay at Desk	00	01	16	02	02
11	Usually Speaks to Individuals rather than Whole Class	02	00	25*	02	00
12	Uses Advance Organizers in Introducing Activities	09	04	13	18*	00
13	Gives Complete, Detailed In- structions; Prevents Errors before They Happen	01   36 10*	04	13	41*	00
14	Students Eager to Respond; No Fear	03	06	07	04	00
15	Teacher Waits Patiently if Student Doesn't Respond Promptly	02	44   -31 18*	14	02	02
16	Non-Competitive Atmosphere; No Signs of Eagerness to See Others Fail	01	23*	34**	45**	30**
17	Students Allowed to Work in Co- operative Groups	33**	19*	32*	18*	40**

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
.18	Teacher Recognized Good Thinking Even When It Doesn't Lead to "Right" Answers	 17*	 30*	 30*	 26**	 24*
.19	Democratic Leadership Style: Students Share in Planning and Decision Making	 04	 01	 28*	 01	 03
.20	Few Restrictions on Students During Seatwork Periods	 -02   34 16**	 00	 19   21 19**	 01	 00
.21	Students Expected to Care for Needs without Getting Permission	 22   41 14*	 02	 08	 03	 07
.22	Teacher Concerned with Substantive Content, not Form, or Student Responses	 01	 00	 11	 28**	 31*
.23	Teacher Stresses Factual Realism, Rejects or Corrects Childish Idealism	 00	 01	 27*	 03	 00
.24	Teacher Credibility: Students Seem to Believe and Respect Teacher	 04	 18*	 14	 01	 00
.25	Showmanship: Teacher is Melodramatic, Expressive, Gushy,	 01	 01	 15	 58**   -02 18*	 00

Table 5, Continued.

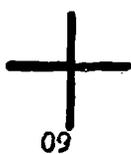
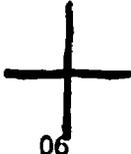
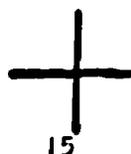
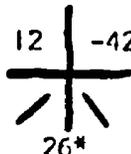
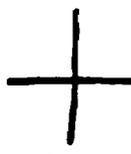
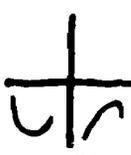
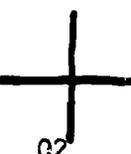
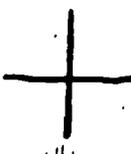
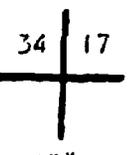
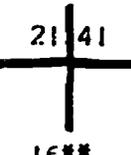
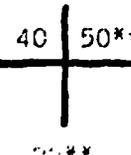
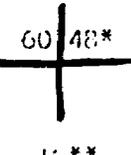
Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
26	Teacher Gets Attention before Starting, Doesn't Try to Talk over Din	 09	 07	 -05   45* 27*	 00	 09
27	Chaotic, Unplanned, Poorly Scheduled	 06	 15	 12   -42 26*	 46   -48* 24**	 47**
28	Teacher Seems Confident, Self-Assured	 05	 22*	 13	 00	 00
29	Politeness: Teacher Regularly Says "Please," "Thank You," etc.	 00	 34**	 24*	 31**	 07**
30	High Concern about Achievement	 05	 02	 13	 00	 00
31	Room is Attractive	 36   45* 20**	 55*   14 12*	 34   17 10*	 26**	 00
32	Teacher Gives Much Encouragement to Students	 00	 00	 13	 01	 01
33	Room is Uncrowded	 34**	 21   41 16**	 51**	 40   50** 22**	 60   48* 14**

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
64	Teacher Explains Rules or Decisions When Reasons aren't Obvious	32   41 — 16**	53*   07 — 09	— 14	— 00	— 00
65	Teacher Well Organized, Prepared	50   42 — 22**	55*   09 — 10*	— 14	-47   27 — 16*	— 02
66	Teacher Regularly Monitors Class, Knows What's Going On	34   31 — 12*	53*   08 — 10*	— 05	— 00	— 02
67	Smooth, Efficient Transitions, Little Time Wasted	50   47* — 24*	64**   15 — 13	08   37 — 12*	— 02	— 02
68	Monitors Determined "Automatically" by a Systematic Procedure	41   29 — 14*	56**   16 — 13*	41   44* — 25**	— 07	— 03
69	"Busy," Cluttered Classroom	— 00	— 00	— 13	-16   -43* — 04	— 02
70	Students Compliant, Obedient	— 07	— 05	— 15	— 01	-54**   11 — 01
71	Teacher Gives Overly Explicit, Repetitive Directions	— 34**	— 24**	03   -51** — 31*	-62**   -47* — 28**	— 43**

Table 5, Continued.

Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
Well established routines	08	05	07	00	-83* 17
Minimize Interruptions; Room Runs "Automatically"	08	05	07	00	01
A. Time Utilization					
% Total Time Structured by Teacher	01	01	-10 -43* 09*	05	02
% Structured Time in Language Arts	-50* -14 00	01	00	00	05
% Structured Time in Math	06	00	21 34 13*	28**	06
% Structured Time in Art	-04 39 09*	01	-09 58** 33*	06	42 46* 29**
% Structured Time in Spelling	22*	01	27**	39**	25*
% Structured Time in Reading Groups	38 -33 13*	54* -34 21**	39 -40* 22**	52* -42* 21**	39 -43* 11
% Structured Time in Social Studies	00	01	00	00	00

Table 5, Continued.

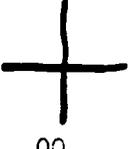
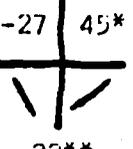
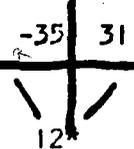
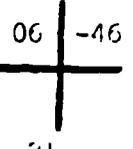
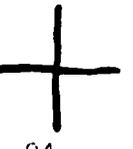
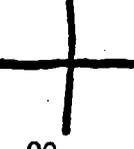
<u>Process Variable</u>	<u>Word Knowledge</u>	<u>Word Discrimination</u>	<u>Reading</u>	<u>Arithmetic Computation</u>	<u>Arithmetic Reasoning</u>
2. Structured Time in Transitions	 35**	 18*	 43**	 00	 01
3. Structured Time in Morning Routine	 01	 02	 00	 00	 00
4. Structured Time in Special Activities	 01	 00	 06	 08	 01
5. Methods Used to Call Attention					
Says Nothing, Waits for Quiet	 04	 08	 -27   45* 22**	 01	 00
Raps Desk Lightly, Uses Normal Voice	 -35   31 12*	 01	 02	 04	 05
Gimmick (Light Flick, Bell, Clicker)	 06	 01	 06   -46 21	 04	 01
Raises Voice Over the Din	 02	 07	 03	 01	 02
Raises Voice and Singles Out Individuals	 00	 00	 00	 02	 00

Table 5, Continued.

Order	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
16	Shouts, Becomes Angry, or Scolds Class	$\frac{00}{00}$	$\frac{01}{01}$	$\frac{00}{00}$	$\frac{03}{03}$	$\frac{00}{00}$
17	Shouts, Becomes Angry, or Scolds Individuals	$\frac{40}{12^*} \frac{-30}{12^*}$	$\frac{02}{02}$	$\frac{02}{02}$	$\frac{01}{01}$	$\frac{20^{**}}{20^{**}}$
18	Whispers or Speaks Softly to Nearby Pupils (at First)	$\frac{20^{**}}{20^{**}}$	$\frac{61^{**}}{61^{**}}$	$\frac{22^{**}}{22^{**}}$	$\frac{04}{04}$	$\frac{10}{10}$
19	Other (includes any method not listed above)	$\frac{01}{01}$	$\frac{01}{01}$	$\frac{19^*}{19^*}$	$\frac{03}{03}$	$\frac{01}{01}$
20	C. Estimated % of Students Paying Attention	$\frac{13}{03^*} \frac{16}{03^*}$	$\frac{47^*}{05^*} \frac{-01}{05^*}$	$\frac{08}{05^*} \frac{21}{05^*}$	$\frac{00}{00}$	$\frac{01}{01}$
21	D. What Does the Teacher Do When a Child Doesn't Understand Stops What She's Doing, Explains	$\frac{02}{02}$	$\frac{00}{00}$	$\frac{-55^{**}}{06} \frac{-22}{06}$	$\frac{-58^{**}}{20} \frac{-41}{20}$	$\frac{-43}{20^*} \frac{-46^*}{20^*}$
22	Delays Child then Explains Later	$\frac{-66^*}{31^{**}} \frac{52^{**}}{31^{**}}$	$\frac{00}{00}$	$\frac{-41}{19^*} \frac{36}{19^*}$	$\frac{-42}{14^*} \frac{35}{14^*}$	$\frac{-50}{15} \frac{40^*}{15}$
23	Delays, But then Fails to Follow Up	$\frac{-30}{05^*} \frac{-20}{05^*}$	$\frac{02}{02}$	$\frac{02}{02}$	$\frac{00}{00}$	$\frac{00}{00}$

Table 5, Continued.

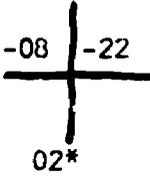
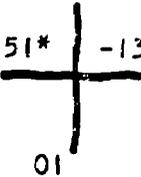
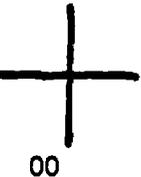
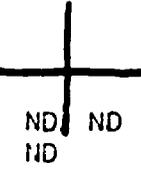
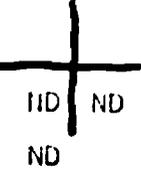
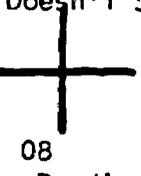
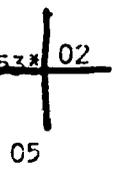
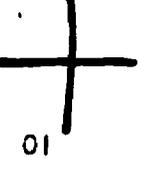
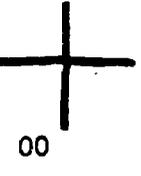
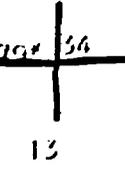
Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
24	Asks Another Child to Explain	 32**	 41*	17   18  04*	 13*	85**   03
25	Scolds Child for Not Understanding	 00	 02	 22*	 03	 00
26	Encourages Child but Gives no Help	 04	-08   -22  02*	 01	 05	 00
27	Refuses Help ("You're on your own.")	51*   -13  01	 00	 00	 05	 03
28	Sends Child to Aide or other Adult	ND   ND  ND	ND   ND  ND	ND   ND  ND	ND   ND  ND	ND   ND  ND
29	Other (includes any method not listed above.)	ND   ND  ND	ND   ND  ND	ND   ND  ND	ND   ND  ND	ND   ND  ND
30	E. Teacher Goes to Child's Desk to Give Help, Doesn't Stay at Desk	 04	 08	 01	53**   02  05	 02
	F. What Teacher Does When Child is Struck While Reading in Reading Group					
	Gives Word	 01	 00	 02	 11	79**   36  13

Table 5, Continued.

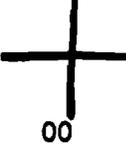
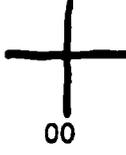
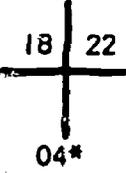
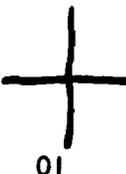
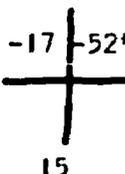
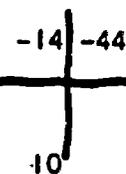
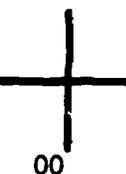
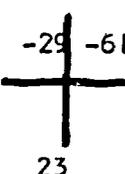
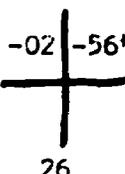
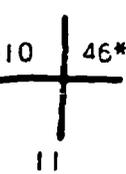
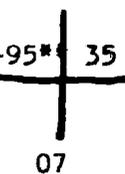
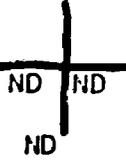
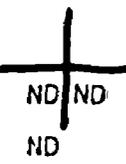
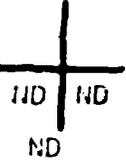
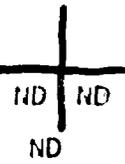
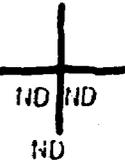
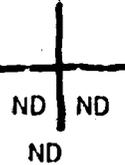
Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
32	Gives First Sound or Syllable					
33	Child Starts Sentence or Paragraph Over					
34	Gives Context Clue or Definition					
35	Asks Another Child to Give Word					
36	Gives Clue Unrelated to Sound or Meaning ("It's one of our new words.")					
37	Tells Child to Skip, Go to Next Word					
38	Other (includes any method not listed above)					
						

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
1	A. Selecting Respondents to Questions % Preselects Respondent before Asking Question	04	01	00	45 -35 16*	04
2	Calls on Non-Volunteer	02	23**	21*	00	01
3	Calls on Volunteer	-27 39 17*	-15 50** 24*	42*	-55** 56** 33**	-26 56** 23
	Student Calls Out Answers	07	32*	55 -39 26**	01	05
	B. Difficulty Level of Questions Process Questions/Process + Product Questions	01	01	10	01	00
	Choice Questions/Process + Product + Choice	63** -05 01	62** -03 02	02	06	08
	C. Quality of Children's Answers % Correct	07	16	-40 -60** 39**	-14 -53** 08	34 -44** 07
	% Part-Correct	30*	00	22 41* 13**	30**	46**

Table 5, Continued.

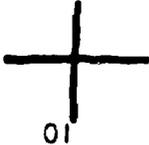
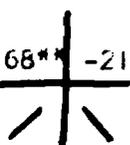
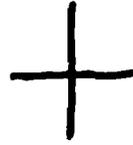
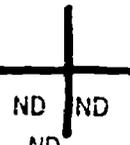
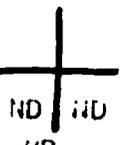
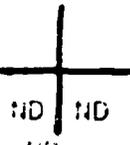
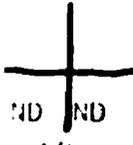
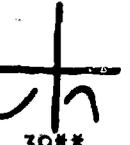
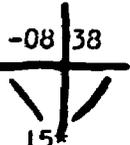
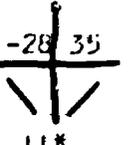
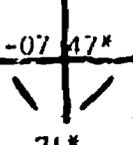
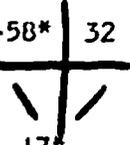
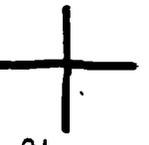
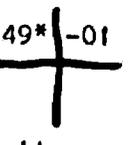
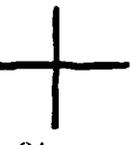
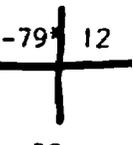
Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
9. Wrong	 24**	 01	 27**	 26*	 02
10. "Don't Know"	 31**	 03	 48**	 30**	 33*
11. No Response	 27*	 24*	 13	 68** -21 19**	 28**
D. Teacher Reactions to Correct Answers					
12. Praise	 05	 00	 06	 00	 05
17. Criticizing For Calling Out	 ND ND ND	 ND ND ND	 ND ND ND	 ND ND ND	 ND ND ND
13. Failure to Give Feedback	 00	 31*	 39**	 27**	 31**
14. Process Feedback	 -08 38 15*	 02	 35**	 -28 35 11*	 -07 47* 21*
15. New Question	 -58* 32 17*	 01	 -49* -01 11	 01	 -79* 12 00

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
L. Teacher Reactions to Part-Correct Answers						
16	Praise	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
15	Criticism	15   49* 24**	20   17 17*	30   51* 29**	42   21 20*	ND   ND ND
19	Failure to Give Feedback	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
20	Process Feedback	16   28 22**	43   -04 18*	58*   51* 39**	00	01
21	Gives the Answer	-04   24 21**	51**	24**	04	05
22	Calls on Someone Else	20*	05	22	51**	-98**   10 02
23	Another Student Calls Out the Answer	20	18	51   36 29**	49**	01
24	Repeats, Rephrases, or Asks New Question	44   24 27*	20	22	46*	ND   69* ND   54*

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
25	Repeats Question	50   -49* 39**	15	42*	34   40 39*	
26	Rephrases or Gives Clue	-18   50* 31*	41*	43*	66	59*
27	Asks How Question	20	16	41*	46**	10
B. Teacher Reactions to Wrong Answers						
28	Praise	-60**   -01 10	03	-13   16 17**	26*	05
29	Criticism	-23   43* 22*	01	-00   48* 31*	41   22 16*	05
30	Failure to Give Feedback	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
31	Process Feedback	-39   43* 24**	05	05   48* 31**	03	00
32	Gives the Answer	36**	39**	75*   27 27*	12	07

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
33	Calls on Someone Else	01	05	-04* 20 27*	00	ND
34	Another Student Calls Out the Answer	04	21*	31 -43* 30*	-28**	ND 05
35	Repeats, Rephrases, or Asks New Question	01	54* -03 01	44 -24 17**	00	ND 01
36	Repeats Question	43**	00	-30 -30 24*	-17 -53** 21*	ND 46*
37	Rephrases or Gives Clue	09	03	18	04	ND 01
38	Asks New Question	00	00	17	24*	ND 00
39	Teacher Reactions to "I Don't Know" or No Response	05	00	04 46* 17*	00	07
40	Failure to Give Feedback	ND ND ND	ND ND ND	ND ND ND	ND ND ND	ND ND ND

Table 9, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
21	Gives the Answer	09	04	00	19*	01
22	Calls on Someone Else	03	00	06	03	00
23	Another Student Calls Out the Answer	-18 -57** 32**	-24 -54 18*	-11 -62** 37**	48**	-49 -61** 34
24	Repeats, Rephrases, or Asks New Question	44**	16	-37 13 12*	09	00
25	Repeats Question	14 30 24*	22*	51* 18 07	01	08
26	Rephrases or Gives Clue	06	16	16	00	01
27	Asks New Question	53**	39**	32**	19*	1D ND ND
28	Teacher Reactions Combined across All Response Opportunities					
	Praise	02	01	02	00	02

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
99	Failure to Give Feedback	00	26**	25**	00	30**
100	Process Feedback	-19   43* 19**	02	08   55** 31**	-27   34 11*	-52   50** 24*
101	Retries Question	-59**   26 14*	01	12	03	-83**   05 0
102	Repeat, Rephrase, or New Question after Failure to Answer Correctly	37   52** 22**	54**   28 13**	34**	29**	-34   49* 13*
103	Repeats Question after Failure to Answer Correctly	27**	25*	00	00	00
104	Gives the Answer after Failure to Answer Correctly	27**	02   48** 23*	40   38 21*	04	87
105	Calls on Another Student after Failure to Answer Correctly	05	06	-11   47* 26*	05	04
106	Another Student Calls Out Answer after Failure to Answer Correctly	03   -48** 12*	15   -50** 24*	36   -56** 34**	-04   -44* 09	-37   -40 14*

Table 5, Continued.

Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
<b>I. Student Response Opportunities</b>					
Response Opportunities/Total Teaching Time	$\frac{\quad}{\quad}$ 44**	$\frac{\quad}{\quad}$ 25*	$\frac{-26}{\quad} \frac{47**}{\quad}$ 25*	$\frac{-34}{\quad} \frac{54**}{\quad}$ 23**	$\frac{-75*}{\quad} \frac{55**}{\quad}$ 21*
<b>J. Student Initiated Questions (SIQ's)</b>					
1. SIQ's Irrelevant	$\frac{\quad}{\quad}$ 00	$\frac{\quad}{\quad}$ 00	$\frac{\quad}{\quad}$ 00	$\frac{\quad}{\quad}$ 05	$\frac{\quad}{\quad}$ 01
2. SIQ's Called Out	$\frac{\quad}{\quad}$ 01	$\frac{\quad}{\quad}$ 00	$\frac{\quad}{\quad}$ 00	$\frac{\quad}{\quad}$ 00	$\frac{\quad}{\quad}$ 03
3. Praise of Question after Relevant SIQ	$\frac{\quad}{\quad}$ ND ND ND	$\frac{\quad}{\quad}$ ND ND ND	$\frac{\quad}{\quad}$ ND ND ND	$\frac{\quad}{\quad}$ ND ND ND	$\frac{\quad}{\quad}$ ND ND ND
4. Criticism of Question after Relevant SIQ	$\frac{\quad}{\quad}$ ND ND ND	$\frac{\quad}{\quad}$ ND ND ND	$\frac{\quad}{\quad}$ ND ND ND	$\frac{\quad}{\quad}$ ND ND ND	$\frac{\quad}{\quad}$ ND ND ND
5. Relevant SIQ's Delayed	$\frac{\quad}{\quad}$ ND ND ND	$\frac{\quad}{\quad}$ ND ND ND	$\frac{\quad}{\quad}$ ND ND ND	$\frac{\quad}{\quad}$ ND ND ND	$\frac{\quad}{\quad}$ ND ND ND
6. Relevant SIQ's not Accepted	$\frac{\quad}{\quad}$ 06	$\frac{-22}{\quad} \frac{44*}{\quad}$ 05	$\frac{\quad}{\quad}$ 04	$\frac{\quad}{\quad}$ 00	$\frac{\quad}{\quad}$ 05
7. Relevant SIQ's Given Brief Feedback	$\frac{-24}{\quad} \frac{-41*}{\quad}$ 08	$\frac{\quad}{\quad}$ 25*	$\frac{\quad}{\quad}$ 00	$\frac{\quad}{\quad}$ 06	$\frac{\quad}{\quad}$ 12

Table 5, Continued.

Order	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
65	% Relevant SIQ's Given Long Feedback	54   -56** 32**	11   -44* 06	02	03	42   -45* 09
66	% Relevant SIQ's Redirected to Class	05	03	05	-78**   -02 17**	-85**   -29 04
67	Behavioral Praise of Relevant SIQ	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
68	Behavioral Criticism of Relevant SIQ	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
69	Behavioral Warning after Relevant SIQ	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
70	Criticism of Question after Irrelevant SIQ	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
71	% Irrelevant SIQ Given No Feedback	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
72	% Irrelevant SIQ Delayed	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
73	5 Irrelevant SIO Given Brief Feedback	19	30	13	04	09
74	5 Irrelevant SIO Given Long Feedback	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
75	5 Irrelevant SIO Not Accepted	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
76	5 Irrelevant SIO Redirected to Class	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
77	Behavioral Criticism After Irrelevant SIO	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
78	Behavioral Warning after Irrelevant SIO	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
K. Student Initiated Public Interactions						
79	Student Initiated comments and Questions/Total Response Opportunities	-07   -49** 12**	02	04   -39* 14	23   -47** 16*	05
80	L. Student Initiated Comments (SIC's) 5 SIC's Relevant	69*   -19 00	00	04	-69   -09 16*	74*   -22 05

Table 5, Continued.

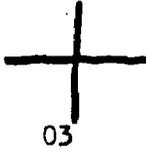
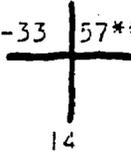
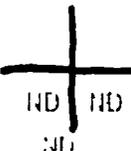
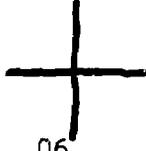
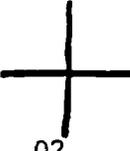
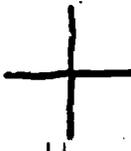
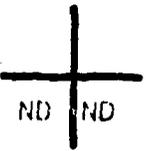
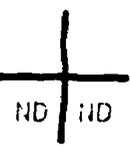
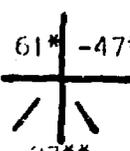
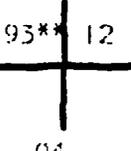
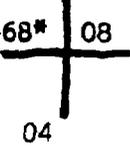
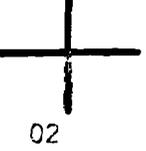
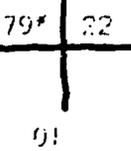
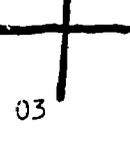
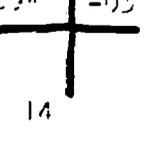
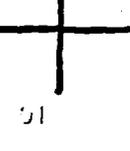
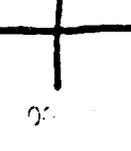
Per	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
1	1/3 SIC's Called Out	 02	 03	 31*	 23*	 -33 57** 14
2	2/3 Praise or Comment after Relevant SIC	 ND ND ND	 ND ND ND	 ND ND ND	 ND ND ND	 ND ND ND
3	2/3 Relevant SIC's Given No Feedback	 04	 06	 05	 02	 11
4	2/3 Relevant SIC's Delayed	 ND ND ND	 ND ND ND	 ND ND ND	 ND ND ND	 ND ND ND
5	2/3 Relevant SIC's Not Accepted	 21*	 31**	 00	 61* -47** 27**	 32**
6	2/3 Relevant SIC's Accepted	 01	 00	 00	 29**	 93** 12 04
7	2/3 Relevant SIC's Integrated into Discussion Topic	 -68* 08 04	 02	 00	 -75* 24 23**	 -79* 22 01
8	2/3 Relevant SIC's Which Cause a Shift in Topic	 03	 59* -03 14	 -40 34 18*	 01	 06

Table 9, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
89	Behavioral Praise after Relevant SIC's	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
90	Behavioral Criticism after Relevant SIC's	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
91	Behavioral Warning after Relevant SIC's	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
92	Praise of Comment after Irrelevant SIC's	06	08	04	-7%*   -9% 22**	10
93	2 Irrelevant SIC's Given No Feedback	00	21	01	06	ND   05
94	2 Irrelevant SIC's Delayed	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
95	2 Irrelevant SIC's Not Accepted	72*   -22 01	71   -10 29**	01	-29   -67** 30*	ND   10
96	2 Irrelevant SIC's Accepted	04	-59   25 20*	00	6   6 29**	00

Table 5, Continued.

per	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
7	Irrelevant SIC's Integrated into Discussion Topic	04	15	-80* 25 01	-85** -66 17*	ND ND
8	Irrelevant SIC's Which Cause a Shift in Topic	01	05	00	24*	ND ND
9	Behavioral Criticism after Irrelevant SIC's	01	20	01	01	ND ND
10	Behavioral Warning after Irrelevant SIC's	02	23	03	01	ND ND
11	Self and Opinion Questions					
01	Self Questions/Process + Product + Choice Questions	-22 -43* 14**	04	-34 -39* 13**	30**	33**
02	Self Questions Which Were Subject-Matter Related	ND ND ND	ND ND ND	ND ND ND	ND ND ND	ND ND ND
03	Self Questions Related to Personal Preference	ND ND ND	ND ND ND	ND ND ND	ND ND ND	ND ND ND
04	Opinion Questions/Process + Product + Choice Questions	07	28*	10	00	01

Table 5, Continued.

Code	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
105	% Opinion Questions Given No Feedback	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
106	% Opinion Questions Followed by Praise	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
107	% Opinion Questions Followed by Teacher Disagreement	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
108	% Student Opinions Accepted	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
109	% Student Opinions Integrated into Discussion Topic	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
II. Private Dyadic Contacts						
110	% Private Contacts Student Initiated	✓   ✓ 18*	01	✓   ✓ 22*	00	07
111	Student Initiated Work Contacts Involving Praise	✓   ✓ 31**	✓   ✓ 27*	-49*   05 02	00	✓   ✓ 19*
112	Student Initiated Work Contacts Involving Criticism	01	00	05	03	02

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
13	% of Private Work Contacts Student Initiated	01	00	24*	05	12
14	% Student Initiated Contacts Delayed	07	00	30*	10*	-67   -22* 17**
15	% Student Initiated Contacts Given Brief Feedback	04	00	30**	23*	61   51** 25**
16	% Student Initiated Contacts Given Long Feedback	02	41   -47** 26**	00	00	61**   -26 02
17	% Student Initiated Contacts Involving Personal Concerns	-06   -46** 14**	09	-04   -65** 40**	-06   -63** 25*	-82**   -57* 30**
18	% Student Initiated Requests Granted	02   51* 11*	37   45* 20*	14	-05   52** 09	27   48* 29**
19	% Student Initiated Requests Delayed	03	05	02	25   49** 07	54   -58* 22**
20	% Student Initiated Requests Not Granted	05	05	03	22*	01

Table 5, Continued.

Order	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
21	Private Work Contacts/Private Work Contacts + Public Response Opportunities	$\frac{\quad}{\quad}$ 23*	$\frac{-15}{\quad} \mid \frac{-40^*}{\quad}$ 13**	$\frac{\quad}{\quad}$ 25**	$\frac{\quad}{\quad}$ 21*	$\frac{\quad}{\quad}$ 02
22	Procedural Contacts/Procedural Contacts + Response Opportunities	$\frac{\quad}{\quad}$ 32*	$\frac{-17}{\quad} \mid \frac{-34}{\quad}$ 12**	$\frac{\quad}{\quad}$ 36**	$\frac{39}{\quad} \mid \frac{-43^*}{\quad}$ 18**	$\frac{\quad}{\quad}$ 00
23	Teacher Initiated Work Contacts/Teacher Initiated Work + Procedure Contacts	$\frac{\quad}{\quad}$ 15*	$\frac{\quad}{\quad}$ 00	$\frac{\quad}{\quad}$ 02	$\frac{\quad}{\quad}$ 00	$\frac{\quad}{\quad}$ 06
24	Teacher Initiated Work Contacts Involving Praise	$\frac{-52^*}{\quad} \mid \frac{-17}{\quad}$ 04	$\frac{\quad}{\quad}$ 00	$\frac{-35}{\quad} \mid \frac{-33}{\quad}$ 18*	$\frac{\quad}{\quad}$ 31*	$\frac{-93^{**}}{\quad} \mid \frac{08}{\quad}$ 02
25	Teacher Initiated Work Contacts Involving Mere Observation	$\frac{\quad}{\quad}$ 02	$\frac{\quad}{\quad}$ 22**	$\frac{\quad}{\quad}$ 06	$\frac{\quad}{\quad}$ 02	$\frac{\quad}{\quad}$ 05
26	Teacher Initiated Work Contacts Involving Brief Feedback	$\frac{\quad}{\quad}$ 00	$\frac{\quad}{\quad}$ 00	$\frac{\quad}{\quad}$ 02	$\frac{\quad}{\quad}$ 01	$\frac{\quad}{\quad}$ 00
27	Teacher Initiated Work Contacts Involving Long Feedback	$\frac{-26}{\quad} \mid \frac{-43^*}{\quad}$ 15**	$\frac{\quad}{\quad}$ 00	$\frac{38}{\quad} \mid \frac{-51^{**}}{\quad}$ 24*	$\frac{36}{\quad} \mid \frac{-63^{**}}{\quad}$ 30*	$\frac{06}{\quad} \mid \frac{-41^*}{\quad}$ 16*
28	Teacher Initiated Procedural Contacts Which Were Management Requests	$\frac{\quad}{\quad}$ 35*	$\frac{\quad}{\quad}$ 06	$\frac{13}{\quad} \mid \frac{-52^{**}}{\quad}$ 17**	$\frac{\quad}{\quad}$ 25*	$\frac{58}{\quad} \mid \frac{-42^*}{\quad}$ 12*

Table 5, Continued.

Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
29 Teacher Thanks Student for Doing a Favor Request	25**	01	19*	00	00
30 Teacher Thanks Student Following a Management Request	52* -45* 23**	01	15 -49* 23**	-08 -56** 20*	00
C. Combined Teacher Evaluation Statements					
31 Academic Praise/Academic Praise + Academic Criticism	40**	-53*   23 18**	44**	31**	12
32 Behavioral Praise/Total Behavioral Contacts	01	00	02	17*	00
33 Behavioral Warnings/Behavioral Warnings + Behavioral Criticism	04   37 09*	35   37 12**	01	05	35   43* 10**
34 D. Discipline and Control Errors # Discipline Contacts Involving One or More Error	06	02	05	05	35 -49** 00**
35 Target Errors/Total Errors	02	00	37*	03	00 04
36 Timing Errors/Total Errors	05	13	-89** -49 33**	03	00

Table 9, Continued.

Index	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
137	Overreactions/Total Errors	-04   48 15*	21   57* 22**	07   58* 25**	 14	70   56 15 25*
138	Nonverbal Control Contacts/Total Control Contacts	 00	 01	 00	 11	 10
C. Combined Teacher Feedback Data						
139	Repeat/Repeat + Rephrase + New Question	-14   -67** 42**	-50   -50** 24**	-55*   -40* 39**	13   -50** 15*	21   -67* 46**
140	Rephrase/Repeat + Rephrase + New Question	 42*	31   40 14*	45   45* 37**	 01	 10
141	Brief Feedback/Brief + Long Feedback	 05	 00	-51*   38 23**	-44   45* 20**	-50   45* 17**

Table 5, Continued.

er	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
<b>A. Selecting Respondents to Questions</b>						
	% Preselects Respondent before Asking Question	09	15	01	16*	09
	Calls on Non-Volunteer	02	01	01	01	00
	Calls on Volunteer	00	00	00	27*	01
	Student Calls Out Answers	01	02	00	18**	29**
<b>B. Difficulty Level of Questions</b>						
	Process Questions/Process + Product + Choice	03	00	-55** 23 15*	03	00
	Choice Questions/Process + Product + Choice	19*	02	10 -43 19*	01	00
<b>C. Quality of Children's Answers</b>						
	% Correct	00	01	00	00	24*
	% Part-Correct	00	04	01	24*	03

Table 5, Continued.

er	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
	Correct	00	00	01	05	01
	"Don't Know"	02	01	32*	06	01
	No Response	00	00	02	03	-74* -24
	D. Teacher Reactions to Correct Answers					
	Praise	00	01	01	00	-77* -03
	Criticizing For Calling Out	-48* -13	03	01	03	01
	Failure to Give Feedback	03	03	00	03	01
	Process Feedback	-05 50**	02	-19 50**	02	33 39
	New Question	23*	02	24**	02	13*
		01	00	00	04	00

Table 5, Continued.

Order	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
E. Teacher Reactions to Part-Correct Answers						
6	Praise	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
8	Criticism	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
9	Failure to Give Feedback	03	00	06	-66**   -48* 30**	-91**   -23 08
10	Process Feedback	61**   54** 31**	36   34 14*	-22   52** 17**	01	10
11	Gives the Answer	02	00	28**	22**	28**
12	Calls on Someone Else	00	01	01	05	09
13	Another Student Calls Out The Answer	-45   -44* 16**	01	-39   -49* 18**	-66**   -65** 41**	-91**   -40 15**
14	Repeats, Rephrases, or Asks New Question	06	34*	-29   -46* 17**	-54*   -42 20**	-24   -50* 17

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
5	Repeats Question	$\begin{array}{c} -52^* \quad -49^* \\   \\ 26^* \end{array}$	$\begin{array}{c}   \\   \\ 04 \end{array}$	$\begin{array}{c} -34 \quad 66^{**} \\   \\ 40^{**} \end{array}$	$\begin{array}{c} -57^* \quad -67^{**} \\   \\ 40^{**} \end{array}$	$\begin{array}{c} -67^{**} \quad -58^{**} \\   \\ 29^{**} \end{array}$
6	Rephrases or Gives Clue	$\begin{array}{c}   \\   \\ 02 \end{array}$	$\begin{array}{c}   \\   \\ 40^{**} \end{array}$	$\begin{array}{c}   \\   \\ 06 \end{array}$	$\begin{array}{c}   \\   \\ 03 \end{array}$	$\begin{array}{c}   \\   \\ 03 \end{array}$
7	Asks New Question	$\begin{array}{c} 70^{**} \quad 00 \\   \\ 03 \end{array}$	$\begin{array}{c} 64^{**} \quad -16 \\   \\ 01 \end{array}$	$\begin{array}{c}   \\   \\ 00 \end{array}$	$\begin{array}{c}   \\   \\ 01 \end{array}$	$\begin{array}{c}   \\   \\ 04 \end{array}$
8	F. Teacher Reactions to Wrong Answers					
	Praise	$\begin{array}{c}   \\   \\ 00 \end{array}$	$\begin{array}{c}   \\   \\ 00 \end{array}$	$\begin{array}{c}   \\   \\ 05 \end{array}$	$\begin{array}{c}   \\   \\ 00 \end{array}$	$\begin{array}{c}   \\   \\ 00 \end{array}$
9	Criticism	$\begin{array}{c} -27 \quad 44^* \\   \\ 16^{**} \end{array}$	$\begin{array}{c}   \\   \\ 00 \end{array}$	$\begin{array}{c} -17 \quad -49^* \\   \\ 17^{**} \end{array}$	$\begin{array}{c} 34 \quad -65^* \\   \\ 31^* \end{array}$	$\begin{array}{c} -12 \quad -40 \\   \\ 15^* \end{array}$
10	Failure to Give Feedback	$\begin{array}{c}   \\   \\ 01 \end{array}$	$\begin{array}{c}   \\   \\ 03 \end{array}$	$\begin{array}{c}   \\   \\ 02 \end{array}$	$\begin{array}{c}   \\   \\ 01 \end{array}$	$\begin{array}{c}   \\   \\ 00 \end{array}$
11	Process Feedback	$\begin{array}{c}   \\   \\ 19^* \end{array}$	$\begin{array}{c}   \\   \\ 00 \end{array}$	$\begin{array}{c}   \\   \\ 35^{**} \end{array}$	$\begin{array}{c} 48 \quad 23 \\   \\ 11^* \end{array}$	$\begin{array}{c}   \\   \\ 07 \end{array}$
12	Gives The Answer	$\begin{array}{c}   \\   \\ 38^{**} \end{array}$	$\begin{array}{c}   \\   \\ 42^{**} \end{array}$	$\begin{array}{c}   \\   \\ 23^* \end{array}$	$\begin{array}{c}   \\   \\ 26^{**} \end{array}$	$\begin{array}{c}   \\   \\ 46^{**} \end{array}$

Table 5, Continued.

Per	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
63	Calls on Someone Else	02	01	00	02	00
64	Another Student Calls Out the Answer	01	30**	01	09	04
65	Repeats, Rephrases, or Asks New Question	00	01	01	00	01
66	Repeats Question	00	01	00	12*	26*
67	Rephrases or Gives Clue	00	00	01	02	00
68	Asks New Question	02	01	07	14*	01
69	G. Teacher Reactions to "I Don't Know" or No Response Criticism	-30 11*	-44* 04	-22 11*	-49* 31**	33 -64** 00
70	Failure to Give Feedback	ND ND	ND ND	ND ND	ND ND	ND ND

Table 5, Continued.

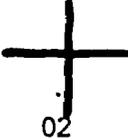
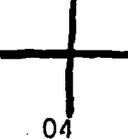
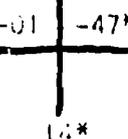
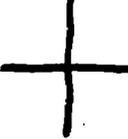
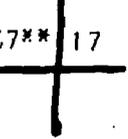
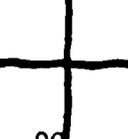
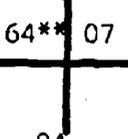
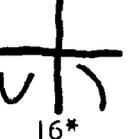
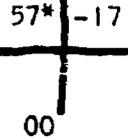
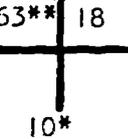
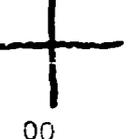
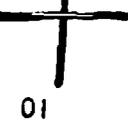
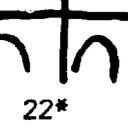
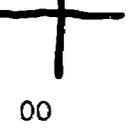
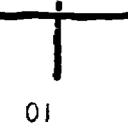
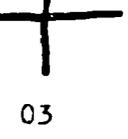
Ver	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
1	Gives the Answer	 02	 04	 00	 01	 -01 -47* 14*
2	Calls on Someone Else	 20*	 -85** 11 22*	 07	 01	 03
3	Another Student Calls Out the Answer	 00	 00	 67** 17 08	 05	 03
4	Repeats, Rephrases, or Asks New Question	 00	 64** 07 04	 18*	 01	 02
5	Repeats Question	 00	 01	 02	 03	 05
6	Rephrases or Gives Clue	 20*	 47**	 22*	 16*	 25*
7	Asks New Question	 57* -17 00	 63** 18 10*	 02	 01	 00
8	H. Teacher Reactions Combined Across All Response Opportunities Praise	 01	 22*	 00	 01	 03

Table 5, Continued.

Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
9 Failure to Give Feedback	$\begin{array}{c c} & \\ \hline & \\ \hline 03 & \end{array}$	$\begin{array}{c c} -49^* & -10 \\ \hline & \\ \hline 02 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 00 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 02 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 01 & \end{array}$
10 Process Feedback	$\begin{array}{c c} 02 & 40 \\ \hline & \\ \hline 11^* & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 02 & \end{array}$	$\begin{array}{c c} 18 & 47^* \\ \hline & \\ \hline 17^{**} & \end{array}$	$\begin{array}{c c} 59^{**} & 25 \\ \hline & \\ \hline 11^* & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 13 & \end{array}$
11 New Question	$\begin{array}{c c} & \\ \hline & \\ \hline 01 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 00 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 00 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 03 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 00 & \end{array}$
12 Repeat, Rephrase, or New Question after Failure to Answer Correctly	$\begin{array}{c c} & \\ \hline & \\ \hline 01 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 01 & \end{array}$	$\begin{array}{c c} -12 & -31 \\ \hline & \\ \hline 10^* & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 05 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 08 & \end{array}$
13 Repeats Question after Failure to Answer Correctly	$\begin{array}{c c} & \\ \hline & \\ \hline 01 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 01 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 02 & \end{array}$	$\begin{array}{c c} -56^{**} & -11 \\ \hline & \\ \hline 10^* & \end{array}$	$\begin{array}{c c} -83^{**} & -19 \\ \hline & \\ \hline 06 & \end{array}$
14 Gives the Answer after Failure to Answer Correctly	$\begin{array}{c c} & \\ \hline & \\ \hline 17^* & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 01 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 00 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 00 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 04 & \end{array}$
15 Calls on Another Student after Failure to Answer Correctly	$\begin{array}{c c} & \\ \hline & \\ \hline 03 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 00 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 20^* & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 15^* & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 00 & \end{array}$
16 Another Student Calls Out Answer after Failure to Answer Correctly	$\begin{array}{c c} & \\ \hline & \\ \hline 01 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 28^{**} & \end{array}$	$\begin{array}{c c} 47^* & 21 \\ \hline & \\ \hline 05 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 02 & \end{array}$	$\begin{array}{c c} & \\ \hline & \\ \hline 02 & \end{array}$

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
I. Student Response Opportunities						
7	Response Opportunities/Total Teaching Time	 28**	 12*	 05	 00	 26**
J. Student Initiated Questions (SIO's)						
8	% SIO's Irrelevant	 01	 01	 05	 18*	 ND 03
9	% SIO's Called Out	 23*	 07	 02	 24*	 ND 00
10	Praise of Question after Relevant SIO	 ND ND ND	 ND ND ND	 ND ND ND	 ND ND ND	 ND ND ND
11	Criticism of Question after Relevant SIO	 ND ND ND	 ND ND ND	 ND ND ND	 ND ND ND	 ND ND ND
12	% Relevant SIO's Delayed	 05	 04	 27*	 17*	 ND 00
13	% Relevant SIO's Not Accepted	 ND ND ND	 ND ND ND	 ND ND ND	 ND ND ND	 ND ND ND
14	% Relevant SIO's Given Brief Feedback	 02	 03	 02	 22*	 ND 03

Table 5, Continued.

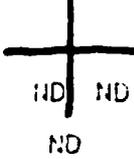
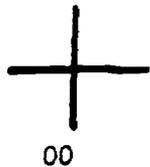
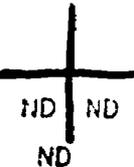
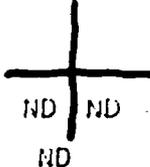
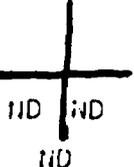
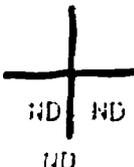
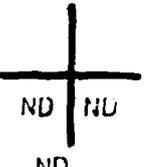
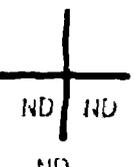
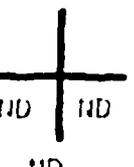
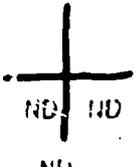
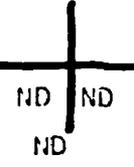
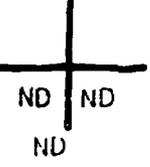
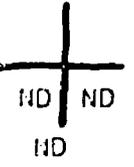
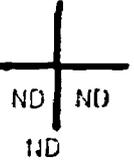
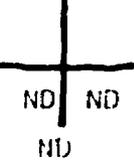
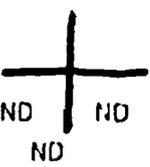
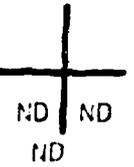
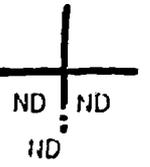
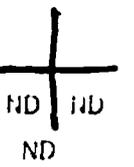
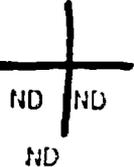
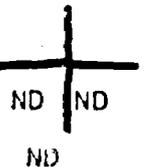
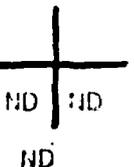
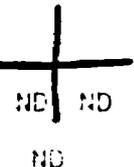
Item	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
5	2/3 Relevant SIO's Given Long Feedback					
6	2/3 Relevant SIO's Redirected To Class					
7	Behavioral Praise of Relevant SIO					
8	Behavioral Criticism of Relevant SIO					
9	Behavioral Warning after Relevant SIO					
10	Criticism of Question after Irrelevant SIO					
11	2/3 Irrelevant SIO Given No Feedback					
12	2/3 Irrelevant SIO Delayed					

Table 5, Continued.

bar	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
3	2 Irrelevant SIO Given Brief Feedback	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
4	5 Irrelevant SIO Given Long Feedback	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
5	5 Irrelevant SIO Not Accepted	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
6	5 Irrelevant SIO Redirected to Class	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
7	Behavioral Criticism After Irrelevant SIO	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
8	Behavioral Warning After Irrelevant SIO	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
9	K. Student Initiated Public Interactions Student Initiated comments and Questions/Total Response Opportunities	01	00	07	01	05
0	5 SIC's Relevant	21*	-11   -49** 23*	03	06	04

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
1	% SIC's Called out	-21   -33 10*	08	04	06	04
2	Praise or Comment after Relevant SIC	24*	-03   -53** 26**	-03   -37 20*	00	35**
3	% Relevant SIC's Given No Feedback	02	00	07	00	00
4	% Relevant SIC's Delayed	28**	02	29**	20**	21*
5	% Relevant SIC's Not Accepted	03	06	05	05	04
6	% Relevant SIC's Accepted	01	01	15	06	-51   -58** 34**
7	% Relevant SIC's Integrated into Discussion Topic	00	00	10	01	03
8	% Relevant SIC's Which Cause A Shift in Topic	01	-09   -40* 08	01	54*   -09 03	01

Table 5, Continued.

Order	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
9	Behavioral Praise after Relevant SIC's	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
10	Behavioral Criticism after Relevant SIC's	16   -45* 20*	00	38   -42** 28**	39   -65** 33**	-41 40**
11	Behavioral Warning after Relevant SIC's	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
12	Praise of Comment after Irrelevant SIC's	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
13	% Irrelevant SIC's Given No Feedback	00	02	07	00	01
14	% Irrelevant SIC's Delayed	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
15	% Irrelevant SIC's Not Accepted	12	27   37 14*	27**   23* 30**	13	ND   ND ND
16	% Irrelevant SIC's Accepted	03	01	03	05	05

Table 5, Continued.

Order	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
97	2 Irrelevant SIC's Introduced into Discussion Topic	-06, -09** 39**	04	-22, -52* 19*	-23, -53* 25**	ND, ND ND
98	2 Irrelevant SIC's which cause a Shift in Topic	ND, ND ND	ND, ND ND	ND, ND ND	ND, ND ND	ND, ND ND
99	Behavioral Criticism after Irrelevant SIC's	26, -51* 24*	01	67, -60** 40**	29, -66** 41**	ND, ND ND
100	Behavioral Warning after Irrelevant SIC's	ND, ND ND	ND, ND ND	ND, ND ND	ND, ND ND	ND, ND ND
M. Self and Opinion Questions						
101	Self Questions/Process + Product + Choice Questions	01	27* u/h	01	03	00
102	5 Self Questions which were Subject-Matter Related	ND, ND ND	ND, ND ND	ND, ND ND	ND, ND ND	ND, ND ND
103	6 Self Questions Related to Personal Preference	ND, ND ND	ND, ND ND	ND, ND ND	ND, ND ND	ND, ND ND
104	Opinion Questions/Process + Product + Choice Questions	07	-48*, -58** 33*	-34, -43* 13**	05	ND, ND ND

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
05	% Opinion Questions Given No Feedback	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
06	% Opinion Questions Followed by Praise	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
07	% Opinion Questions Followed by Teacher Disagreement	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
08	% Student Opinions Accepted	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
09	% Student Opinions Integrated into Discussion Topic	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
10	N. Private Dyadic Contacts % Private Contacts Student Initiated	04	00	-01   46** 23*	40   26 10*	04
11	Student Initiated Work Contacts Involving Praise	02	00	00	06	00
12	Student Initiated Work Contacts Involving Criticism	01	00	02	17*	18*

Table 5, Continued.

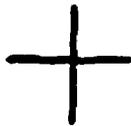
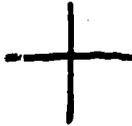
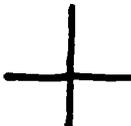
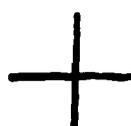
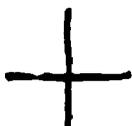
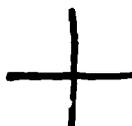
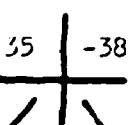
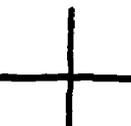
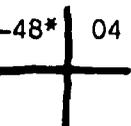
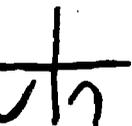
Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
13	% of Private Work Contacts Student Initiated	 00	 00	 28**	 24*	 01
14	% Student Initiated Contacts Delayed	 00	 06	 09	 01	 01
15	% Student Initiated Contacts Given Brief Feedback	 00	 00	 01	 08	 03
16	% Student Initiated Contacts Given Long Feedback	 00	 00	 18*	 00	 04
17	% Student Initiated Contacts Involving Personal Concerns	 03	 02	 24**	 19**	 01
18	% Student Initiated Requests Granted	 31*	 02	 32*	 26**	 20*
19	% Student Initiated Requests Delayed	 01	 01	 00	 01	 07
20	% Student Initiated Requests Not Granted	 30**	 01	 42**	 31**	 33*

Table 5, Continued.

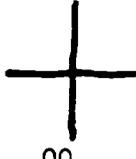
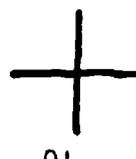
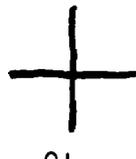
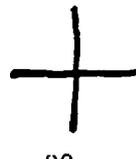
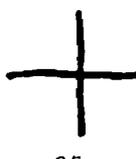
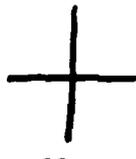
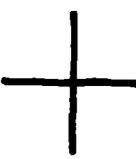
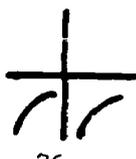
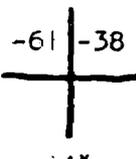
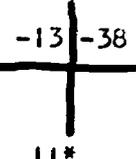
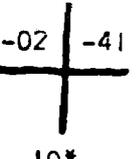
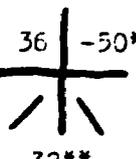
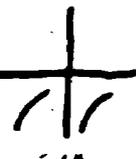
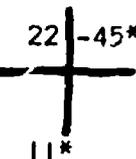
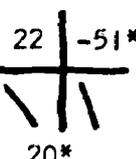
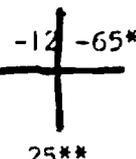
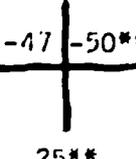
Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
21	Private Work Contacts/Private Work Contacts + Public Response Opportunities	 01	 01	 05	 02	 06
22	Procedural Contacts/Procedural Contacts + Response Opportunities	 00	 01	 01	 00	 05
23	Teacher Initiated Work Contacts/Teacher Initiated Work + Procedure Contacts	 00	 00	 01	 00	 01
24	Teacher Initiated Work Contacts Involving Praise	 26**	 01	 -17   -48** 23**	 30*	 04
25	Teacher Initiated Work Contacts Involving Mere Observation	 33**	 20**	 41**	 26	 -61   -38 14*
26	Teacher Initiated Work Contacts Involving Brief Feedback	 -13   -38 11*	 00	 -02   -41 10*	 36   -50** 32**	 24*
27	Teacher Initiated Work Contacts Involving Long Feedback	 22   -45* 11*	 00	 22   -51** 20*	 -12   -65** 25**	 -47   -50** 25**
28	Teacher Initiated Procedural Contacts Which Were Management	 01	 00	 00	 00	 04

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
129	1/2 Teacher Thanks Student for Making a Favor Request	02	00	00	02	00
130	2/3 Teacher Thanks Student Following a Management Request	05	02	22**	24**	25**
O. Combined Teacher Evaluation Statements						
131	Academic Praise/Academic Praise + Academic Criticism	23*	00	47**	27**	25**
132	Behavioral Praise/Total Behavioral Contacts	00	00	00	-53* 07 11*	-84** 09 00
133	Behavioral Warnings/Behavioral Warnings + Behavioral Criticism	00	00	04	06	02
P. Discipline and Control Errors						
134	1/2 Discipline Contacts Involving One or More Error	03	00	05	00	82** 06 00
135	Target Errors/Total Errors	00	25*	01	02	00
136	Timing Errors/Total Errors	00	-64** -01 01	00	04	00

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
37	Overreactions/Total Errors	12	06 -57* 14*	11	00	30*
38	Nonverbal Control Contacts/ Total Control Contacts	06	-30 -35 16*	01	00	00
39	Combined Teacher Feedback Data Repeat/Repeat + Rephrase + New Question	03	03	01	02	04
40	Rephrase/Repeat + Rephrase + New Question	17*	37**	18*	00	00
41	Brief Feedback/Brief + Long Feedback	22**	00	01	06	09

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
A.	Selecting Respondents to Questions					
	Preselects Respondent Before Asking Question					
	Calls on Non-Volunteer					
	Calls on Volunteer					
	Student Calls Out Answers					
B.	Difficulty Level of Questions					
	Process Questions/Process + Product + Choice					
	Choice Questions/Process + Product + Choice					
C.	Quality of Children's Answers					
	% Correct					
	% Part-Correct					

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
8	% Wrong					
9	% "Don't Know"					
10	% No Response					
11	D. Teacher Reactions to Correct Answers					
12	Praise					
13	Criticizing for Calling Out					
14	Failure to Give Feedback					
15	Process Feedback					
16	New Question					

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
7. Teacher Reactions to Part-Correct Answers						
6	Praise	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
8	Criticism	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
9	Failure to Give Feedback	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
10	Process Feedback	00	01	-44   45* 22**	-52*   23 00	ND   ND ND
11	Gives the Answer	-47   46 13*	-50   59** 35*	-47   42 12*	00	ND   ND 01
12	Calls on Someone Else	03	00	-51*   13 01	19* 00	ND   ND 00
13	Another Student Calls Out The Answer	-35   -60** 27**	-35   -46* 13*	28*	37   -56** 28**	ND   ND 56**
14	Repeats, Rephrases, or Asks New Question	02	34**	32*	25*	ND   ND 05

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
25	Repeats Question	01	25*	06	01	01
26	Rephrases or Gives Clue	02	00	58* -21	00	02
27	Asks New Question	-11 -51*	07	33 -58** 31**	16 -49* 20*	14
<b>F. Teacher Reactions to Wrong Answers</b>						
28	Praise	ND ND ND	ND ND ND	ND ND ND	ND ND ND	ND ND ND
29	Criticism	00	04	00	07	01
30	Failure to Give Feedback	ND ND ND	ND ND ND	ND ND ND	ND ND ND	ND ND ND
31	Process Feedback	01	00	34**	01	12
32	Gives the Answer	05	07	30**	13*	09

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
33	Calls on Someone Else	$\frac{\quad}{09}$	$\frac{28 \quad 41}{17^*}$	$\frac{-41 \quad 39}{21^*}$	$\frac{\quad}{01}$	$\frac{-12^* \quad -00}{09}$
34	Another Student Calls Out the Answer	$\frac{\quad}{01}$	$\frac{\quad}{08}$	$\frac{\quad}{01}$	$\frac{\quad}{03}$	$\frac{\quad}{00}$
35	Repeats, Rephrases, or Asks New Question	$\frac{\quad}{00}$	$\frac{\quad}{00}$	$\frac{\quad}{01}$	$\frac{\quad}{01}$	$\frac{\quad}{02}$
36	Repeats Question	$\frac{09 \quad -40}{15^*}$	$\frac{\quad}{01}$	$\frac{-02 \quad -47^*}{23^*}$	$\frac{\quad}{30^{**}}$	$\frac{\quad}{01}$
37	Rephrases or Gives Clue	$\frac{\quad}{00}$	$\frac{\quad}{00}$	$\frac{65^{**} \quad -19}{18^*}$	$\frac{\quad}{02}$	$\frac{\quad}{07}$
38	Asks New Question	$\frac{\quad}{01}$	$\frac{\quad}{00}$	$\frac{\quad}{02}$	$\frac{48^* \quad -02}{03}$	$\frac{\quad}{01}$
39	G. Teacher Reactions to "I Don't Know" or No Response Criticism	$\frac{ND \quad ND}{ND}$	$\frac{ND \quad ND}{ND}$	$\frac{ND \quad ND}{ND}$	$\frac{ND \quad ND}{ND}$	$\frac{ND \quad ND}{ND}$
40	Failure to Give Feedback	$\frac{\quad}{08}$	$\frac{60^{**} \quad 16}{07}$	$\frac{\quad}{05}$	$\frac{\quad}{02}$	$\frac{ND \quad ND}{ND}$

Table 5, Continued.

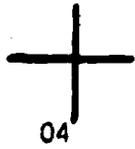
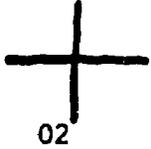
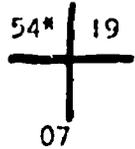
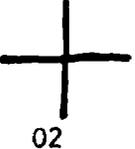
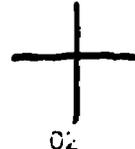
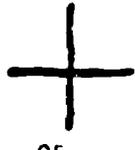
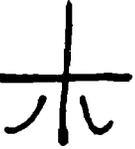
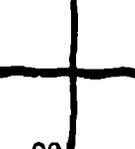
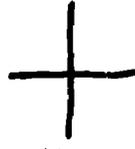
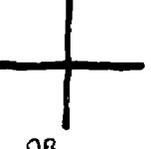
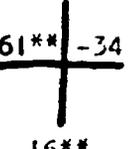
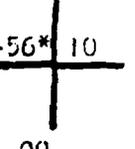
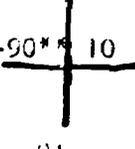
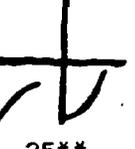
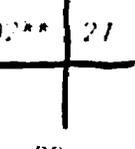
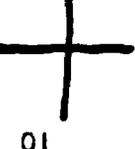
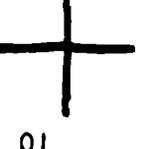
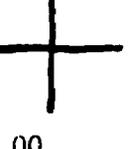
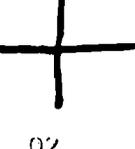
Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
1	Gives the Answer	 04	 02	 54* 19 07	 02	 02
2	Calls on Someone Else	 25*	 01	 05	 01	 39**
3	Another Student Calls Out the Answer	 39**	 00	 29**	 32**	 55**
4	Repeats, Rephrases, or Asks New Question	 00	 00	 08	 00	 02
5	Repeats Question	 03	 08	 -61** -34 16**	 -56* 10 09	 -90** 10 01
6	Rephrases or Gives Clue	 00	 30*	 25**	 03	 92** 27 08
7	Asks New Question	 04	 44**	 02	 06	 08
8	Praise	 01	 01	 04	 00	 02

Table 5, Continued.

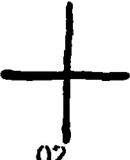
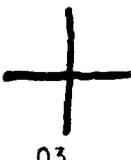
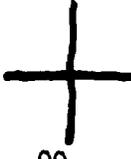
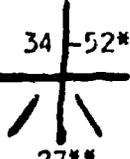
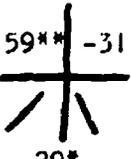
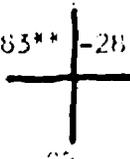
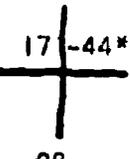
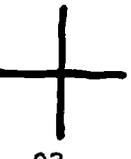
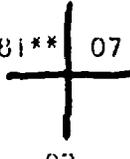
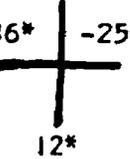
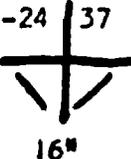
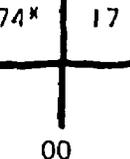
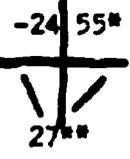
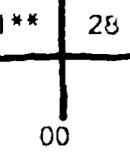
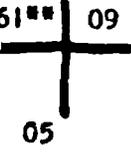
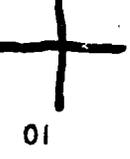
Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
9	Failure to Give Feedback	 00	 00	 06	 01	 11
10	Process Feedback	 02	 01	 07	 03	 19
11	New Question	 01	 00	 34 -52** 27**	 59** -31 29*	 83** -28 02
12	Repeat, Rephrase, or New Question after Failure to Answer Correctly	 03	 03	 17 -44* 08	 02	 81** 07 02
13	Repeats Question after Failure to Answer Correctly	 02	 07	 -46* -25 12*	 15*	 00
14	Gives the Answer after Failure to Answer Correctly	 -41 40 17**	 -24 37 16*	 01	 01	 -74* 17 00
15	Calls on Another Student after Failure to Answer Correctly	 -24 55* 27**	 03	 -51* 51** 30**	 01	 -91** 28 00
16	Another Student Calls Out Answer after Failure to Answer Correctly	 21*	 -61** 09 05	 01	 25**	 00

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
I. Student Response Opportunities						
7	Response Opportunities/Total Teaching Time	02	02	01	01	04
J. Student Initiated Questions (SIQ's)						
8	% SIQ's Irrelevant	03	02	43*	56   23 14*	ND   20
9	% SIQ's Called Out	01	01	03	04	ND   05
10	Raise of Question after Relevant SIQ	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
11	Criticism of Question after Relevant SIQ	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
12	% Relevant SIQ's Delayed	07	02*   -08 09	00	00	ND   ND ND
13	% Relevant SIQ's Not Accepted	-41   -62** 24**	08	05	61*   -65** 42**	ND   -66** 16
14	% Relevant SIQ's Given Brief Feedback	40   60** 25**	52   68** 34**	40   77** 51**	32   66** 27**	ND   66** 37**

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
55	3 Relevant SIQ's Given Long Feedback	36*	53**	50*	18 -47* 19*	ND 14
56	3 Relevant SIQ's Redirected To Class	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
57	Behavioral Praise of Relevant SIQ	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
58	Behavioral Criticism of Relevant SIQ	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
59	Behavioral Warning after Relevant SIQ	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
60	Criticism of Question after Irrelevant SIQ	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
61	3 Irrelevant SIQ Given No Feedback	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
62	3 Irrelevant SIQ Delayed	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND

Table 5, Continued.

ber	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
13	J. Irrelevant SIO Given Brief Feedback	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
14	K. Irrelevant SIO Given Long Feedback	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
15	L. Irrelevant SIO Not Accepted	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
16	M. Irrelevant SIO Redirected To Class	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
17	N. Behavioral Criticism After Irrelevant SIO	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
18	O. Behavioral Warning after Irrelevant SIO	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
19	P. Student Initiated Public Interactions Student Initiated Comments and Questions/Total Response Opportunities	31*	01	00	00	01
20	Q. Student Initiated Comments (SIC's) SIC's Relevant	00	03	00	00	01

Table 5, Continued.

Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
1. SIC's Called Out	00	22*	00	02	ND 08
2. Praise or Comment after Relevant SIC	19*	03	05	27**	ND 06
3. Relevant SIC's Given No Feedback	00	02	00	02	ND ND
4. Relevant SIC's Delayed	44   39 13*	57   77** 53**	04	33**	ND   ND ND
5. Relevant SIC's Not Accepted	01	00	51   32 12*	06	ND 06
6. Relevant SIC's Accepted	04	04	25*	20	-6.4** ND   41**
7. Relevant SIC's Integrated into Discussion Topic	65**   23 10	05	00	00	ND 01
8. Relevant SIC's Which Cause A Shift in Topic	04	07	17*	07	ND 00

Table 5, Continued.

<u>Process Variable</u>	<u>Word Knowledge</u>	<u>Word Discrimination</u>	<u>Reading</u>	<u>Arithmetic Computation</u>	<u>Arithmetic Reasoning</u>
Behavioral Praise after Relevant SIC's	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
Behavioral Criticism after Relevant SIC's	-46   -48* 23**	06	02	47   -50* 24***	-50* 32***
Behavioral Warning after Relevant SIC's	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
Praise of Comment after Irrelevant SIC's	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
Irrelevant SIC's Given No Feedback	56   -59 36**	01	-39   -62 37*	-32   -86** 61**	-78 59**
Irrelevant SIC's Delayed	01	12	02	04	ND   ND ND
Irrelevant SIC's Not Accepted	-64   73* 53**	-54   88** 65**	04	17	ND   ND 06
Irrelevant SIC's Accepted	54**	55**	65*	37*	ND   ND 66**

Table 5, Continued.

per	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
77	% Irrelevant SIC's Integrated into Discussion Topic	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
78	% Irrelevant SIC's Which Cause a Shift in Topic	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
79	Behavioral Criticism after Irrelevant SIC's	01	12	02	04	ND   ND ND
80	Behavioral Warning After Irrelevant SIC's	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
81	4. Self and Opinion Questions Self Questions/Process + Product + Choice Questions	ND   ND ND 14*	ND   ND ND 37**	ND   ND ND 01	ND   ND ND 00	ND   ND ND 01
82	% Self Questions Which Were Subject-Matter Related	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
83	% Self Questions Related to Personal Preference	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND	ND   ND ND
84	Opinion Questions/Process + Product + Choice Questions	02	02	03	05	03

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
05	% Opinion Questions Given No Feedback	$\frac{-08}{34^*} \mid \frac{-61^*}{11}$	$\frac{02}{02}$	$\frac{17}{26^*} \mid \frac{-59^*}{11}$	$\frac{44}{51^{**}} \mid \frac{-74^{**}}{11}$	$\frac{ND}{01}$
06	% Opinion Questions Followed by Praise	$\frac{ND}{ND} \mid \frac{ND}{ND}$	$\frac{ND}{ND} \mid \frac{ND}{ND}$	$\frac{ND}{ND} \mid \frac{ND}{ND}$	$\frac{ND}{ND} \mid \frac{ND}{ND}$	$\frac{ND}{ND} \mid \frac{ND}{ND}$
07	% Opinion Questions Followed by Teacher Disagreement	$\frac{00}{00}$	$\frac{00}{00}$	$\frac{20}{21^*} \mid \frac{53}{11}$	$\frac{13}{13}$	$\frac{ND}{ND} \mid \frac{ND}{ND}$
08	% Student Opinions Accepted	$\frac{05}{05}$	$\frac{15}{15}$	$\frac{-59}{24^{**}} \mid \frac{-47}{11}$	$\frac{07}{07}$	$\frac{ND}{11}$
09	% Student Opinions Integrated into Discussion Topic	$\frac{04}{04}$	$\frac{01}{01}$	$\frac{69^*}{01} \mid \frac{-30}{11}$	$\frac{-04}{35^*} \mid \frac{-68^{**}}{11}$	$\frac{ND}{22} \mid \frac{-68^*}{11}$
10	N. Private Dyadic Contacts Private Contacts Student Initiated	$\frac{38^{**}}{38^{**}} \mid \frac{11}{11}$	$\frac{63^{**}}{63^{**}} \mid \frac{11}{11}$	$\frac{07}{07}$	$\frac{38^{**}}{38^{**}} \mid \frac{11}{11}$	$\frac{87^{**}}{15} \mid \frac{59}{11}$
11	Student Initiated Work Contacts Involving Praise	$\frac{27^{**}}{27^{**}}$	$\frac{17^*}{17^*}$	$\frac{00}{00}$	$\frac{07}{07}$	$\frac{ND}{35^*} \mid \frac{11}{11}$
12	Student Initiated Work Contacts Involving Criticism	$\frac{-28}{09} \mid \frac{-48^*}{11}$	$\frac{17^*}{17^*} \mid \frac{11}{11}$	$\frac{33}{24^{**}} \mid \frac{-51^*}{11}$	$\frac{-24}{39^{**}} \mid \frac{-66^*}{11}$	$\frac{ND}{34}$

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
13	% of Private Tutor Contacts Student Initiated	00	01	-10   46* 12*	04	01
14	% Student Initiated Contacts Delayed	09   42 14*	61*	-78**   36 21*	04	ND   46 17*
15	% Student Initiated Contacts Given brief Feedback	04	01	15   53** 20*	09	05
16	% Student Initiated Contacts Given Long Feedback	03   -53** 15	24*	10	09	ND   -46 19*
17	% Student Initiated Contacts Involving Personal Concerns	07	00	11	11	ND   04
18	% Student Initiated Requests Granted	00	00	00	00	ND   04
19	% Student Initiated Requests Delayed	08	08	01	-71**   29 19*	15
20	% Student Initiated Requests Not Granted	-61*   -26 09	-40   -43 10*	02	-63*   -96 00	05

Table 5, Continued.

Var	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
27	Overreactions/Total Errors	$\frac{ND}{ND}$	$\frac{ND}{ND}$	$\frac{ND}{ND}$	$\frac{ND}{ND}$	$\frac{ND}{ND}$
38	Nonverbal Control Contacts/Total Control Contacts	$\frac{12}{13^*}$	$\frac{-37}{07}$	$\frac{00}{00}$	$\frac{-31}{14^*}$	$\frac{-34}{18}$
D. Combined Teacher Feedback Data						
39	Repeat/Repeat + Rephrase + New Question	$\frac{01}{01}$	$\frac{08}{08}$	$\frac{07}{07}$	$\frac{00}{00}$	$\frac{01}{01}$
40	Rephrase/Repeat + Rephrase + New Question	$\frac{44^{**}}{44^{**}}$	$\frac{20^*}{20^*}$	$\frac{19^*}{19^*}$	$\frac{18^*}{18^*}$	$\frac{35^{**}}{35^{**}}$
41	Brief Feedback/Brief + Long Feedback	$\frac{33^*}{33^*}$	$\frac{45^*}{45^*}$	$\frac{-34}{36^{**}}$	$\frac{63^{**}}{35^{**}}$	$\frac{-38}{16^*}$
		$\frac{00}{00}$	$\frac{00}{00}$	$\frac{00}{00}$	$\frac{00}{00}$	$\frac{00}{00}$
		$\frac{00}{00}$	$\frac{00}{00}$	$\frac{00}{00}$	$\frac{00}{00}$	$\frac{00}{00}$
		$\frac{00}{00}$	$\frac{00}{00}$	$\frac{00}{00}$	$\frac{00}{00}$	$\frac{00}{00}$

Table 5, Continued.

Number	Process Variable	Word Knowledge	Word Discrimination	Reading	Arithmetic Computation	Arithmetic Reasoning
21	Private Work Contacts/Private Work Contacts + Public Response Opportunities	01	21*	00	01	00
22	Procedural Contacts/Procedural Contacts + Response Opportunities	02	02	00	00	00
23	Teacher Initiated Work Contacts/Teacher Initiated Work + Procedure Contacts	32**	37-69** 32**	03	25**	40*
24	Teacher Initiated Work Contacts Involving Praise	01	20*	05	50   26 16*	10
25	Teacher Initiated Work Contacts Involving Mere Observation	06	05	00	00	05
26	Teacher Initiated Work Contacts Involving Brief Feedback	22*	22*	03	00	01
27	Teacher Initiated Work Contacts Involving Long Feedback	02	00	47   -56* 32**	35   -47 17*	08
28	Teacher Initiated Procedural Contacts which Were Management Requests	07	04	00	-68**   10 19*	-82*   23 05

Table 5, Continued.

<u>Process Variable</u>	<u>Word Knowledge</u>	<u>Word Discrimination</u>	<u>Reading</u>	<u>Arithmetic Computation</u>	<u>Arithmetic Reasoning</u>
% Teacher Thanks Student for Doing a Favor Request	04	22-51* 17*	20*	00	ND
% Teacher Thanks Student Following A Management Request	03	01	02	00	05
0. Combined Teacher Evaluations Statements Academic Praise/Academic Praise + Academic Criticism	54* 18 05	02	04	21*	18* 2 03
Behavioral Praise/Total Behavioral Contacts	04	00	06	00	ND 01
Behavioral Warnings/Behavioral Warnings + Behavioral Criticism	00	00	04	-74** 12 01	ND 48 20*
P. Discipline and Control Errors % Discipline Contacts Involving One or More Error	04	00	31*	39**	ND 39**
Target Errors/Total Errors	ND ND ND	ND ND ND	ND ND ND	ND ND ND	ND ND ND
Timing Errors/Total Errors	ND ND ND	ND ND ND	ND ND ND	ND ND ND	ND ND ND